

Dams, Bridges and Culverts Assessment Technical Memorandum

Wood-Pawcatuck Watershed Flood Resiliency Management Plan

Wood-Pawcatuck Watershed Association

October 2016



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Databases	Electronic Format
A Culverts and Bridges	
Blank Culvert and Bridge Inspection Form	
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B Dams	
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1 Introduction

Fuss & O'Neill, Inc. was retained by the Wood-Pawcatuck Watershed Association (WPWA) to develop a flood resiliency management plan for the Wood-Pawcatuck watershed. Funding for the project was provided by a National Fish and Wildlife Foundation Hurricane Sandy Coastal Resiliency Competitive Grant awarded to WPWA. The project's overall objectives are to (1) assess the vulnerability of the watershed to the growing risks from flooding, erosion, and associated storm-related threats and (2) develop a watershed-based management plan that will protect and enhance the resiliency of the watershed communities to future flood damages and improve river and stream ecosystems.

An assessment of the hydraulic structures (i.e., dams, bridges, and culverts) in the Wood-Pawcatuck watershed was conducted to evaluate the associated flood risk and identify prioritized recommendations to increase flood resiliency and enhance aquatic habitat and water quality. The assessment of the watershed dams, bridges, and culverts will support the development of the flood resiliency management plan, along with a number of other technical evaluations including a stream geomorphic assessment, wetlands assessment, green infrastructure assessment, and land use regulatory review. This technical memorandum presents the methodology (field work, data collection, and analysis), results, and recommendations of the hydraulic structures assessment.

1.1 Background

The Pawcatuck River and its major tributary, the Wood River, are located in southwestern Rhode Island. The lower Pawcatuck River forms the border between Rhode Island and Connecticut and flows into the eastern end of Long Island Sound at Little Narragansett Bay. The area of land that drains to the Pawcatuck and Wood Rivers – commonly referred to as the “Wood-Pawcatuck watershed” – is approximately 300 square miles and includes several major tributaries (Queen River, Usquepaug River, Chickasheen Brook, Chipuxet River, Ashaway River, Beaver River, Shunock River, and Green Falls Rivers) and portions of 14 communities in Rhode Island and Connecticut (*Figure 1-1*).

The Wood-Pawcatuck watershed, like other areas of the region, has experienced extensive flooding and flood-related damages, with the most recent occurring in the March and April floods of 2010. Communities that were most severely affected by the 2010 flooding include Westerly, Stonington, Charlestown, Hopkinton, Richmond, and Exeter. Flood damages included flooding and washout of roadways, damages to bridges and culverts, damages to and failure of dams, flooding of properties and structures, erosion and sediment deposition in watercourses and wetlands, and transport of sediment and other pollutants downstream to Little Narragansett Bay. Riverine flooding – which occurs when persistent moderate to heavy rain falls over a period of time causing rivers and streams to overflow their banks and flow into the adjacent floodplain – is the most common type of flooding in the Wood-Pawcatuck watershed. Urban drainage flooding is also common in the more urbanized areas of the watershed as a result of outdated and undersized storm drainage systems.

New England is experiencing an unprecedented increase in the frequency of extreme rainfall events compared to other parts of the United States, consistent with climate change projections (Melillo, Richmond, & Yohe, 2014). Extreme rainfall in New England is expected to continue to increase with climate change. The frequencies of peak flows – both extreme events observed above the 90th percentile and lower frequency floods – are likely to increase across the Northeast (Armstrong, Collins, & Snyder, 2012) (Demaria, Palmer, & Roundy, 2016). Given this trend, the communities in the Wood-Pawcatuck watershed face an increasing risk of flooding and storm-related damages as large storms and floods become more common. In addition to climate change, some parts of the watershed are susceptible to future development pressure that, if not appropriately controlled, could increase floodplain encroachments, reduce the natural water-absorbing capacity of the land, increase impervious surfaces and stormwater runoff, and worsen flooding impacts.

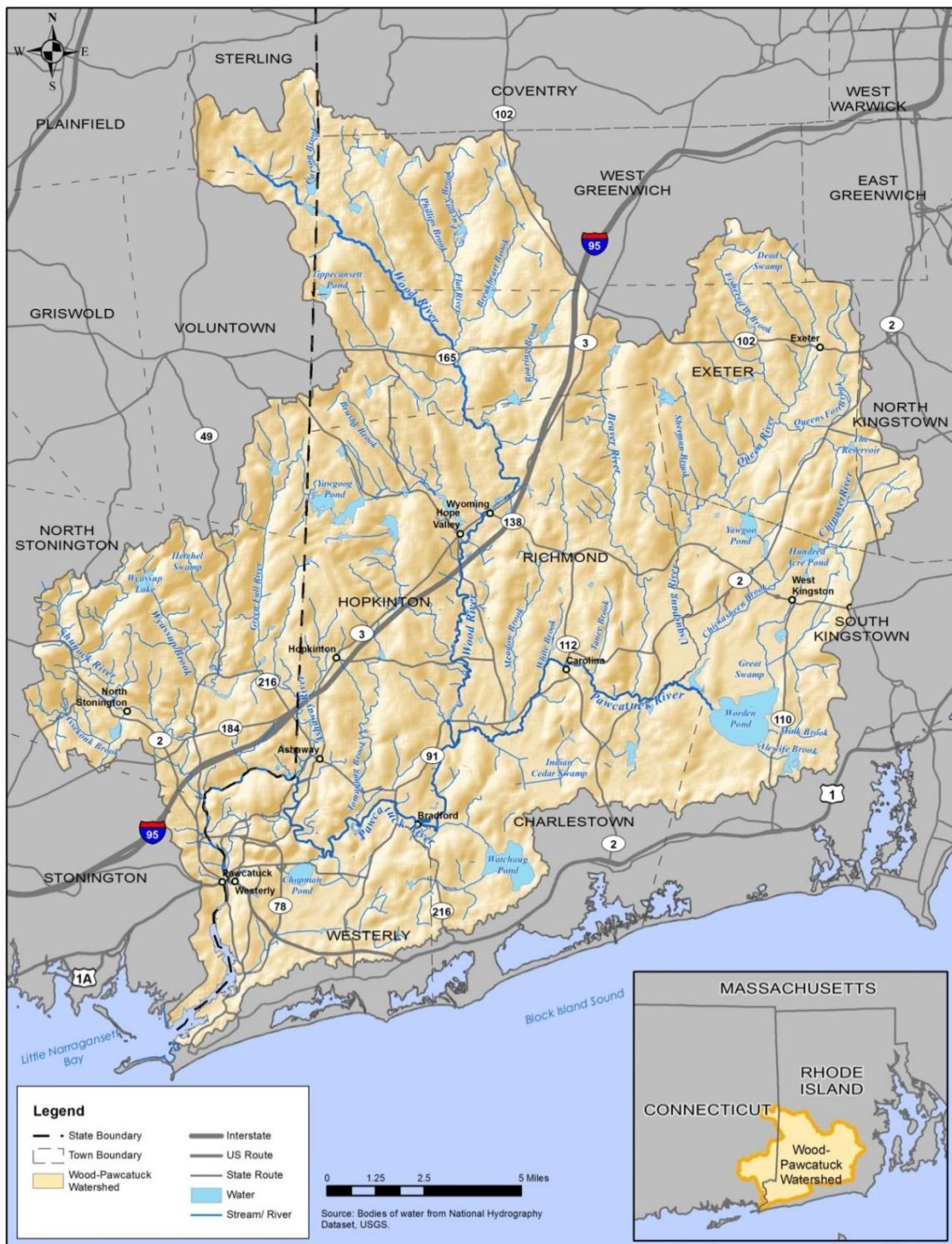


Figure 1-1. Overview map of the Wood-Pawcatuck watershed

Several factors contribute to flooding in the watershed, including a history of development that has reduced natural flood storage and placed populations and infrastructure in flood-prone areas. Undersized stream crossings can also contribute to flooding by restricting flood flows, causing backwater, sediment deposition, bifurcating flow, and sudden formation of new channels upstream of the crossing as well as scour downstream of the crossing. Undersized crossings increase the risk of floods inundating the associated road or railroad and can potentially cause floods to breach through a section of road fill adjacent to the existing channel. Culverts can also serve as barriers to the passage of fish and other aquatic organisms along a river system, altering aquatic habitat and disrupting river and stream continuity.

Dams are artificial barriers designed to impound or retain water for a variety of purposes, including water supply, irrigation, power generation, flood control, recreation and pollution control. Many of the approximately 150 known dams in the Wood-Pawcatuck watershed are relatively small dams built to power small industry mills of the 17th and 18th centuries and are no longer used for their original purpose. Many of the remaining dams in the watershed provide recreational opportunities, aquatic and wildlife habitat, and water supply. None of the dams in the watershed were originally constructed for flood control purposes; the dams therefore provide limited, if any, flood control benefit. The dams in the Wood-Pawcatuck watershed pose upstream flood hazards by backing up water during floods and present a hazard to downstream areas in the event of a breach or failure, potentially releasing large quantities of flow, sediment, and debris. Similar to undersized culverts, dams also restrict the passage of fish and other aquatic organisms. The lower Pawcatuck River has been the focus of dam removal efforts aimed at improving aquatic habitat, river continuity, and fish passage.

1.2 Assessment Objectives

The specific objectives of the bridge, culvert and dam assessment are to (1) assess flood risk associated with hydraulic structures in the watershed, and (2) identify prioritized recommendations to increase flood resiliency and enhance aquatic organism passage and aquatic habitat. Culverts and bridges were assessed relative to hydraulic capacity under current and future (i.e., climate change) conditions, flooding impact potential, geomorphic vulnerability, and aquatic organism passage. Dams were evaluated for failure potential based on existing condition, hazard classification, and a number of other considerations. The assessment includes recommendations for upgrade, repair, or removal of specific hydraulic structures to accomplish these objectives, including relative priorities for implementing the project recommendations.

This technical memorandum is organized as follows:

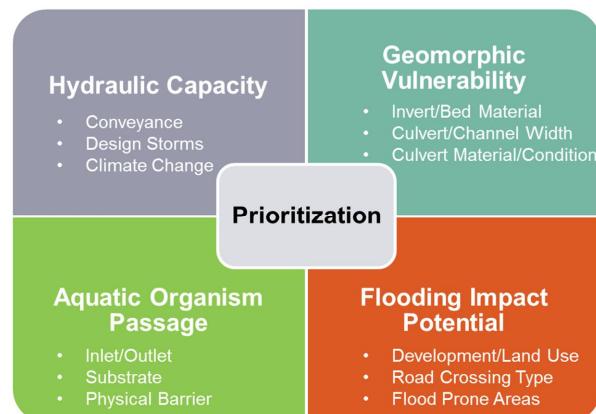
- Section 1 contains an introduction and project background, including a brief description of the flooding issues in the watershed and the assessment objectives.
- Section 2 describes the methods, results and findings/recommendations for the bridges and culverts assessment.
- Section 3 describes the methods, results and findings/recommendations for the dams assessment.

Watershed-wide maps of the assessment results are provided as report figures. More detailed maps of the assessment results for each subwatershed are provided in the appendices. Field data, information obtained from file reviews, and hydrologic and hydraulic analysis documentation (model input and output) are provided in digital format (i.e., databases).

2 Bridges and Culverts Assessment

2.1 Assessment Methods

Bridges and culverts in the Wood-Pawcatuck watershed were initially identified using publically-available GIS mapping. Field inspections and data collection (site characteristics, structure dimensions, upstream and downstream geomorphic conditions, and structure conditions) were conducted at the identified structures following procedures adapted from Vermont's Stream Geomorphic Assessment protocols. Using the information obtained from the field inspections, each structure was then assessed based on four separate but related criteria – hydraulic capacity, geomorphic vulnerability, flooding impact potential, and aquatic organism passage (see graphic at right). An overall rating and priority ranking (high, medium, and low) was assigned to each structure based on the combined assessment results associated with these four criteria. The priority rankings can be used by decision-makers to prioritize the repair and replacement of stream crossing infrastructure to increase flood resiliency and enhance aquatic organism passage.



Bridges and culverts assessment framework.

2.2 Data Collection

2.2.1 Structure Selection

The locations of bridges and culverts in the watershed were initially identified by intersecting roads, rail lines, and developed bike/hiking trails with mapped streams using publically-available geospatial data obtained from the State of Rhode Island Geographic Information System (RIGIS), the Connecticut Department of Energy and Environmental Protection (CTDEEP) Environmental GIS Data Set, and the University of Connecticut Map and Geographic Information Center (MAGIC). The initial set of located structures was augmented by other existing data including structures previously evaluated as part of the Rhode Island Stream Continuity Project and review of aerial imagery of the watershed. Approximately 550 structures were initially identified.

The project Steering Committee requested that the project team inspect 6 driveway culverts in the Chickasheen Brook subwatershed due to known flooding issues. In the field, 20 additional structures were found and inspected. A few additional, previously unmapped culverts were observed at the time of the field inspections, most of which were drainage ditch culverts or structures on small unmapped streams. Evaluation of these smaller structures was beyond the scope of this study.

The final database of bridges and culverts in the watershed consisted of 573 structures (including the 20 structures that were found and inspected in the field). Of the 573 structures, 152 were not inspected for one of the following reasons:

- Location of crossing on a walking trail that could not be found 38 structures
- No road/stream intersection at mapped location 18 structures
- Structure not found at mapped location 16 structures
- No access to private property 32 structures
- No access to gated areas 6 structures
- No access to railroad stream crossings 11 structures
- No access/unsafe site conditions on highways 18 structures

- No access due to dense thicket/vegetation or other barrier 13 structures

Most of the walking trail stream crossings that could not be field-located are in Voluntown and North Stonington, Connecticut. Many of the private road stream crossings that could not be found are also in the Connecticut portion of the watershed. Structures that could not be inspected due to safety concerns or no physical access are primarily associated with Interstate 95, other major limited-access state routes, and railroads.

The locations of the stream crossing structures are shown in *Figure 2-1*. More detailed subwatershed maps and a table summarizing information on the stream crossing structures are provided in *Appendix A*.

2.2.2 Structure Naming

Each structure was assigned a unique identifier based on its location within the watershed. The structures were named with a three-letter subwatershed code, a three-letter stream code, a one- or two-digit tributary number, and a one- or two-digit structure number. If a structure was located on a tributary of a tributary to a named structure, an additional tributary number was included in its name. Tributary numbers were generally assigned in a clockwise direction from the north. For example, structure LWR-BRU-2-1 is the first structure on the second tributary to Brushy Brook in the Lower Pawcatuck River subwatershed. Structure CPR-CHP-2-1-2 is the second structure on the first tributary to the second tributary to the Chipuxet River in the Chipuxet River subwatershed. Structure BVR-BEA-0-3 is the third structure on the main stem of the Beaver River in the Beaver River subwatershed. The three-letter subwatershed codes and stream codes are provided in *Table 2-1* and *Table 2-2* below.

The 20 found structures were labeled with their watershed code, the word "FOUND," and the date the structure was inspected. For example, structure QUR-FOUND-20150810 was found on August 10, 2015 in the Queen Usquepaug subwatershed.

Table 2-1. Subwatershed codes

Subwatershed	Code
Shunock River	SNR
Wayassup Brook	WPB
Ashaway River	AWR
Lower Wood River	LWR
Upper Wood River	UWR
Beaver River	BVR
Queen Usquepaug River	QUR
Chickasheen Brook	CKR
Chipuxet River	CPR
Upper Pawcatuck River	UPR
Middle Pawcatuck River	MPR
Lower Pawcatuck River	LPR

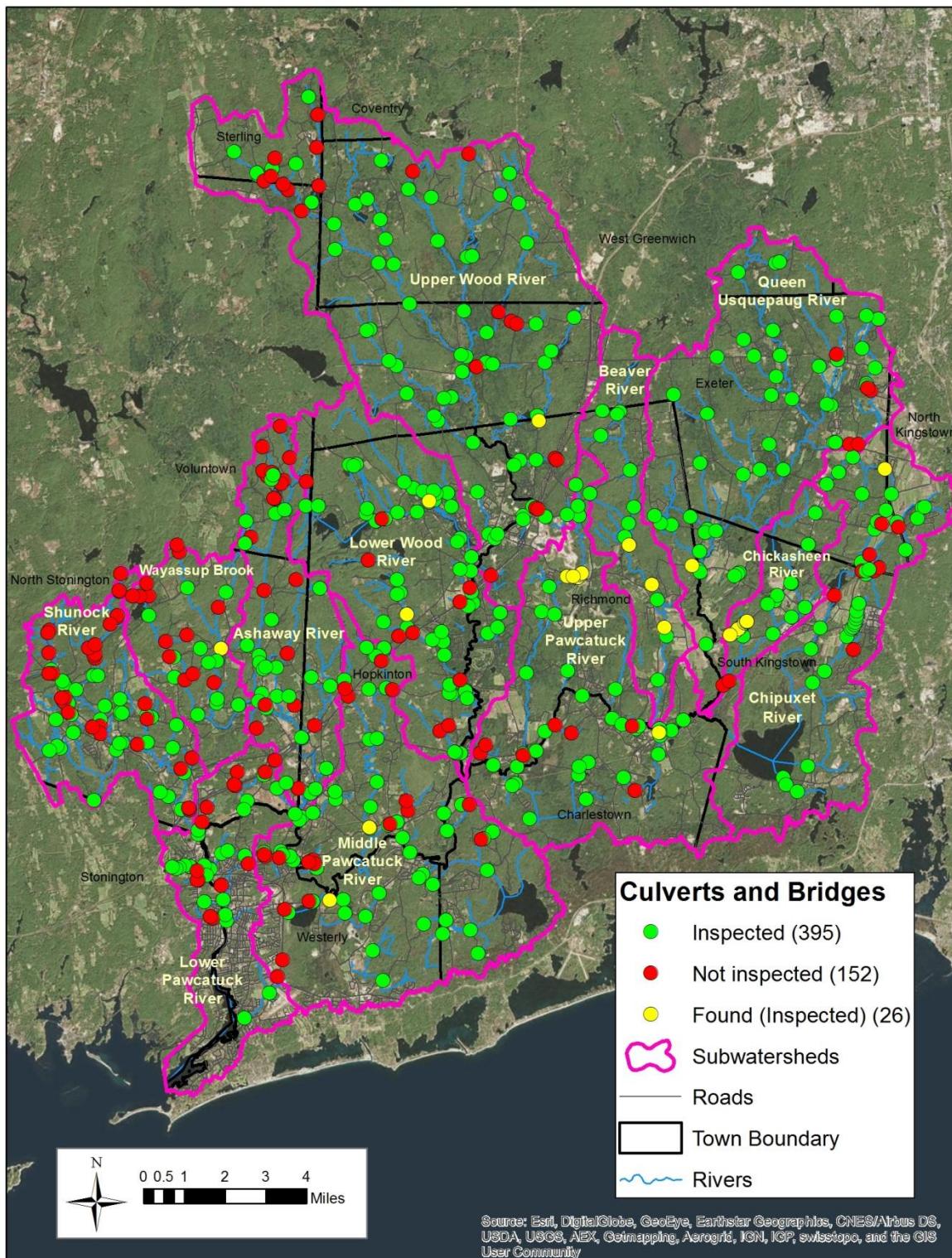


Figure 2-1. Selected culvert and bridge locations in the Wood-Pawcatuck watershed

Table 2-2. Stream codes

Stream Name	Code	Stream Name	Code	Stream Name	Code
Alewife Brook	ALE	Green Fall River	GRE	Poquaint Brook	POQ
Ashaway River	ASH	Hetchel Swamp Brook	HET	Queen River	QUR
Assekonk Brook	ASS	Kelley Brook	KEL	Queens Fort Brook	QFB
Baker Brook	BAK	Locke Brook	LOC	Rake Factory Brook	RAK
Beaver River	BEA	Log House Brook	LOG	Ruben Brown Brook	RUB
Breakheart Brook	BRE	Mastuxet Brook	MAS	Roaring Brook	ROA
Brushy Brook	BRU	McGowan Brook	MCG	Sherman Brook	SHE
Canonchet Brook	CAN	Meadow Brook	MEA	Shunock River	SHU
Carson Brook	CAR	Mile Brook	MIL	Sodom Brook	SOD
Cedar Swamp Brook	CED	Mink Brook	MIN	Taney Brook	TNY
Chickasheen Brook	CHK	Moscow Brook	MOS	Tanyard Brook	TYD
Chipuxet River	CHP	Mud Brook	MUD	Tomaquag Brook	TOM
Coney Brook	CON	Parmenter Brook	PAR	Usquepaug River	USQ
Diamond Brook	DIA	Pasquiset Brook	PAS	White Brook	WEB
Dutemple Brook	DUT	Pawcatuck River	PAW	White Horn Brook	WHB
Factory Brook	FAC	Peg Mill Brook	PEG	Wine Brook	WIN
Fisherville Brook	FIS	Pendleton Hill Brook	PHB	Wood River	WOR
Flat River	FLA	Pendock Brook	PDB	Woody Hill Brook	WHB
Genesee Brook	GEN	Perry Healy Brook	PER	Wyassup Brook	WAY
Glade Brook	GLA	Phelps Brook	PHE	Yawbucs Brook	YAW
Glen Rock Brook	GLE	Phillips Brook	PHI		

2.2.3 Field Inspections

Field inspections of the identified structures were conducted from May to September 2015 using procedures and field data collection forms adapted from Vermont's Stream Geomorphic Assessment handbook and similar standardized road-stream crossing assessment protocols used in Rhode Island, Massachusetts, and Connecticut. Field personnel were trained in the use of the culvert assessment protocol prior to conducting the assessments. During the field inspections, information was collected for evaluating culvert capacity, geomorphic vulnerability, flooding impact potential, and aquatic organism passage for each structure.

Field information collected for this assessment included:

- Site characteristics (e.g. aerial sketch, photos, street name, stream name, etc.)
- Structure dimensions necessary to assess hydraulic capacity (e.g. cross sectional area, slope, allowable head, etc.)
- Upstream and downstream geomorphic conditions (approximate channel slope/configuration, perched culvert discharge, sedimentation, evidence of erosion/scour/overtopping, bankfull width, etc.)
- Deficiencies and condition of the structure.

Field measurements were made using standard topographic surveying techniques, a laser rangefinder, and other field equipment. Blank field data forms are provided in digital format in *Database A*. The completed forms and site photographs are also provided in digital format in *Database A*. Field Geology Services staff completed inspections of bridges and culverts within the Phase 2 geomorphic assessment reaches as part of the related fluvial geomorphic assessment of the Wood-Pawcatuck watershed. Culvert and bridge inspection forms completed by Field Geology Services are also provided in *Database A*.

2.3 Data Analysis and Results

2.3.1 Hydraulic Capacity

Culverts and bridges are designed to convey flowing water through manmade infrastructure such as roads or railroad embankments. The hydraulic capacity of a road-stream crossing is a measure of its ability to safely convey the maximum or peak discharge (flow) from a specified design storm and is therefore an important factor in evaluating the flooding potential posed by the structure. The culverts and bridges identified in the Wood-Pawcatuck watershed were evaluated for their adequacy to convey peak flows associated with various design storms under current and potential future conditions, accounting for the effects of climate change and urbanization.

Structure Flow Capacity

The adequacy of a stream crossing structure is dictated by its flow capacity and a number of other common design criteria including allowable headwater, freeboard, maximum outlet velocity, backwater, and scour, as well as various flood frequencies. In Rhode Island and Connecticut, culverts are generally designed to convey the 25- or 50-year frequency peak discharge, while larger structures including bridges are often designed for larger events such as the 100-year or 500-year peak discharge.

For this assessment, the flow capacity of each structure was assumed to be the capacity of the structure at the point of overtopping of the associated roadway.¹ Flow capacity was estimated using the following methods:

- Existing HEC-RAS Models: The capacities of structures on larger rivers were estimated using draft HEC-RAS hydraulic models developed by the U.S. Geological Survey as part of the ongoing Risk Mapping, Assessment and Planning (Risk MAP) program to update FEMA flood maps for the Wood-Pawcatuck watershed. Flows at a specific bridge/culvert location were entered into the HEC-RAS hydraulic model (on a trial-and-error basis) until the flow that resulted in overtopping of the structure was determined. This flow rate was considered to be the full capacity flow of the structure. The use of the HEC-RAS models allows flow capacities to be computed that account for tailwater elevations based on actual river geometry and downstream hydraulics. Where structure sizes were not excessively large, the HEC-RAS computed flow capacities were confirmed using the Bentley CulvertMaster hydraulic analysis software using tailwater elevations obtained from HEC-RAS.
- Bentley CulvertMaster: For all structures on rivers and streams for which HEC-RAS models are not available, the maximum flow capacity was estimated using Bentley CulvertMaster software, which uses standard Federal Highway Administration (FHWA) culvert analysis methods. Input parameters were selected based on field measurements, with a headwater elevation set to the crest (top) of the roadway (i.e., at the point of overtopping of the structure). Inlet and outlet control was determined by the model, which used the appropriate hydraulic calculations for each structure. It should be noted that the results from this model are only estimates of flow capacity due to limitations of the software. The software uses standard culvert dimensions available; therefore for structures with non-standard dimensions, inputs were selected to most accurately match the field conditions. Additionally, CulvertMaster is designed to only model the capacity of culverts (not bridges). While the same equations used in CulvertMaster can be applied to bridges, the input parameters available typically do not match. Therefore, for bridges for which existing HEC-RAS models were not available, the CulvertMaster input parameters were selected to match the cross-sectional opening and other structure dimensions as closely as possible. The CulvertMaster model output is provided in digital format in *Database C*.

¹ This approach assumes that flooding may occur at the point of overtopping, at which the structure is considered hydraulically undersized. It does not consider ponding and greater headwater-to-depth ratios, which are engineering design considerations that are more appropriate for detailed design and beyond the scope of this planning-level assessment.

Modeled flow capacities for each structure, listed by subwatershed and by town, are provided in *Appendix B*.

Existing Peak Discharge Estimates

The hydraulic capacity assessment also requires estimates of peak discharge at the location of the identified structures. Peak discharge for each structure was estimated for the 10-, 25-, 50- and 100-year recurrence intervals, which generally correspond to the range of design flows for the stream crossing structures in the watershed. The following hydrologic methods were used to estimate peak discharge for this assessment:

- USGS Regional Regression Equations: The United States Geological Survey has developed regional regression equations for estimating natural streamflow for ungaged stream sites based on streamflow statistics at stream gages in southeastern New England and basin characteristics (Zarriello, Ahearn, & Levin, 2012) (Bent, Steeves, & Waite, 2014). These regional regression equations have been incorporated into StreamStats (Version 3), which is a web-based GIS software available nationally, including Rhode Island and Connecticut. The regional regression equations in StreamStats were used to develop estimates of peak discharge at locations in the Wood-Pawcatuck watershed where the site input variables are within the range of parameter values for which the equations were developed and where streamflow has not been significantly altered. StreamStats also uses the drainage area ratio method (Zarriello, Ahearn, & Levin, 2012) to estimate flows at ungaged locations when the drainage area is outside the recommended range for which the regression equations were developed (approximately 0.5 to 300 square miles). The drainage area ratio method is based on the assumption that the streamflow at a site along a stream is the same per unit drainage-basin area as that at a nearby hydrologically similar site.

Several of the watersheds corresponding to the structures for this project had one or more parameters (i.e., drainage area, stream density, percent slope, and mean basin elevation) outside of the suggested range for which the regional regression equations are valid. In these cases, the accuracy of the discharge estimate is unknown. To reduce the error in the peak discharge estimates, the SCS Unit Hydrograph Method (TR-20) was used, as described below.

- SCS Unit Hydrograph Method (TR-20): Hydraflow software, which uses the SCS Unit Hydrograph Method (TR-20), was used to estimate peak discharge at locations where (1) StreamStats did not provide a flow estimate due to input parameters being too far outside the acceptable range of values for regional regression equations or the drainage area ratio method, or (2) where the discharge estimates from StreamStats did not appear to be reasonable in comparison to discharge estimates and drainage areas associated with nearby structures or in relation to the drainage area/catchment characteristics.

Drainage area was determined using StreamStats or delineated based on 2-foot topographic contours; hydrologic soil groups were assigned based on the average soil types within the watershed from review of the NRCS Soil Surveys for Rhode Island and Connecticut; curve numbers were assigned based on soil type and land cover within the watershed based on current aerial imagery; flow paths were delineated using 2-foot topographic contours to develop times of concentration; and updated precipitation frequency estimates were obtained from the on-line version of NOAA Atlas 14 (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, 2015) using the Westerly, Rhode Island precipitation gage.

StreamStats reports and output files and TR-20 calculations, including Hydraflow output, are provided in digital format in *Database D*. Peak discharge estimates² for the 10-, 25-, 50- and 100-year recurrence intervals are provided in *Appendix B*.

² Peak discharge estimates for structure LWR-WOR-2-1 were set to a nominal value of 1 cfs since this structure is not required to pass flow. This structure is located adjacent to Alton Pond Dam and flood flows in this location are routed over the dam. However, flooding could occur at this culvert under extreme flows.

Overall, approximately 83% of the peak discharge estimates were obtained using StreamStats (regional regression equations or drainage area ratio method), while TR-20 was used to estimate peak discharge for the remaining 17% of stream crossing locations assessed in this study.

Future Peak Discharge Estimates

An increasing trend has been observed in annual peak discharge at stream locations in New England for both urbanizing basins and basins minimally affected by urbanization (Walter & Vogel, 2010) (Vogel, Yaindl, & Walter, June 2011) (Collins, 2009) (Hodgkins & Dudley, 2005). Vogel and others (2011) developed magnification factors to examine how a linear trend would affect flood magnitudes at a future time. The method assumes that the linear trend persists at the same rate over the projected time period and can be used to calculate the amount by which a given flood flow must be multiplied to represent a flood of the same exceedance probability over that time interval (Zarriello, Ahearn, & Levin, 2012). The USGS has used these flood magnification factors to estimate future peak discharge for various locations and exceedance probabilities.

The flood magnification factors developed by Vogel and others (2011) for 10-, 20-, and 30-year projections were extrapolated linearly to estimate a 50-year flood magnification factor of 1.51, which reflects a 50-year planning horizon (2070). Essentially, if the linear trend in annual peak flows persists, the flood with a given exceedance probability will, on average, be 51 percent greater in magnitude in 50 years. The 10-, 25-, 50- and 100-year peak discharge estimates for the structures assessed in this study were multiplied by 1.51 to estimate the anticipated future peak discharge due to the combined effects of climate change and urbanization, as flood magnification factors can be applied to floods of any exceedance probability (Vogel, Yaindl, & Walter, June 2011).

Hydraulic Capacity Ratio and Rating

A "capacity ratio" was calculated for each structure for the 10-, 25-, 50-, and 100-year flood frequencies under both existing and future condition scenarios. The capacity ratio is a simple indicator of whether a structure can safely pass flows of various recurrence intervals and the degree to which a structure may be vulnerable to flooding. For this assessment, the capacity ratio for a given structure and recurrence interval is a dimensionless parameter defined as the estimated flow capacity of the structure (in cubic feet per second or cfs), divided by the estimated peak discharge (in cfs). A capacity ratio greater than 1 indicates that the culvert or bridge has sufficient flow capacity to pass the peak discharge without overtopping the associated structure (road, railroad, trail, etc.). A capacity ratio less than 1 indicates that the culvert or bridge cannot pass the peak discharge without overtopping. The degree to which a capacity ratio is less than or greater than 1 provides information on the degree of vulnerability of the structure to flooding. Current design standards generally require culverts to safely pass the 25- or 50-year peak discharge. For the purposes of this analysis, the 25-year peak discharge is used as the design flow for determining if a structure is hydraulically undersized. A capacity ratio of less than 1 for the 25-year peak discharge indicates that a structure is undersized. Existing and future capacity ratios for the 25-year peak discharge are provided in the tables in *Appendix B*, with the information presented by subwatershed and by town.

Table 2-3 provides a breakdown of hydraulic capacity ratio values corresponding to the 25-year peak discharge for all of the assessed structures in the Wood-Pawcatuck watershed. The shaded cells reflect those structures with capacity ratios less than 1, indicating that the structures are undersized for the 25-year peak discharge. As shown in *Table 2-3*, an estimated 37% of the assessed structures in the watershed (primarily culverts) are hydraulically undersized. Under a potential future scenario (Year 2070) that considers the influence of climate change and future watershed urbanization, the percentage of undersized structures is anticipated to increase to approximately 50%, suggesting that roughly half of the assessed structures in the watershed would be hydraulically undersized relative to current design standards under this future conditions scenario. Approximately 50 structures that can currently convey the 25-year peak discharge are vulnerable to becoming undersized (i.e., unable to pass the 25-year peak discharge) in the future conditions scenario (refer to the second to last column in the tables in *Appendix B* for specific structures).

Table 2-3. Percentages of assessed structures in the Wood-Pawcatuck watershed and associated hydraulic capacity ratios for the 25-year peak discharge under existing and future conditions

Hydraulic Capacity Ratio ¹	Percentage of Structures	
	Existing	Future
0 to 0.1	3%	5%
0.1 to 0.5	15%	23%
0.5 to 1.0	19%	22%
1.0 to 2.0	21%	24%
2.0 to 10.0	34%	21%
Greater than 10.0	8%	6%

¹Hydraulic capacity ratio is defined as the estimated flow capacity of the structure (cfs) divided by the estimated peak discharge (cfs). Shaded cells reflect structures that are undersized for the 25-year peak discharge (hydraulic capacity ratio less than 1).

A "capacity rating" was also assigned to each structure based on the largest recurrence interval flood that the structure is able to pass without overtopping. The five capacity rating categories used in this assessment are <10-year, 10-year, 25-year, 50-year, and 100-year. Structures with capacity ratings of <10-year or 10-year are considered to be hydraulically undersized.

Existing and future capacity ratings are also provided in the tables in *Appendix B*. The final column in the tables indicates a change in capacity ratings between existing and future conditions. For structures whose capacity ratings are predicted to decrease, cells are highlighted either yellow or red. Yellow indicates that the capacity rating is predicted to drop by one rating category (i.e., from 100-year to 50-year, for example). Red indicates that the capacity rating is predicted to drop by more than one rating category (i.e., from 100-year to 25-year or 10-year). A drop in capacity rating is an indicator of potential vulnerability to increased flooding resulting from climate change and future urbanization of the watershed.

Figure 2-2 shows existing and future hydraulic capacity ratings of the assessed structures in the Wood-Pawcatuck watershed. More detailed subwatershed maps showing existing and future hydraulic capacity ratings are also provided in *Appendix B*.

Table 2-4 and the bar chart in *Figure 2-3* summarize the percentage of structures in each hydraulic capacity rating category. The results indicate that approximately one-half of the structures assessed can currently convey the 100-year peak discharge without overtopping and about a quarter of the structures can convey less than the 10-year peak discharge. Similar to the capacity ratio findings, these results suggest that approximately 38% of the assessed structures in the watershed are hydraulically undersized, while 63% of the structures assessed are capable of safely conveying the 25-year peak discharge or larger flows. Under a potential future scenario, nearly 50% of the assessed structures in the watershed would be undersized. Approximately 51% of the structures would be capable of safely conveying the 25-year peak discharge or larger flows, or a 12% decrease compared to existing conditions.

The bar charts in *Figures 2-4, 2-5, and 2-6* illustrate existing capacity ratings by crossing type, structure type, and subwatershed, respectively. The gray shaded bars correspond to structures that are undersized for the 25-year peak discharge.

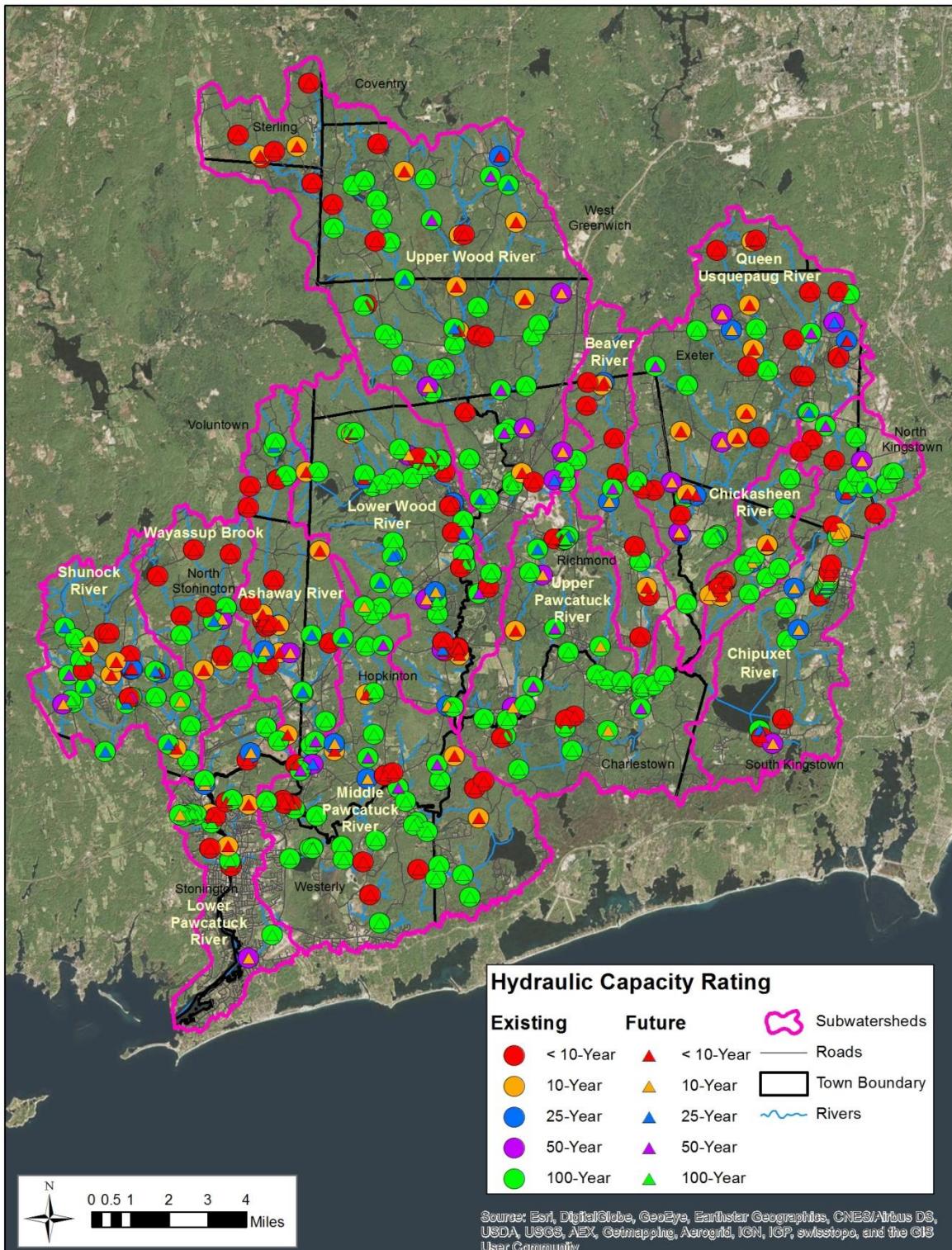


Figure 2-2. Culvert and bridge hydraulic capacity ratings

Table 2-4. Percentages of assessed structures in the Wood-Pawcatuck watershed and associated hydraulic capacity ratings under existing and future conditions

Hydraulic Capacity Rating ¹	Percentage of Structures	
	Existing	Future
<10-Year	25%	39%
10-Year	13%	10%
25-Year	6%	8%
50-Year	6%	5%
100-Year	51%	38%

¹Hydraulic capacity rating reflects the largest recurrence interval peak discharge that a structure can convey without overtopping. Shaded cells reflect structures that are undersized for the 25-year peak discharge.

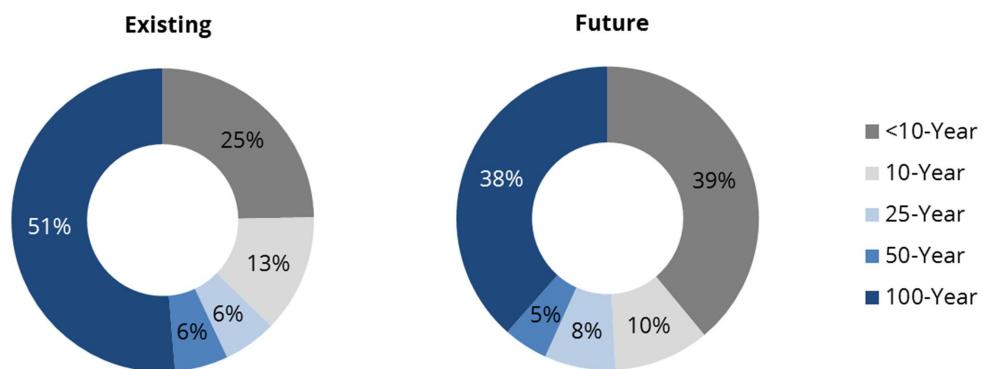


Figure 2-3. Existing and future hydraulic capacity ratings

In general, the assessed trails, driveways and local roads have the highest percentage of undersized crossing structures (*Figure 2-4*). Between 25% and 30% of these structures have hydraulic capacities less than the 10-year peak discharge. Approximately 38% of the trail crossings are undersized, most of which consist of small culverts, while most of the other trail crossings that were assessed are capable of conveying the 100-year peak discharge or larger. All of the assessed driveway crossings are small diameter culverts and are undersized relative to the 25-year peak discharge. In terms of local roads, an estimated 45% of the crossings are hydraulically undersized, while approximately 22% of state road crossings are undersized. Many of the local (44%) and state (64%) roads have significantly larger crossings capable of conveying the 100-year peak discharge or larger flows. Nearly all of the railroad and highway crossings that were assessed can safely convey the 100-year peak discharge, with a few of the railroad crossings having a 50-year capacity rating, which is consistent with the design of these larger structures.

Circular conduits (pipes) and box culverts make up the vast majority of the hydraulically undersized crossings in the watershed (*Figure 2-5*). Approximately 53% of the circular culverts are undersized, with 36% having hydraulic capacities less than the 10-year peak discharge. Roughly 27% of the assessed box culverts are also undersized. However, 35% of circular culverts and 59% of box culverts have a 100-year capacity rating. Most bridges and arched conduits can convey the 100-year peak discharge, although 18% of bridges and 13% of arched conduits cannot safely pass the 25-year peak discharge.

Some notable differences in hydraulic capacity ratings are apparent across the watershed (*Figure 2-6*). The highest percentages of undersized structures are located within the Beaver River, Wyassup Brook, Ashaway River, and Chickasheen Brook subwatersheds. The Upper and Middle Pawcatuck River and Lower Wood River subwatersheds have the lowest percentage of undersized structures, which likely reflects the relatively higher number of larger structures on the larger main-stem rivers. These subwatersheds, along with the Upper Wood River, Lower Pawcatuck, Chipuxet, and Shunock River subwatersheds, also have the highest percentages of crossings that can safely convey the 100-year peak discharge or larger flows.

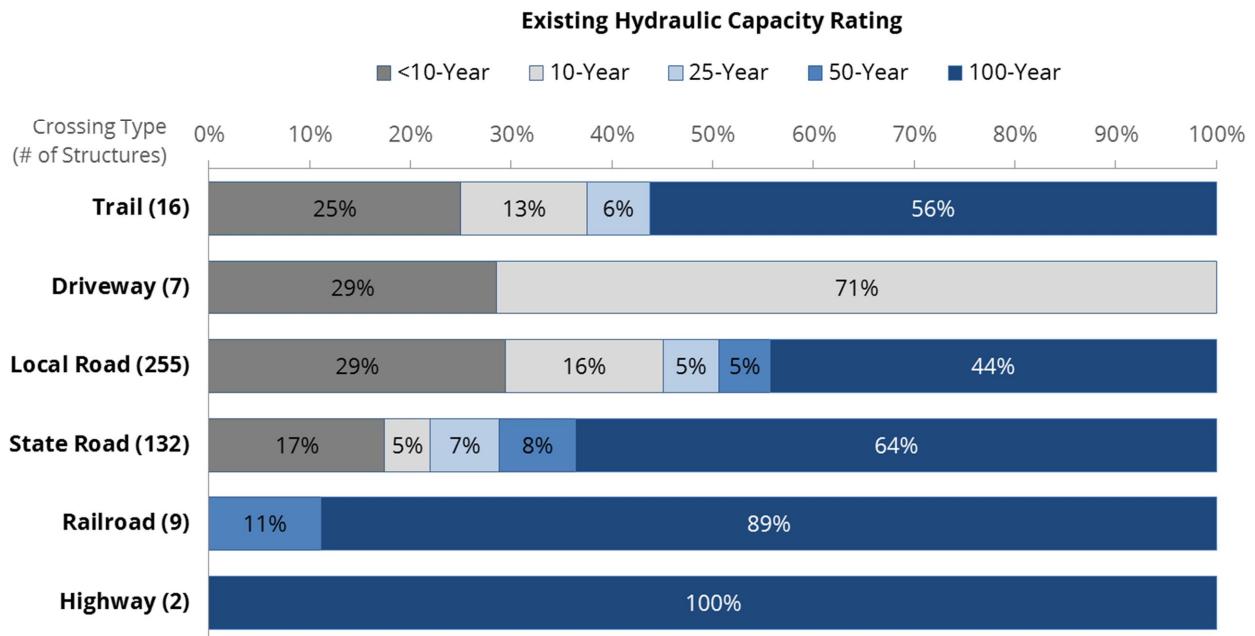


Figure 2-4. Culvert and bridge hydraulic capacity ratings by crossing type

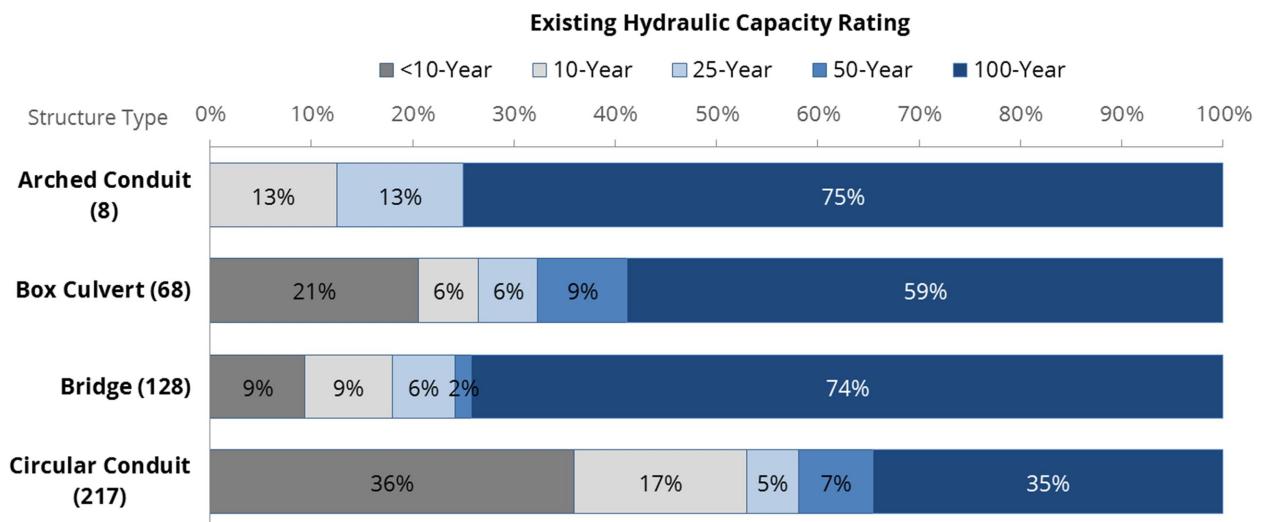


Figure 2-5. Culvert and bridge hydraulic capacity ratings by structure type

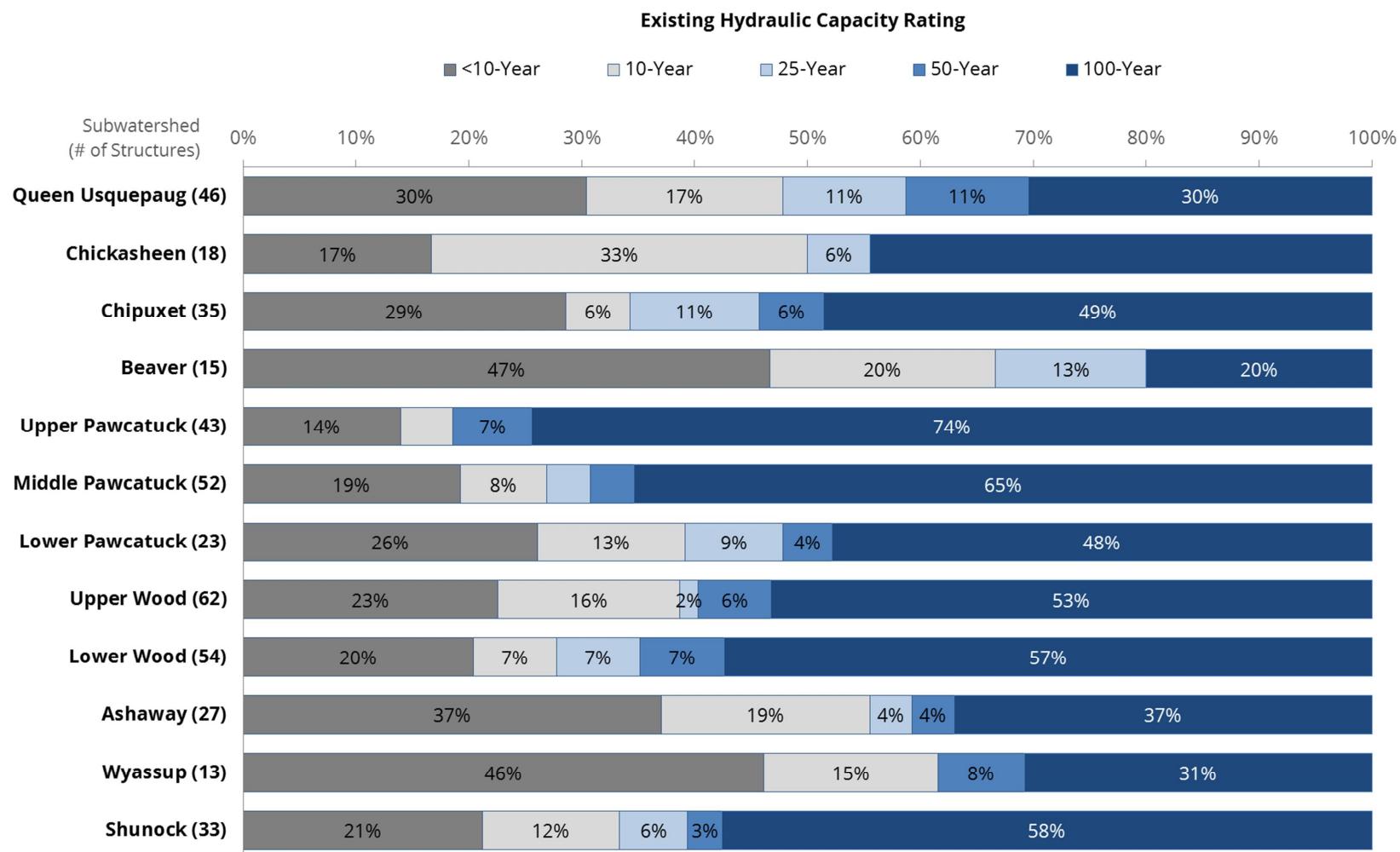


Figure 2-6. Culvert and bridge hydraulic capacity ratings by subwatershed

2.3.2 Flooding Impact Potential

Assessment of flood risk and vulnerability also requires consideration of the potential impact that flooding of a structure would cause. A flood hazard poses little risk to infrastructure, property or lives if there is limited exposure to the hazard. For example, an undersized culvert under a walking trail in a remote area with little upstream or downstream development poses less risk than an undersized culvert under a major road with significant development in the adjacent floodplain.

Three criteria were evaluated to assess the flooding impact potential of each structure – the type and intensity of development and land use upstream and downstream of the structure, whether the structure is located in a mapped flood zone, and the type of crossing (trail, driveway, town road state road, highway, or railroad). The National Land Cover Data Set and aerial imagery were used to evaluate development and land use adjacent to the stream approximately one mile upstream and one mile downstream of the structure. FEMA Flood Insurance Rate Maps (FIRMs) were used to determine if the structure is located in a flood hazard zone. Road type was determined from RIGIS data and information obtained during the field inspections.

Numeric flooding impact potential ratings, with values ranging from 1 (lower impact) to 5 (higher impact), were developed for each of the three criteria (*Table 2-5*). An overall impact rating was calculated as the average of the numeric ratings for each of the three criteria. Structures with an average impact rating of less than 2.33 (lower third of range) were considered to have a “Low” impact potential, whereas structures with an average impact rating greater than 3.66 (upper third of range) were considered to have a “High” impact potential. Structures with an average impact rating between these two values (middle third of range) were considered to have a “Medium” impact potential.

Table 2-5. Flooding impact potential ratings

Impact Rating	Flooding Impact Potential Criteria		
	Development in Surrounding Area	Structure Located In FEMA Food Zone?	Type of Crossing
1	Little to no development, mostly forested land	No	Trail
2	Mostly open farm land, very low density residential area	--	Driveway
3	Low to moderate density residential area, little commercial/industrial development	--	Town Road
4	Moderate to high density residential area, some commercial/industrial development	--	State Road
5	High density residential area, significant commercial/industrial development	Yes	Highway or Railroad

The flooding impact potential ratings and raw data for this assessment are provided in *Appendix C*, sorted by subwatershed and town. The map in *Figure 2-7* shows flooding impact potential ratings for the assessed structures in the Wood-Pawcatuck watershed. More detailed subwatershed maps showing flooding impact potential ratings are also provided in *Appendix C*.

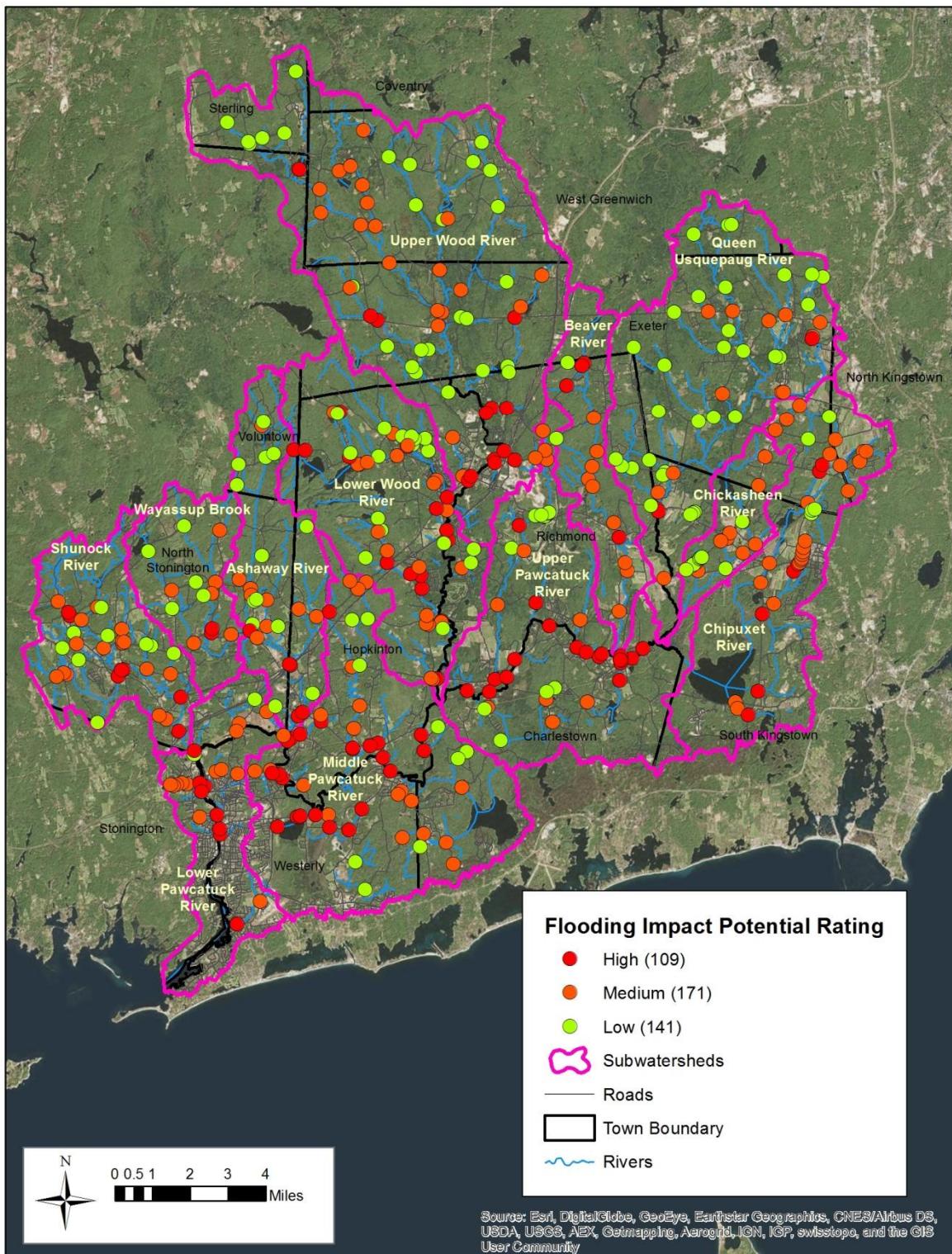


Figure 2-7. Culvert and bridge flooding impact potential ratings

The percentages of assessed structures are fairly evenly distributed between the High (26%), Medium (41%), and Low (33%) flooding impact potential rating categories. The bar charts in *Figures 2-8, 2-9, and 2-10* illustrate the percentage of structures in each impact potential rating category by crossing type, structure type, and subwatershed, respectively.

Structures associated with trails, driveways and local roads generally have lower flooding impact potential ratings, while structures associated with state roads, railroads and highways have higher flooding impact potential ratings (*Figure 2-8*). This result is not surprising since crossing type is one of the three criteria used to determine the impact potential ratings.

In terms of structure type, circular conduits and box culverts generally have lower impact potential ratings than arched conduits and bridges (*Figure 2-9*). Circular conduits and box culverts are typically used on smaller roads and stream crossings, whereas bridges and arched conduits are typically used for more significant crossings.

The map in *Figure 2-7* and the chart in *Figure 2-10* show the geographic distribution of flooding impact potential ratings throughout the Wood-Pawcatuck watershed. Stream crossing structures with high flooding impact potential are generally more prevalent along the main-stem Upper and Middle Pawcatuck River and along the Lower Wood River. The Chickasheen Brook, Chipuxet River, Beaver River, and Lower Pawcatuck River subwatersheds have the highest percentages of structures rated as medium flooding impact potential. The highest percentages of structures having low flooding impact potential are located in less developed watersheds including the Queen-Usquepaug, Upper Wood, and Ashaway River subwatersheds.

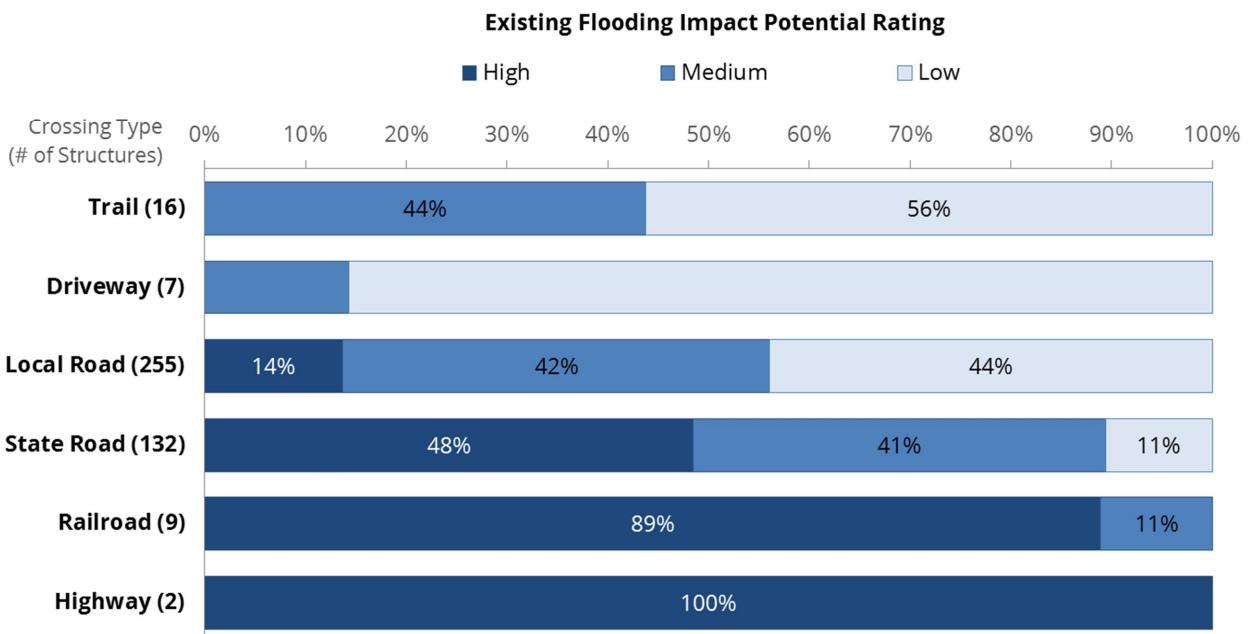


Figure 2-8. Culvert and bridge flooding impact potential ratings by crossing type

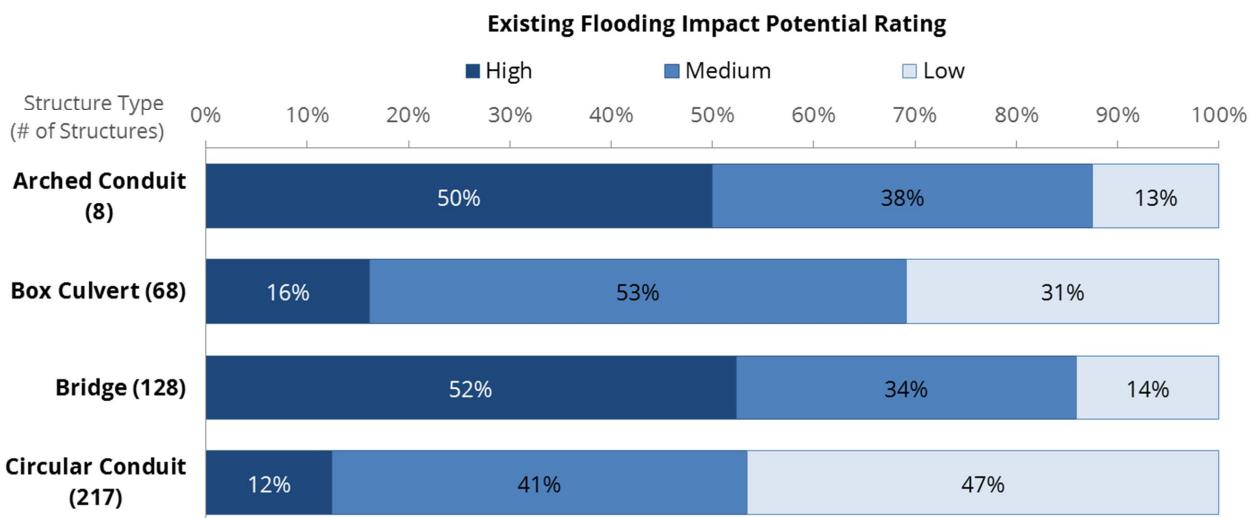


Figure 2-9. Culvert and bridge flooding impact potential ratings by structure type

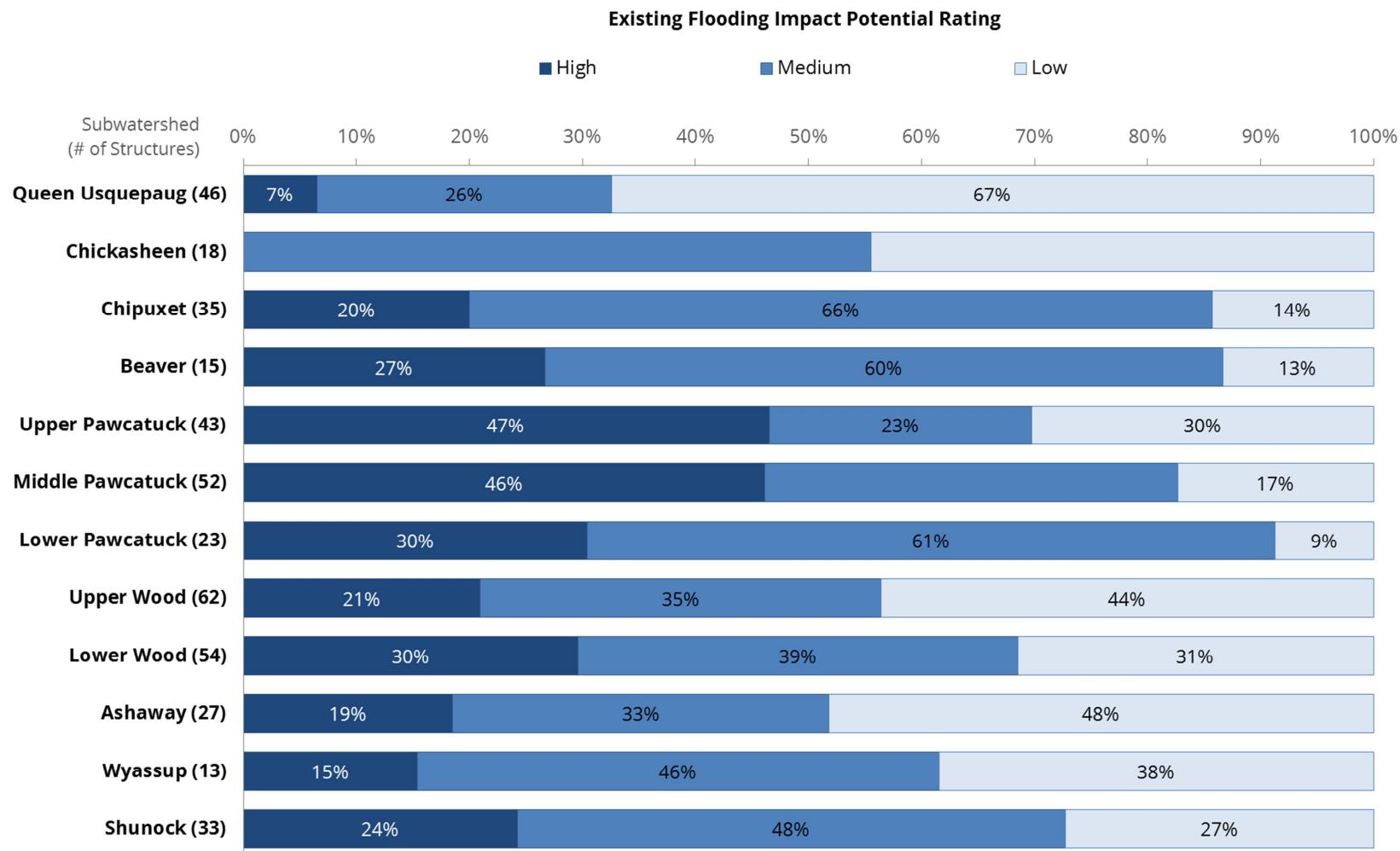


Figure 2-10. Culvert and bridge flooding impact potential ratings by subwatershed

2.3.3 Geomorphic Vulnerability

Geomorphic vulnerability of a culvert or bridge refers to the likelihood of potential impacts of the structure on channel stability based on consideration of the physical characteristics of the structure and stream channel. The geomorphic vulnerability of each structure was assessed using information collected during the field inspections and criteria and metrics adapted from a similar geomorphic vulnerability assessment of stream crossings in the Deerfield River watershed in Massachusetts by the Massachusetts Department of Transportation, the University of Massachusetts, USGS, and other project partners (Katherin McArthur, 2014). The criteria used for the Wood-Pawcatuck assessment are provided in *Table 2-6*.

Table 2-6. Culvert/bridge geomorphic vulnerability criteria

Characteristic	Low	Medium	High
Stream Bed Material	Bedrock	Cobbles/Riprap	Silt/Sand/Gravel
Culvert Invert (Bottom)	Structural	Cobbles/Riprap	Soil/Sediment
Culvert Flow Capacity	>50 Year	10-50 Year	<10 Year
Culvert Width/Channel Bankfull Width	>1.2	0.75-1.2	<0.75
Culvert Material	Concrete	Corrugated Steel ¹	Masonry ²
Culvert Condition	Good	Fair	Poor

¹Structures consisting of High Density Polyethylene (HDPE) or other plastic material were assigned a Culvert Material Rating of "Medium."

²Structures consisting of timber were assigned a Culvert Material Rating of "High."

Assumptions that were made in evaluating structures relative to the geomorphic vulnerability criteria are as follows:

- If a structure was composed of two or more materials, the most prevalent material was used
- If a structure was composed of two or more materials equally present throughout the structure, the higher rating (more vulnerable) material was used
- When multiple bed materials were present, the most prevalent material was used
- Where any characteristic was unclear, conservative assumptions were made.

To determine an overall geomorphic vulnerability rating, a value of 0 (Low), 0.5 (Medium), or 1 (High) was assigned for each of the characteristics/criteria. The values for each characteristic/criteria were then totaled to derive an overall geomorphic vulnerability score. Structures with a geomorphic vulnerability score of less than or equal to 2.5, between 2.5 and 3.5, and greater than or equal to 3.5 were given a geomorphic vulnerability rating of "Low," "Medium," and "High," respectively. Information on the geomorphic vulnerability characteristics/criteria for each structure, as well as the ratings, is provided in *Appendix D*, tabulated by subwatershed and town.

The map in *Figure 2-11* shows geomorphic vulnerability ratings for the assessed structures in the Wood-Pawcatuck watershed. More detailed subwatershed maps are also provided in *Appendix D*.

Overall, 47% of the assessed structures in the watershed have a high geomorphic vulnerability rating, 23% are rated as having medium geomorphic vulnerability, and 30% have a low geomorphic vulnerability rating. The bar charts in *Figures 2-12, 2-13, and 2-14* show the percentages of the assessed structures in each geomorphic vulnerability rating category by crossing type, structure type, and subwatershed, respectively.

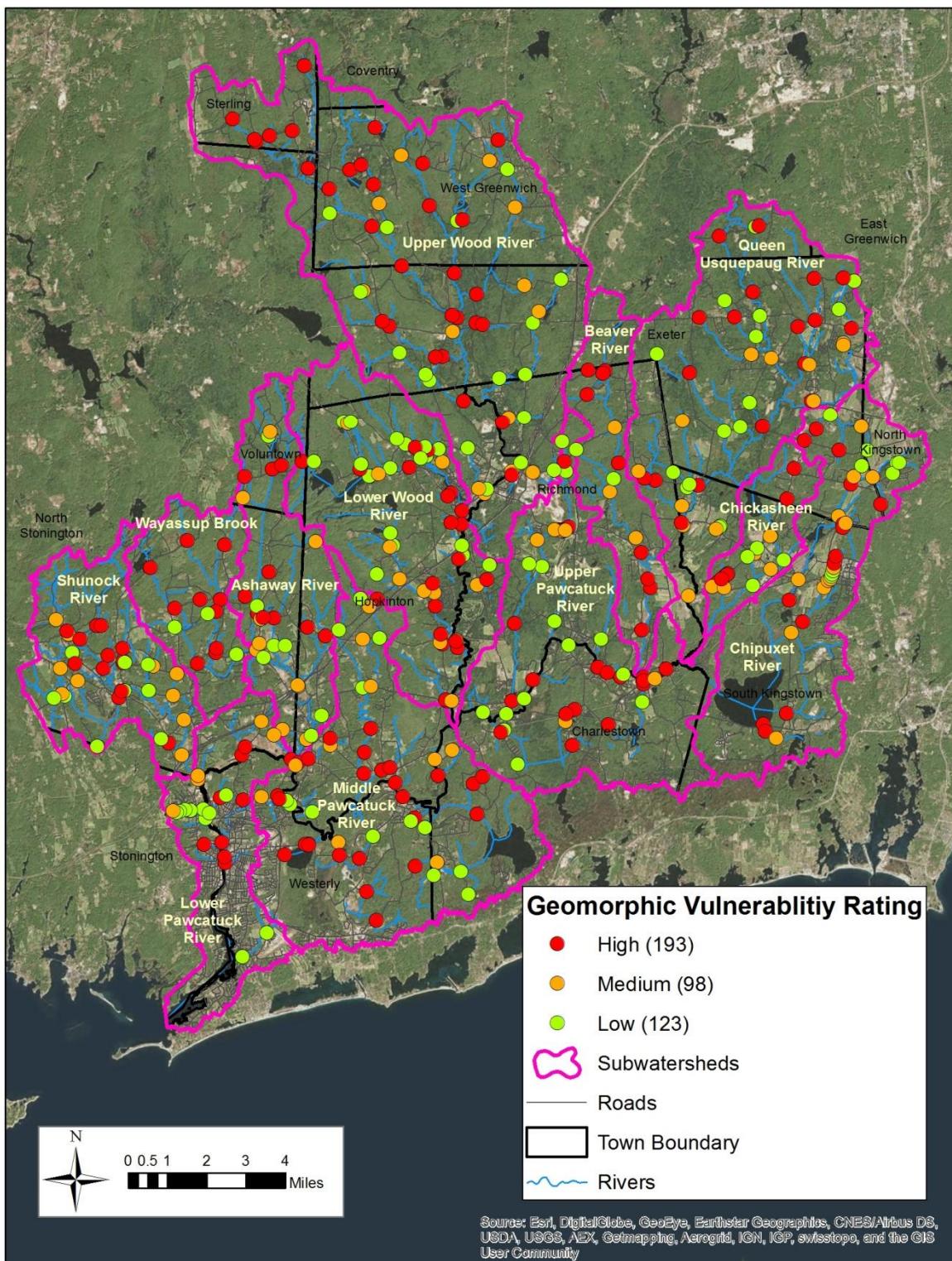


Figure 2-11. Culvert and bridge geomorphic vulnerability ratings

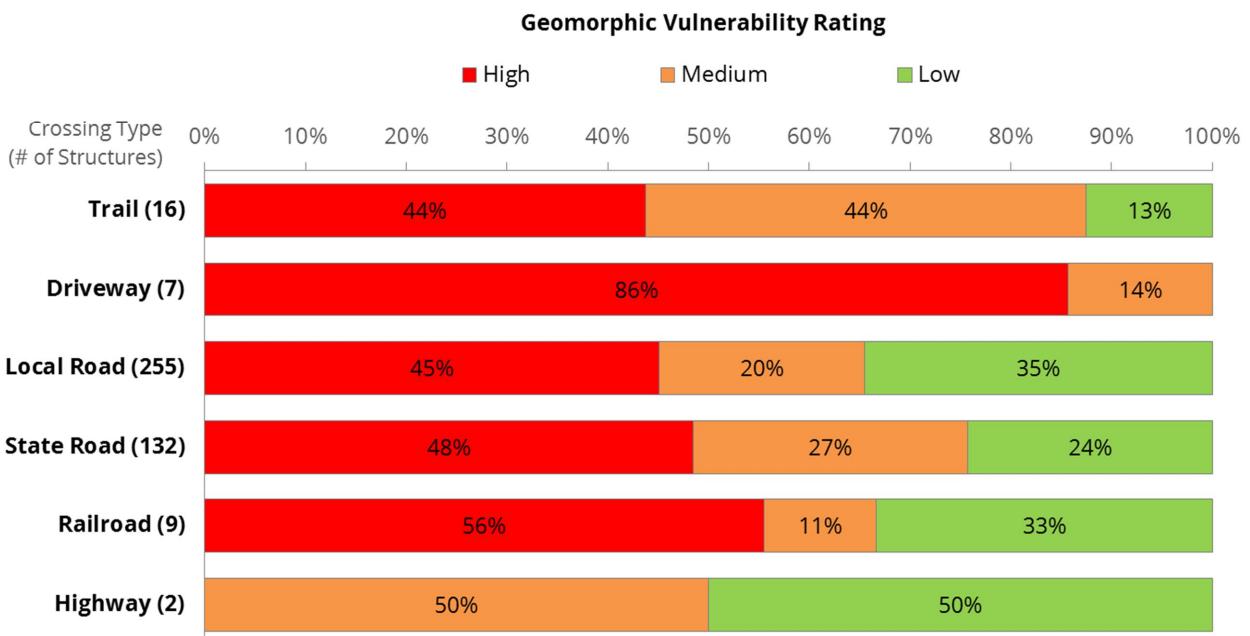


Figure 2-12. Culvert and bridge geomorphic vulnerability ratings by crossing type

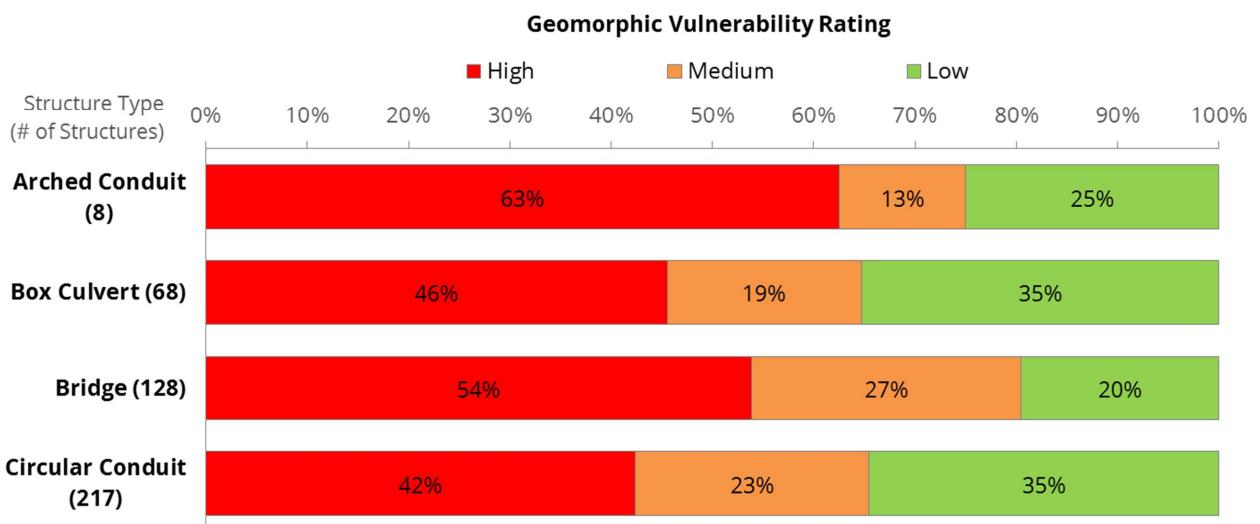


Figure 2-13. Culvert and bridge geomorphic vulnerability ratings by structure type

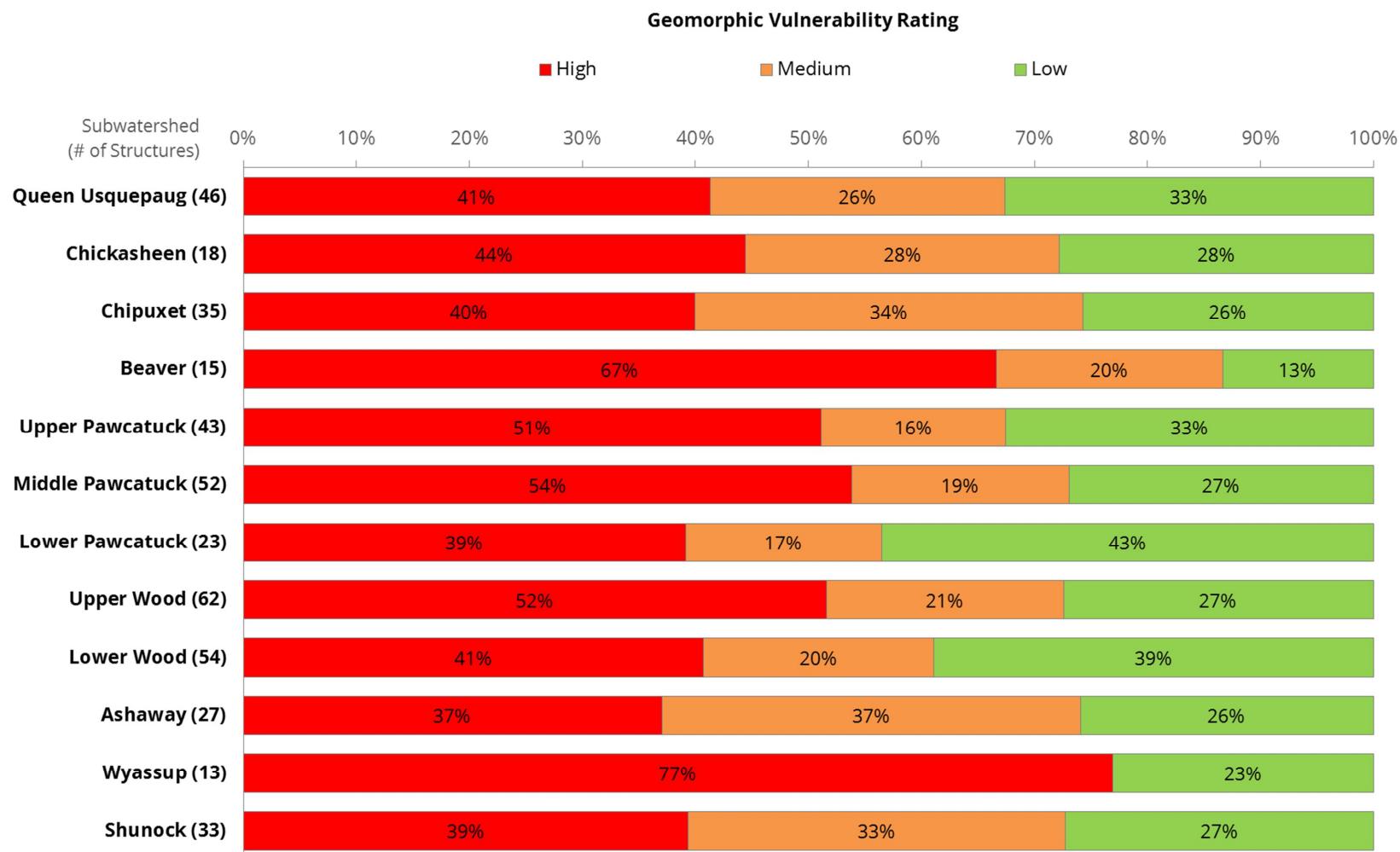


Figure 2-14. Culvert and bridge geomorphic vulnerability ratings by subwatershed

The assessed driveways and trails have a greater percentage of structures with high geomorphic vulnerability ratings (*Figure 2-12*). Local roads, state roads, and railroad crossings have comparable percentages of structures with high, medium, and low geomorphic vulnerability ratings. Geomorphic vulnerability also does not vary significantly with structure type (*Figure 2-13*). Arched conduits and bridges have a slightly higher percentage of high and medium geomorphic vulnerability ratings than box culverts and circular conduits.

The Wyassup Brook (77%) and Beaver River (67%) subwatersheds have the highest percentage of assessed structures with high geomorphic vulnerability ratings, while the Lower Pawcatuck River (43%) subwatershed has the highest percentage of assessed structures with low geomorphic vulnerability (*Figure 2-14*). The distribution of geomorphic vulnerability ratings is relatively consistent across the other subwatersheds.

2.3.4 Aquatic Organism Passage

Culverts and bridges in the watershed were also evaluated for the degree to which they impede or restrict the passage of fish and other aquatic organisms, thereby disrupting river and stream continuity. Structures that act as barriers to or severely limit aquatic organism passage (AOP) are potential candidates for upgrades or replacement, which can have both ecological and flood resiliency benefits.

Using data collected from the field inspections, an AOP rating was assigned to each structure following the North Atlantic Aquatic Connectivity Collaborative (NAACC) AOP Classification System, which is summarized in *Figure 2-15*. The NAACC is a semi-quantitative rating system, where stream crossings are assigned to one of three broad categories based on the degree of AOP provided by the crossing – “Full AOP”, “Reduced AOP”, and “No AOP” – as measured by a number of criteria related to the structure inlet, outlet, and substrate.

Metric	Flow Condition	Crossing Classification		
		Full AOP	Reduced AOP	No AOP
		If all are true	If any are true	If any are true
Inlet Grade		At Stream Grade	Inlet Drop or Perched	
Outlet Grade		At Stream Grade		Cascade, Free Fall onto Cascade
Outlet Drop to Water Surface		= 0		≥ 1 ft
Outlet Drop to Water Surface/ Outlet Drop to Stream Bottom				> 0.5
Inlet or Outlet Water Depth	Typical-Low	> 0.3 ft		< 0.3 ft
	Moderate	> 0.4 ft		< 0.4 ft
Structure Substrate Matches Stream		Comparable or Contrasting		
Structure Substrate Coverage		100%	< 100%	
Physical Barrier Severity		None	Minor or Moderate	Severe

Figure 2-15. North Atlantic Aquatic Connectivity Collaborative (NAACC) Aquatic Organism Passage Classification System

For this assessment, a structure had to meet all of the individual criteria for “Full AOP” to be classified as “Full AOP.” If a structure met one or more criteria for “Reduced AOP,” it was classified as “Reduced AOP.” If a structure met one or more criteria for “No AOP,” it was assigned a rating of “No AOP.” A “Full AOP” rating was assigned for the structure substrate criterion if the substrate inside the structure was similar in size to the substrate in the natural stream (“comparable”). “Reduced AOP” or “No AOP” were assigned for the structure substrate criterion if the substrate inside the structure was different in size from the substrate in the natural channel (“contrasting”).

Field inspections were completed primarily during the summer and fall, which is typically a low-flow period. The summer and fall of 2015 was also below normal in terms of precipitation and streamflow, and several of the streams were dry (i.e., no flow) during the inspections. Structures that would have been classified as “No AOP” because there was less than 0.3 feet of water in the culvert but met all other criteria for either “Full AOP” or “Reduced AOP,” were assigned classifications of “Dry (Full AOP)” or “Dry (Reduced AOP),” respectively.

It should be noted that the field inspections occurred during the dense foliage season, so in some cases visibility of the upstream and downstream channel was limited. Therefore, there may have been physical barriers in the stream channel upstream or downstream of the structure that could not be observed. If a physical barrier related to the structure was observed upstream or downstream of the structure (e.g., a beaver dam immediately upstream of a culvert, or deposited debris immediately upstream of the culvert) then the structure was considered a physical barrier to passage.

Several groups in Rhode Island and Connecticut, including the Rhode Island River and Stream Continuity Project led by the Rhode Island Resource Conservation & Development Council, WPWA, and other project partners, have conducted stream crossing assessments in the Wood-Pawcatuck watershed. Some of these assessments were completed prior to the development of the NAACC assessment protocols. The data from these previous assessments is available in the on-line NAACC Database.³

The AOP classifications resulting from the current Wood-Pawcatuck assessment were compared to the previous assessment results contained in the NAACC Database, where available. NAACC Database information was only available for some of the inspected structures in the Connecticut portion of the watershed. In general, the AOP classifications from the current assessment are consistent with the AOP classifications from previous stream crossing assessments contained in the NAACC Database. It should be noted that the assessment data in the NAACC Database includes physical barriers in the stream channel that were not associated with the assessed structures and has partial or incomplete data for some structures.

The AOP assessment data and associated classifications for each structure are provided in the tables in *Appendix E*, listed by subwatershed and by town. *Figure 2-16* shows the percentage of assessed structures in the Wood-Pawcatuck watershed within each of the AOP classification categories. Overall, 43% of the assessed structures in the watershed are classified as Full AOP or Dry (Full AOP). Another 30% are classified as Reduced AOP or Dry (Reduced AOP), and 27% are classified as No AOP. The percentage of assessed structures in the Wood-Pawcatuck watershed that were identified as moderate to severe barriers (57%) to aquatic organism passage is consistent with other regional stream crossing assessments in New England. The actual percentages of structures with Reduced AOP or No AOP may be somewhat higher than the values shown in *Figure 2-16*, depending on the amount of flow in the streams under "normal" (i.e., non-drought) flow conditions.

The map in *Figure 2-17* shows AOP classifications for the assessed structures in the Wood-Pawcatuck watershed. More detailed subwatershed maps are provided in *Appendix E*. The bar charts in *Figures 2-18, 2-19, and 2-20* illustrate the percentage of the assessed structures in each AOP category by crossing type, structure type, and subwatershed, respectively.

Stream crossings associated with trails and local roads are more significant barriers to aquatic organism passage than crossings associated with state roads, railroads, and highways (*Figure 2-18*). Approximately 68% of local roads and 40% of state roads serve as some form of barrier to aquatic passage. Bridges (89% Full AOP) and arched conduits (75% Full

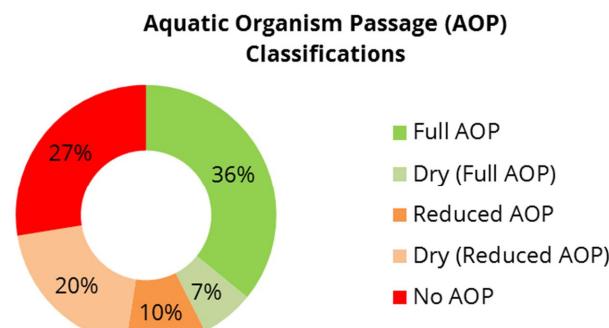


Figure 2-16. Percentage of stream crossing structures in the Wood-Pawcatuck watershed by aquatic organism passage (AOP) classification

³ NAACC (2016). *North Atlantic Aquatic Connectivity Collaborative Database*. North Atlantic Aquatic Connectivity Collaborative. Retrieved online in January 2016 from https://www.streamcontinuity.org/cdb2/naacc_search_crossing.cfm.

AOP) generally have the largest openings and provide the greatest continuity, while box culverts (41% Full AOP) and circular conduits (14% Full AOP) are the greatest barriers to aquatic organism passage in the watershed.

The Beaver River, Lower Wood River, and Shunock River subwatersheds have the greatest percentage of full barriers (No AOP) to aquatic organism passage. Many of the assessed structures in the Queen-Usquepaug River, Chickasheen Brook, Wyassup Brook, and Ashaway River subwatersheds, particularly smaller headwater streams, were dry at the time of the field inspections but exhibited one or more characteristics of reduced passage, resulting in relatively large numbers of structures classified as Dry (Reduced AOP) in these areas.

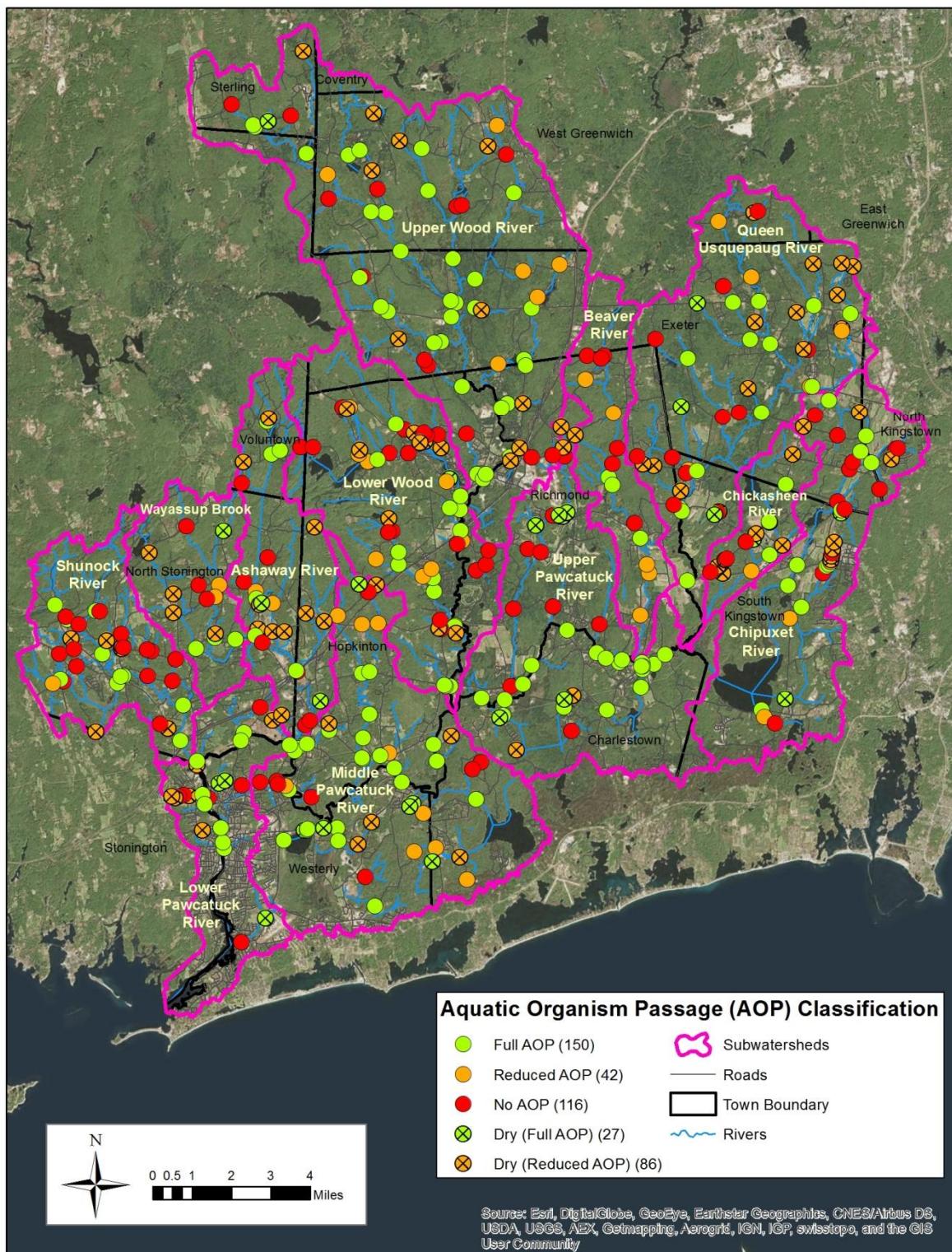


Figure 2-17. Culvert and bridge aquatic organism passage classifications

Aquatic Organism Passage (AOP) Classification

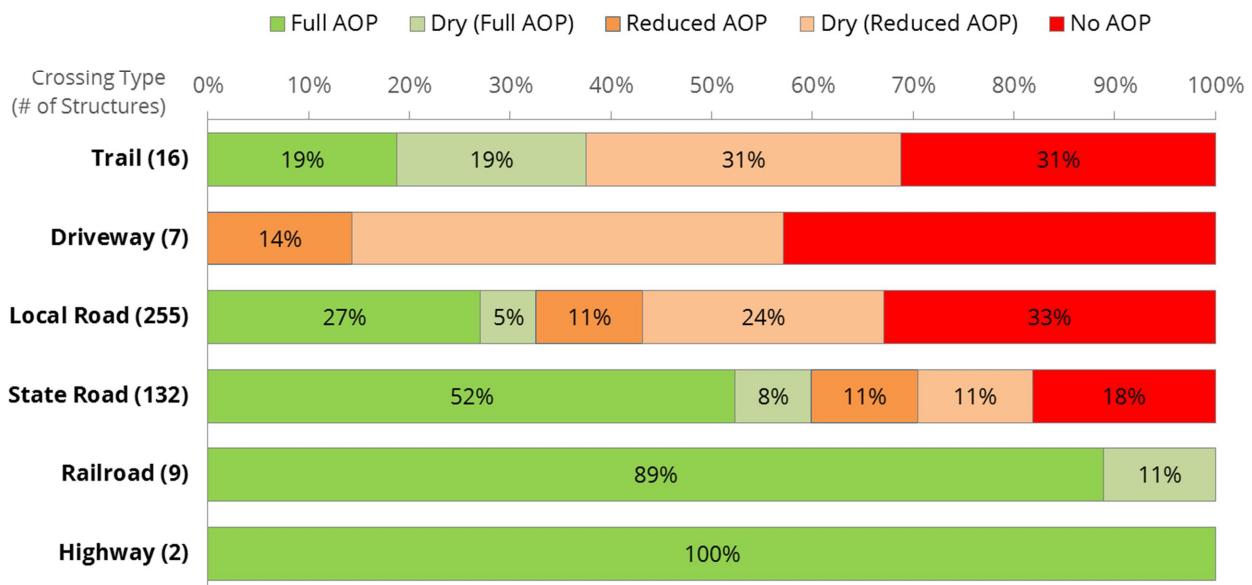


Figure 2-18. Culvert and bridge aquatic organism passage classifications by crossing type.

Aquatic Organism Passage (AOP) Classification

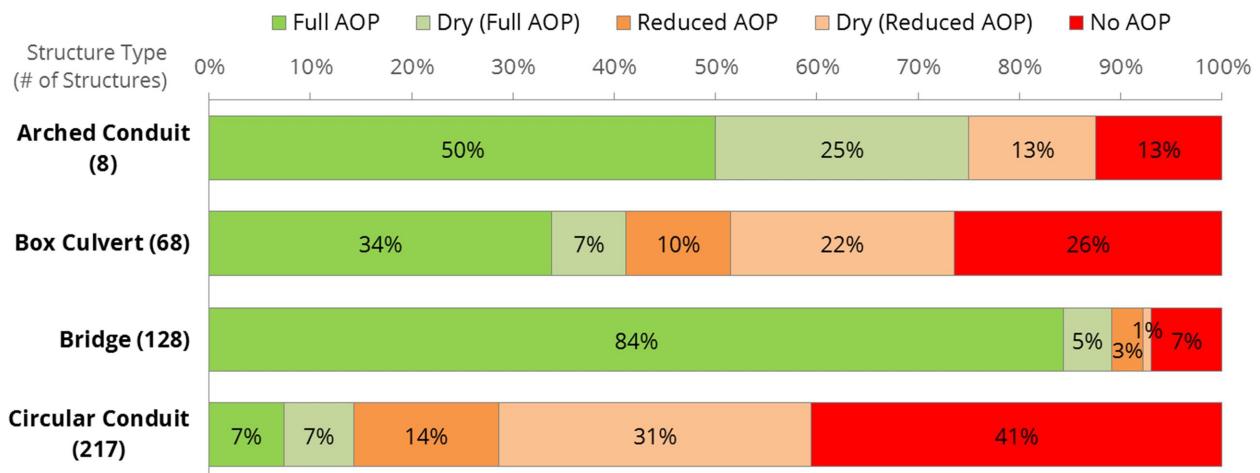


Figure 2-19. Culvert and bridge aquatic organism passage classifications by structure type.

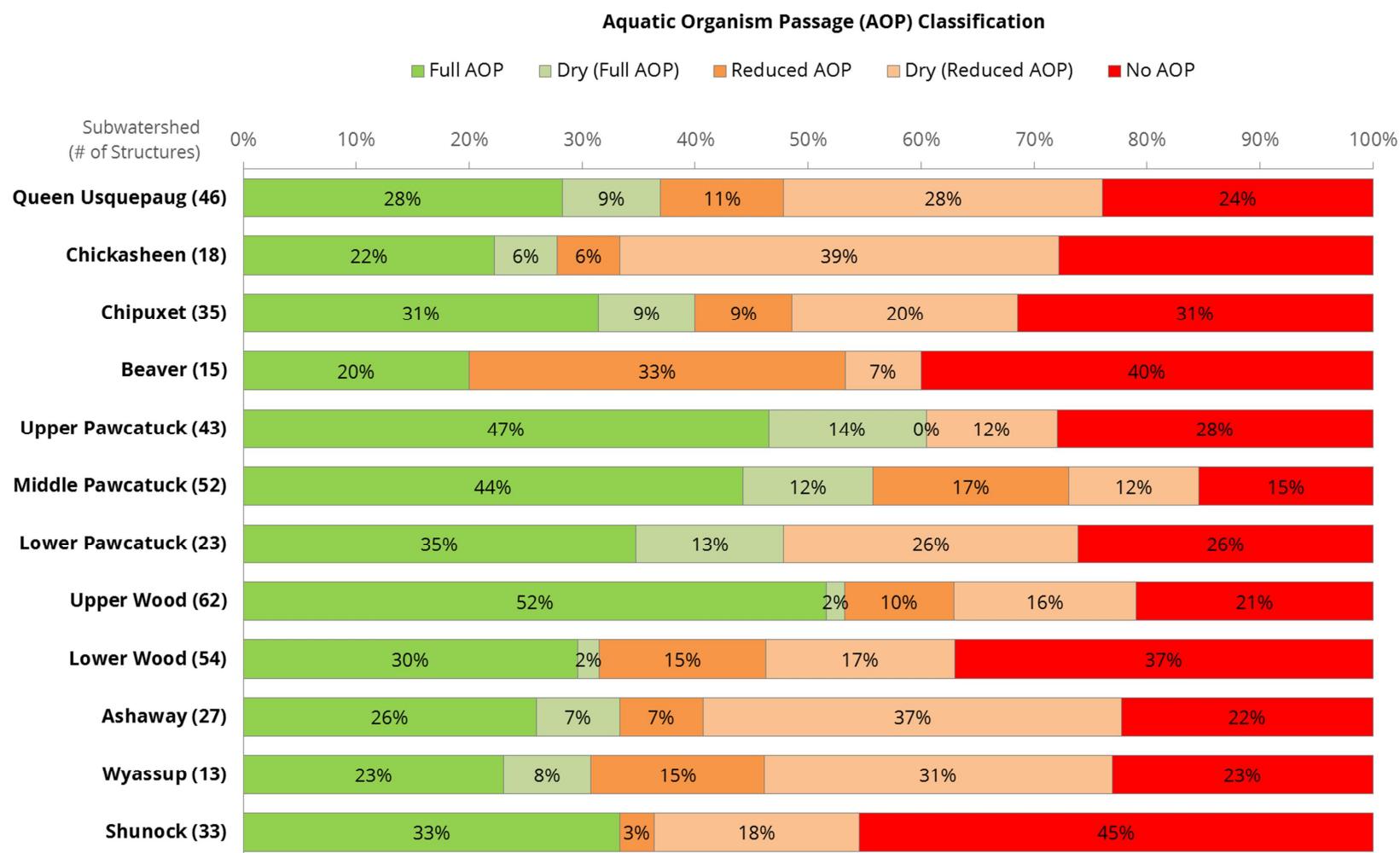


Figure 2-20. Culvert and bridge aquatic organism passage classifications by subwatershed.

2.4 Structure Prioritization

The results of all four culvert and bridge assessments – hydraulic capacity, flooding impact potential, geomorphic vulnerability, and aquatic organism passage (AOP) – were used to determine an overall priority for each structure for potential upgrade or replacement. Hydraulic capacity ratings, flooding impact potential ratings, geomorphic vulnerability ratings, and AOP classifications were converted to numerical scores between 1-5, with 1 reflecting the lowest flood hazard potential and 5 reflecting highest flood hazard potential. The scores for each assessment were weighted (*Table 2-7*), consistent with the goals of this study, and the weighted scores were then added to calculate an overall score.

Table 2-7. Weighting factors for priority ratings of culverts and bridges

Assessment Rating	Scoring Range	Weighting Factor
Hydraulic Capacity	1-5	43%
Flooding Impact Potential	1-5	29%
Geomorphic Vulnerability	1-5	14%
Aquatic Organism Passage	1-5	14%

The structures were then assigned a priority of “Low” (1-2), “Intermediate” (2-3), or “High” (3-5) based on their overall scores. The map in *Figure 2-21* shows priority ratings for the assessed structures in the Wood-Pawcatuck watershed. More detailed subwatershed maps are also provided in *Appendix F*. The overall scores and priority ratings for each structure are provided in *Appendix F*, tabulated by subwatershed and town.

Overall, 37% of the assessed structures in the watershed are rated as high priority, 43% are rated as intermediate priority, and 20% are low priority. The bar charts in *Figures 2-22, 2-23, and 2-24* show the percentages of the assessed structures in each priority rating category by crossing type, structure type, and subwatershed, respectively.

The high-priority stream crossings are associated with local roads (103), state roads (41), driveways (7) and trails (6), with a slightly higher percentage of local road stream crossings (40%) rated as high priority compared with high-priority stream crossings of state roads (31%) (*Figure 2-22*). Circular conduits and box culverts comprise the highest percentage of high-priority stream crossings in the watershed (*Figure 2-23*). Approximately 80% of the high-priority stream crossings are circular conduits or box culverts. 30 bridges and 1 arched conduit are also considered high priority.

The largest numbers of high-priority structures are located in the Queen-Usquepaug River, Upper Wood River, and Lower Wood River subwatersheds (*Figure 2-24*), although the Beaver River, Wyassup Brook, and Ashaway River subwatersheds have the highest percentage of high-priority structures. The high-priority stream crossings are summarized by town in *Table 2-8*.

The culvert and bridge priority ratings developed through this analysis help to identify overall priorities for stream crossing upgrade or replacement, given the large number of structures that exist in the watershed. The priority ratings are relative – upgrade or replacement of higher-rated or higher-priority structures generally provides greater potential benefits relative to flood resiliency and stream continuity based on a number of factors. The priorities are not meant as definitive recommendations (e.g., not all high-priority structures should necessarily be replaced or repaired, and not all low-priority structures are adequate “as-is”) since the ratings do not account for the costs and other site-specific factors. The individual assessment ratings (i.e., hydraulic capacity, flooding impact potential, geomorphic vulnerability, and AOP) should also be considered individually and on a case-by-case basis when evaluating upgrades or replacement of specific stream crossing structures. Stream crossing recommendations should consider other upstream and downstream crossings and dams on the same river system. A full hydrologic and/or hydraulic analysis is beyond the scope of this planning-level assessment. Hydraulic modeling would be required during future design to quantitatively assess potential upstream and downstream impacts of stream crossing modifications on flow velocities and water surface profiles. Other potential impacts and constraints would also need to be considered during design and permitting.

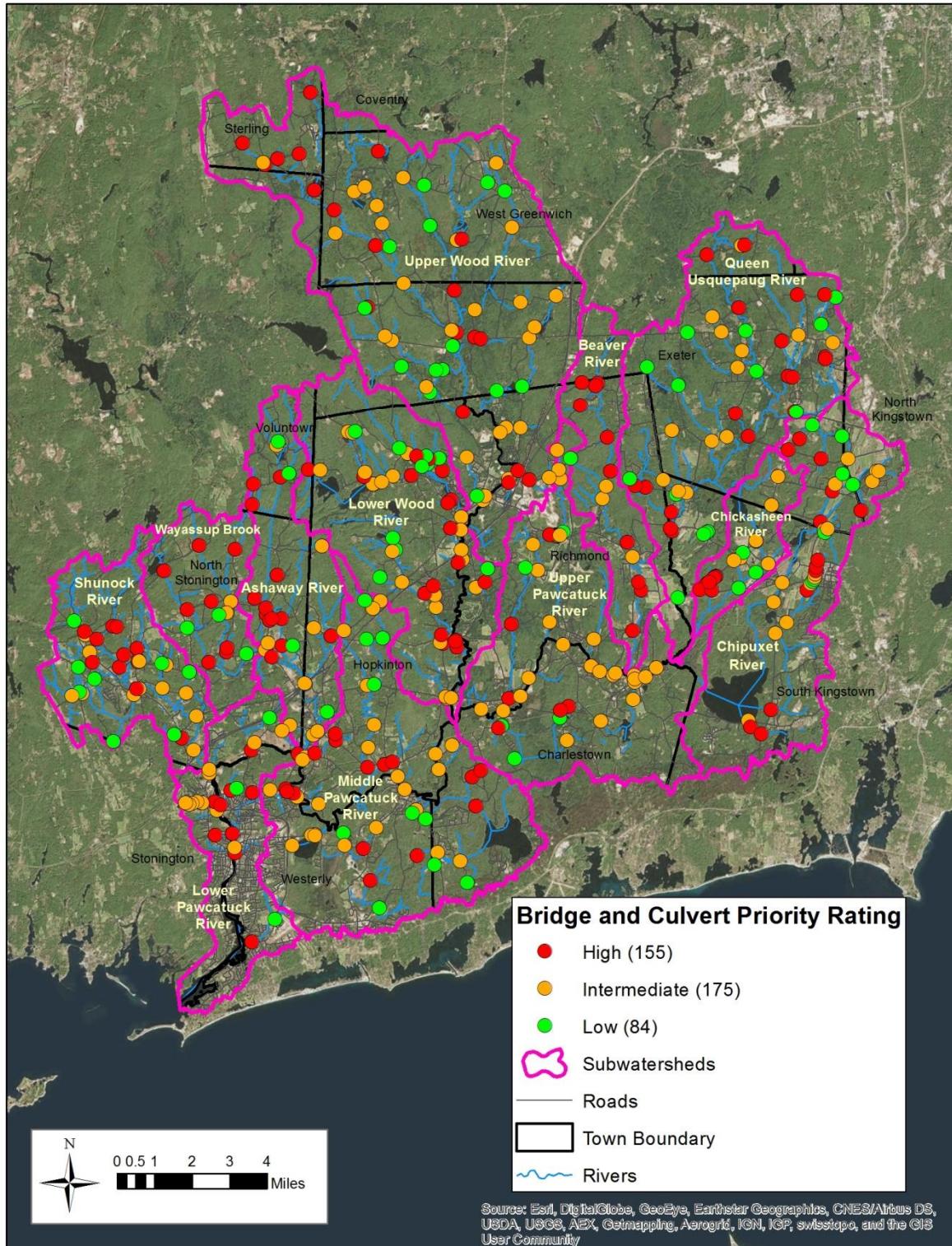


Figure 2-21. Culvert and bridge priority ratings



Figure 2-22. Culvert and bridge priority ratings by crossing type.



Figure 2-23. Culvert and bridge priority ratings by structure type.

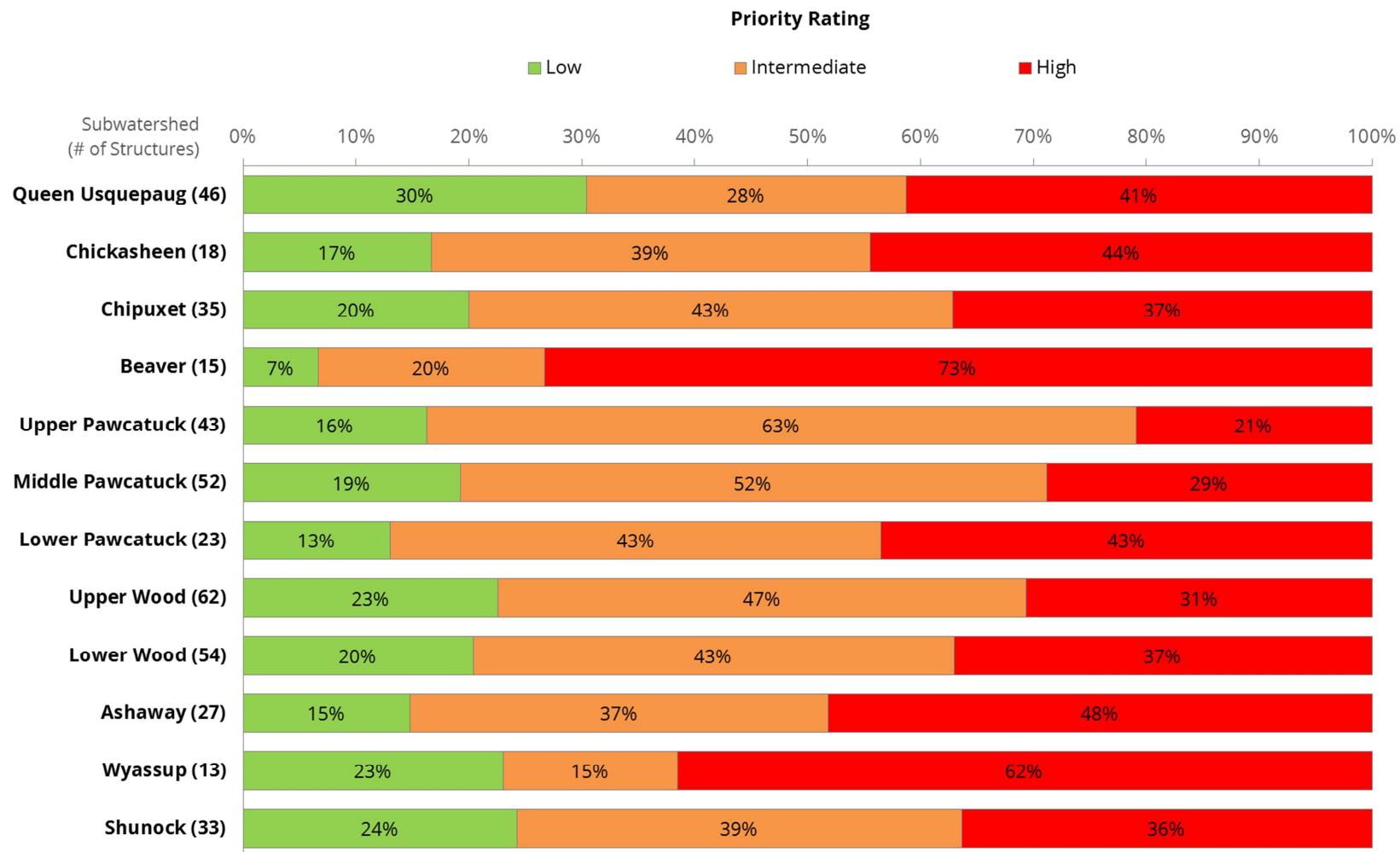


Figure 2-24. Culvert and bridge priority ratings by subwatershed.

Table 2-8. High priority culverts and bridges

Town	Structure Name/Subwatershed	Road Name	Road Type	Structure Type	Hydraulic Capacity Rating	Flooding Impact Potential Rating	Geomorphic Vulnerability Rating	Aquatic Organism Passage Classification
Charlestown	MPR-POQ-0-1	Buckeye Brook Road	Local	circular conduit	10-Year	Medium	High	Full AOP
Charlestown	MPR-POQ-1-2	Burlingame State Park - Mgmt Area	State	circular conduit	< 10-Year	Low	High	No AOP
Charlestown	MPR-POQ-1-3	Burlingame State Park - Mgmt Area	State	circular conduit	< 10-Year	Low	High	No AOP
Charlestown	UPR-CED-1-1	Shumankauac Hill Road	Local	circular conduit	< 10-Year	Low	High	Dry (Full AOP)
Charlestown	UPR-CED-7-1	Narragansett Trail	Local	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Charlestown	UPR-CED-8-1	Saw Mill Road	Local	circular conduit	< 10-Year	Low	High	Dry (Full AOP)
Exeter	CPR-CHP-0-4	Wolf Rocks Road	Local	box culvert	< 10-Year	Medium	Medium	No AOP
Exeter	CPR-CHP-0-5	Yawgoo Valley Road	Local	circular conduit	25-Year	High	High	No AOP
Exeter	CPR-CHP-6-1	Liberty Road	Local	circular conduit	< 10-Year	Low	High	No AOP
Exeter	CPR-CHP-7-2	Deer Brook Lane	Local	circular conduit	< 10-Year	Medium	High	No AOP
Exeter	CPR-CHP-7-3	Mail Road	Local	circular conduit	< 10-Year	Medium	High	Dry (Reduced AOP)
Exeter	QUR-FIS-0-2	Pardon Joslin Road	Local	circular conduit	10-Year	Low	High	Reduced AOP
Exeter	QUR-FOUND-20150810	Punchbowl Road	Local	circular conduit	< 10-Year	Low	High	No AOP
Exeter	QUR-QFB-0-1	Ladd Drive	Local	bridge	25-Year	Medium	High	Reduced AOP
Exeter	QUR-QFB-0-10	Pinoak Drive	Local	circular conduit	10-Year	Medium	Medium	Dry (Reduced AOP)
Exeter	QUR-QFB-0-9	Tarbox Drive	Local	circular conduit	< 10-Year	High	Medium	Reduced AOP
Exeter	QUR-QFB-2-2	Stony Lane	Local	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Exeter	QUR-QUR-0-6	Mail Road	Local	bridge	< 10-Year	Low	High	Full AOP
Exeter	QUR-QUR-0-7	William Reynolds Road	Local	box culvert	< 10-Year	Low	High	Dry (Reduced AOP)
Exeter	QUR-QUR-0-9	Stony Lane	Local	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Exeter	QUR-QUR-10-1	William Reynolds Road	Local	circular conduit	< 10-Year	Medium	Medium	Dry (Reduced AOP)
Exeter	QUR-QUR-11-1	Purgatory Road	Local	circular conduit	< 10-Year	Medium	High	Dry (Reduced AOP)
Exeter	QUR-QUR-7-1	Liberty Church Road	Local	circular conduit	10-Year	Medium	Low	Dry (Reduced AOP)
Exeter	UWR-FLA-0-1	Midway Rail Road	Local	bridge	10-Year	Medium	High	Full AOP
Exeter	UWR-FLA-0-2	Flat River Road	Local	bridge	10-Year	Medium	High	Full AOP
Exeter	UWR-WOR-18-4-1	Old Voluntown Road	Local	circular conduit	< 10-Year	Low	Medium	No AOP
Exeter	UWR-WOR-19-2	Arcadia Management Area	State	circular conduit	< 10-Year	Low	High	Full AOP
Exeter	UWR-WOR-19-3	Ten Rod Road	State	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Hopkinton	AWR-PAR-0-2	Clarks Falls Road	State	circular conduit	< 10-Year	Medium	High	Dry (Reduced AOP)
Hopkinton	LWR-BRU-0-2	Sawmill Road	Local	circular conduit	10-Year	Medium	High	No AOP
Hopkinton	LWR-BRU-2-1	Harningstuns Crossing	Local	bridge	25-Year	Medium	High	Dry (Full AOP)
Hopkinton	LWR-BRU-2-2	Harningstuns Crossing	State	circular conduit	< 10-Year	Medium	High	Reduced AOP
Hopkinton	LWR-BRU-3-1	Fairview Avenue	Local	circular conduit	< 10-Year	Low	Medium	Dry (Reduced AOP)
Hopkinton	LWR-BRU-5-2	Dye Hill Road	Local	circular conduit	< 10-Year	Low	High	No AOP
Hopkinton	LWR-BRU-6-1	Dye Hill Road	Local	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Hopkinton	LWR-CAN-0-3	Woodlawn Drive	Local	circular conduit	50-Year	High	Medium	Reduced AOP
Hopkinton	LWR-CAN-1-1	Palmer Circle	Local	circular conduit	25-Year	Medium	High	Reduced AOP
Hopkinton	LWR-MOS-0-2	Woody Hill Road	Local	bridge	100-Year	High	High	No AOP
Hopkinton	LWR-MOS-0-7	Camp Yawgoog Road	State	circular conduit	25-Year	Medium	High	Reduced AOP
Hopkinton	LWR-MOS-4-1	Camp Yawgoog Road	Local	bridge	10-Year	Low	High	No AOP
Hopkinton	LWR-WOR-0-1	Alton Bradford Road	State	bridge	50-Year	High	High	No AOP
Hopkinton	LWR-WOR-0-2	Woodville Road	State	bridge	< 10-Year	High	Medium	Full AOP
Hopkinton	LWR-WOR-4-1	Crowthor Road	Local	circular conduit	10-Year	Low	High	Dry (Reduced AOP)
Hopkinton	LWR-WOR-4-2	Woodville Road	State	circular conduit	< 10-Year	Medium	High	No AOP

Table 2-8. High priority culverts and bridges

Town	Structure Name/Subwatershed	Road Name	Road Type	Structure Type	Hydraulic Capacity Rating	Flooding Impact Potential Rating	Geomorphic Vulnerability Rating	Aquatic Organism Passage Classification
Hopkinton	LWR-WOR-5-1	Woodville Road	State	bridge	< 10-Year	Medium	High	Full AOP
Hopkinton	LWR-WOR-6-1-1	Woodville Alton Road	Local	circular conduit	< 10-Year	Medium	High	No AOP
Hopkinton	LWR-WOR-8-1	Graniteville Road	Local	circular conduit	< 10-Year	Low	High	No AOP
Hopkinton	LWR-WOR-9-2	Noseneek Hill Road	State	box culvert	< 10-Year	High	High	Full AOP
Hopkinton	MPR-MIL-0-2	Main Street	State	box culvert	50-Year	High	High	Full AOP
Hopkinton	MPR-MIL-0-3	Ashaway Road	State	circular conduit	10-Year	High	Medium	Full AOP
Hopkinton	MPR-MIL-1-2	Ashaway Road	State	box culvert	25-Year	Medium	High	Dry (Reduced AOP)
Hopkinton	MPR-TOM-0-1	Chase Hill Road	State	bridge	25-Year	High	High	Full AOP
Hopkinton	MPR-TOM-1-1	Tomaquag Road	Local	box culvert	< 10-Year	High	High	Full AOP
Hopkinton	MPR-TOM-1-3	Vuono Road	Local	circular conduit	< 10-Year	High	High	Reduced AOP
Hopkinton	UWR-WOR-17-1	Blitzkrieg Trail	Local	box culvert	< 10-Year	Low	High	Full AOP
North Kingstown	CPR-CHP-5-1-2-1	Kayka Ricci Way	State	circular conduit	< 10-Year	Medium	High	No AOP
North Stonington	AWR-GLA-0-1	East Clarks Falls Road	Local	circular conduit	10-Year	Medium	Low	Dry (Reduced AOP)
North Stonington	AWR-GLA-0-2	Pine Woods Road	Local	circular conduit	10-Year	Medium	High	Reduced AOP
North Stonington	AWR-GRE-0-3	Denison Hill Road	Local	bridge	< 10-Year	Medium	High	Full AOP
North Stonington	AWR-GRE-0-4	Puttke Road	Local	box culvert	10-Year	Medium	Low	Reduced AOP
North Stonington	AWR-GRE-3-1	Clarks Falls Road	State	circular conduit	< 10-Year	Medium	Low	No AOP
North Stonington	AWR-GRE-5-1	Denison Hill Road	Local	circular conduit	< 10-Year	Low	Medium	Dry (Reduced AOP)
North Stonington	AWR-GRE-5-2	Denison Hill Road	Local	circular conduit	< 10-Year	Low	High	Dry (Full AOP)
North Stonington	AWR-GRE-6-1	Loin Hill Road	Local	circular conduit	< 10-Year	Medium	High	No AOP
North Stonington	AWR-GRE-7-1	Denison Hill Road	Local	circular conduit	< 10-Year	Low	High	No AOP
North Stonington	SNR-SHU-0-11	Bicentennial Trail	Local	bridge	10-Year	Medium	High	Full AOP
North Stonington	SNR-SHU-0-13	Norwich-Westerly Road	State	bridge	100-Year	High	High	No AOP
North Stonington	SNR-SHU-0-9	Main Street	Local	bridge	< 10-Year	High	High	Full AOP
North Stonington	SNR-SHU-1-1	Norwich-Westerly Road	State	circular conduit	10-Year	Medium	High	No AOP
North Stonington	SNR-SHU-6-3	Mains Crossing	Local	circular conduit	< 10-Year	Medium	High	No AOP
North Stonington	SNR-SHU-7-1	Wyassup Road	Local	circular conduit	< 10-Year	Medium	High	Dry (Reduced AOP)
North Stonington	SNR-SHU-7-1-1	Wyassup Road	Local	circular conduit	< 10-Year	Medium	High	Dry (Reduced AOP)
North Stonington	SNR-SHU-7-1-2	Chester Main Road	Local	circular conduit	< 10-Year	Medium	High	No AOP
North Stonington	SNR-SHU-8-1	Ryder Road	Local	circular conduit	10-Year	Low	High	Dry (Reduced AOP)
North Stonington	SNR-YAW-0-1	Ryder Road	Local	circular conduit	10-Year	Medium	High	No AOP
North Stonington	SNR-YAW-0-2	Yawbux Valley Road	Local	circular conduit	< 10-Year	Medium	High	Full AOP
North Stonington	SNR-YAW-1-1	Yawbux Valley Road	Local	circular conduit	< 10-Year	Low	High	No AOP
North Stonington	WPB-HET-0-2	Wyassup Road	Local	circular conduit	< 10-Year	Low	High	No AOP
North Stonington	WPB-PHB-0-1	State Highway 49	State	bridge	10-Year	High	High	Full AOP
North Stonington	WPB-PHB-0-5	State Highway 49	State	box culvert	< 10-Year	Medium	High	Dry (Full AOP)
North Stonington	WPB-PHB-1-1	State Highway 49	State	circular conduit	< 10-Year	High	High	Dry (Reduced AOP)
North Stonington	WPB-PHB-3-2	Grindstone Hill Road	Local	circular conduit	< 10-Year	Low	High	No AOP
North Stonington	WPB-WAY-0-2	State Highway 49	State	bridge	10-Year	Medium	High	Full AOP
North Stonington	WPB-WAY-0-4	Grindstone Hill Road	Local	circular conduit	< 10-Year	Medium	High	Dry (Reduced AOP)
North Stonington	WPB-WAY-0-6	Wyassup Road	Local	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Richmond	BVR-BEA-0-1	Shannock Hill Road	Local	bridge	< 10-Year	Medium	High	Reduced AOP
Richmond	BVR-BEA-0-2	Schoolhouse Road	Local	box culvert	< 10-Year	Medium	High	Reduced AOP
Richmond	BVR-BEA-0-4	Hillsdale Road	Local	circular conduit	< 10-Year	Medium	High	No AOP

Table 2-8. High priority culverts and bridges

Town	Structure Name/Subwatershed	Road Name	Road Type	Structure Type	Hydraulic Capacity Rating	Flooding Impact Potential Rating	Geomorphic Vulnerability Rating	Aquatic Organism Passage Classification
Richmond	BVR-BEA-0-5	Old Mountain Road	Local	circular conduit	< 10-Year	Medium	Medium	Reduced AOP
Richmond	BVR-BEA-0-6	New London Turnpike	State	circular conduit	25-Year	High	High	No AOP
Richmond	BVR-BEA-5-1	New London Turnpike	State	circular conduit	< 10-Year	High	High	Reduced AOP
Richmond	BVR-BEA-6-1	New London Turnpike	State	circular conduit	10-Year	High	High	No AOP
Richmond	BVR-BEA-6-2	Dawley Park Road	Local	box culvert	< 10-Year	Low	High	No AOP
Richmond	BVR-FOUND-20150630	Punchbowl Road	Local	bridge	10-Year	Medium	High	Full AOP
Richmond	BVR-FOUND-20150817	Unnamed	Trail	bridge	< 10-Year	Medium	Medium	No AOP
Richmond	BVR-FOUND-20151015	Unnamed	Driveway	bridge	10-Year	Medium	High	Reduced AOP
Richmond	LWR-DIA-0-2	Shippee Trail Road	Local	circular conduit	< 10-Year	Low	High	No AOP
Richmond	QUR-GLE-2-1-1	James Trail	Local	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Richmond	QUR-GLE-2-2-1	James Trail	Local	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Richmond	QUR-QUR-0-3	Old Usquepaug Road	State	bridge	25-Year	High	Medium	Full AOP
Richmond	QUR-QUR-0-4	Old Usquepaug Road	State	bridge	50-Year	High	High	Full AOP
Richmond	UPR-FOUND-20151014-2	Unnamed	Trail	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Richmond	UPR-FOUND-20151014-3	Unnamed	Trail	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Richmond	UPR-FOUND-20151014-4	Unnamed	Trail	circular conduit	10-Year	Low	Medium	No AOP
Richmond	UPR-FOUND-20151015-1	Unnamed	Trail	circular conduit	< 10-Year	Low	Medium	No AOP
Richmond	UPR-MEA-0-2	Church Street	State	box culvert	50-Year	High	High	No AOP
Richmond	UPR-MEA-0-3	Pine Hill Road	Local	box culvert	10-Year	Medium	High	No AOP
Richmond	UWR-WOR-13-1	Noonseck Hill Road	State	box culvert	100-Year	High	High	Dry (Reduced AOP)
Richmond	UWR-WOR-14-1	K and G Ranch Road	Local	circular conduit	10-Year	High	Low	Dry (Reduced AOP)
Richmond	UWR-WOR-14-4	Buttonwood Road	Local	circular conduit	< 10-Year	High	Medium	No AOP
South Kingstown	CKR-3047	South County Trail Driveway	Driveway	circular conduit	10-Year	Low	High	No AOP
South Kingstown	CKR-3049	South County Trail Driveway	Driveway	circular conduit	10-Year	Low	High	Dry (Reduced AOP)
South Kingstown	CKR-3071	South County Trail Driveway	Driveway	circular conduit	< 10-Year	Low	High	No AOP
South Kingstown	CKR-3192	South County Trail Driveway	Driveway	circular conduit	10-Year	Low	High	Dry (Reduced AOP)
South Kingstown	CKR-3243	South County Trail Driveway	Driveway	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
South Kingstown	CKR-3351	South County Trail Driveway	Driveway	circular conduit	10-Year	Low	Medium	No AOP
South Kingstown	CKR-CHK-1-1	Liberty Road	Local	circular conduit	10-Year	Medium	Medium	Dry (Reduced AOP)
South Kingstown	CKR-CHK-1-2	South County Trail	State	circular conduit	< 10-Year	Medium	High	No AOP
South Kingstown	CPR-ALE-0-2	Worden Pond Family Campground	Local	circular conduit	< 10-Year	Medium	High	Reduced AOP
South Kingstown	CPR-ALE-0-3	Ministerial Road	State	circular conduit	50-Year	High	Medium	No AOP
South Kingstown	CPR-MIN-0-1	Ministerial Road	State	circular conduit	< 10-Year	High	High	Dry (Full AOP)
South Kingstown	CPR-WHB-2-1	Peckham Farm Road	Local	circular conduit	< 10-Year	High	Medium	No AOP
South Kingstown	CPR-WHB-2-7	Walking Path	Trail	box culvert	10-Year	Medium	Medium	No AOP
South Kingstown	CPR-WHB-2-8	Plains Road	Local	circular conduit	< 10-Year	Medium	High	Dry (Reduced AOP)
South Kingstown	CPR-WHB-2-9	Flagg Road	Local	circular conduit	< 10-Year	Medium	High	Dry (Reduced AOP)
South Kingstown	QUR-QUR-1-1	Glen Rock Road	Local	circular conduit	< 10-Year	Low	Medium	No AOP
Sterling	UWR-CAR-0-5	Newport Road	Local	box culvert	< 10-Year	Low	High	Dry (Reduced AOP)
Sterling	UWR-WOR-0-18	Pachaug Trail	State	bridge	< 10-Year	Low	High	Full AOP
Sterling	UWR-WOR-0-20	Cedar Swamp Road	Local	box culvert	< 10-Year	Low	High	No AOP
Sterling	UWR-WOR-24-2	Gallup Homestead Road	Local	circular conduit	10-Year	Low	High	No AOP
Sterling	UWR-WOR-25-2	Gallup Homestead Road	Local	circular conduit	< 10-Year	Low	High	Dry (Full AOP)
Voluntown	AWR-GRE-0-6	Sand Hill Road	Local	box culvert	< 10-Year	Low	High	Full AOP

Table 2-8. High priority culverts and bridges

Town	Structure Name/ Subwatershed	Road Name	Road Type	Structure Type	Hydraulic Capacity Rating	Flooding Impact Potential Rating	Geomorphic Vulnerability Rating	Aquatic Organism Passage Classification
Voluntown	AWR-GRE-8-2-1	Tom Wheeler Road	Local	circular conduit	< 10-Year	Low	Medium	No AOP
Voluntown	AWR-GRE-8-2-2	Sand Hill Road	Local	circular conduit	< 10-Year	Low	High	Dry (Reduced AOP)
Voluntown	UWR-CAR-0-1	Bailey Pond Road	State	circular conduit	< 10-Year	High	High	Full AOP
West Greenwich	QUR-FIS-0-3	Henry Brown Road	Local	circular conduit	< 10-Year	Low	High	Reduced AOP
West Greenwich	QUR-FIS-3-2	Shetucket Turnpike	Local	circular conduit	< 10-Year	Low	High	No AOP
West Greenwich	UWR-CON-0-2	Tillinghast Pond Road	Local	box culvert	< 10-Year	Medium	High	Dry (Reduced AOP)
West Greenwich	UWR-FAC-1-1	Shetucket Turnpike	Local	circular conduit	< 10-Year	Medium	High	No AOP
West Greenwich	UWR-WOR-0-13	Falls River Road	Local	bridge	< 10-Year	Medium	High	Full AOP
West Greenwich	UWR-WOR-0-14	Hazard Road	Local	circular conduit	< 10-Year	Medium	High	Reduced AOP
Westerly	LPR-MAS-0-1	Watch Hill Road	State	circular conduit	50-Year	High	Low	No AOP
Westerly	LPR-PAW-0-1	Broad Street	State	bridge	< 10-Year	High	High	Full AOP
Westerly	LPR-PAW-0-3	Stillman Avenue	Local	bridge	10-Year	High	High	Full AOP
Westerly	LPR-PAW-0-5	White Rock Road	Local	bridge	10-Year	High	Low	Full AOP
Westerly	LPR-PAW-0-6	Boom Bridge Road	Local	bridge	< 10-Year	Medium	High	Full AOP
Westerly	LPR-PAW-0-7	Post Office Lane	Local	bridge	< 10-Year	Medium	High	Full AOP
Westerly	LPR-PAW-5-1	West Arch Street	Local	circular conduit	< 10-Year	Medium	High	Dry (Reduced AOP)
Westerly	LPR-PAW-7-1	White Rock Road	Local	circular conduit	< 10-Year	High	Low	No AOP
Westerly	LPR-PAW-7-1-1	Spring Brook Road	Local	box culvert	< 10-Year	Medium	High	Dry (Full AOP)
Westerly	LPR-PAW-7-2	Boom Bridge Road	Local	arched conduit	10-Year	Medium	High	No AOP
Westerly	MPR-ISO-NE	Moorehouse Road	Local	box culvert	< 10-Year	Low	High	No AOP
Westerly	MPR-MCG-1-1	Westerly-Bradford Road	State	circular conduit	< 10-Year	High	High	Dry (Reduced AOP)
Westerly	MPR-PAW-16-1	Hiscox Road	Local	circular conduit	< 10-Year	High	Low	Reduced AOP
Westerly	MPR-PAW-16-1-1	Potter Hill Road	State	circular conduit	< 10-Year	Medium	High	No AOP
Westerly	MPR-PAW-16-2	Forrestal Drive	Local	circular conduit	< 10-Year	High	High	No AOP
Westerly	MPR-PER-0-3	Ross Hill Road	State	circular conduit	< 10-Year	Medium	High	Reduced AOP

3 Dams Assessment

Dams in the Wood-Pawcatuck were initially identified through file reviews and then prioritized based on flood risk potential. Limited visual condition assessments were performed of the highest-priority dams, and recommendations were developed for each dam to help decision-makers prioritize the removal, repair or modification of dams to increase flood resiliency as well as improve aquatic habitat, river continuity, and fish passage.

3.1 Structure Selection

Files maintained by the Rhode Island Department of Environmental Management (RIDEM) and Connecticut Department of Energy and Environmental Protection (CTDEEP) dam safety programs were reviewed to develop an initial list of dams in the watershed and to gather available information on the dams. Approximately 150 dams were identified during this initial review.

The scope of this assessment included limited dam condition visual assessments of 70 dams. The 150 known dams were therefore screened to identify the 70 highest-priority dams for assessment (i.e., those with the greatest potential flood risk associated with upstream backwater flooding or downstream flooding in the event of failure). The dams were prioritized based on hazard classification, upstream and downstream development and infrastructure, and current condition identified from previous dam inspection reports available from RIDEM and CTDEEP. The initial list of dams for assessment was reviewed by the Project Steering Committee, and one additional dam was added (Decappet Pond Dam). Bradford Dam was excluded from the evaluation since The Nature Conservancy is already pursuing restoration either through removal or construction of a rock ramp fish passage structure.⁴ The final list of dams selected for assessment is provided in *Appendix G*. The locations of these dams are shown in *Figure 3-1*. More detailed subwatershed maps showing the names and locations of the dams are provided in *Appendix G*.

3.2 Field Inspection and Data Collection

Limited visual condition assessments of the selected dams were conducted from May to September 2015. Assessments were conducted following standardized dam safety inspection protocols using a form adapted from the Massachusetts Office of Dam Safety Phase 1 Formal Dam Safety Inspection Checklist. The inspection form includes the following information:

- Classification information (current size, hazard classification, condition, name, location, purpose, etc.)
- Deficiencies and condition of each part of the structure (embankment, dikes, upstream face, downstream face, appurtenances, walls, concrete structures, masonry structures, spillways, etc.)

A blank copy of the inspection form, completed inspection forms, and relevant file review information for each dam assessed is provided in *Database B*.

⁴ The Bradford Dam is a low hazard, run-of-the river type dam that spans the Pawcatuck River from Hopkinton to Westerly, Rhode Island. The Nature Conservancy of Rhode Island recently received funding from the U.S. Fish & Wildlife Service to undertake fish passage and flood mitigation projects along the Lower Pawcatuck River including at the Bradford Dam. In 2015, part of the funding was used to successfully remove the White Rock Dam which is located 7 miles downstream. Because restoration projects at Bradford Dam were under review at the time of this study, Bradford Dam was not included for prioritization. The Nature Conservancy is pursuing restoration with a rock ramp or by removal.

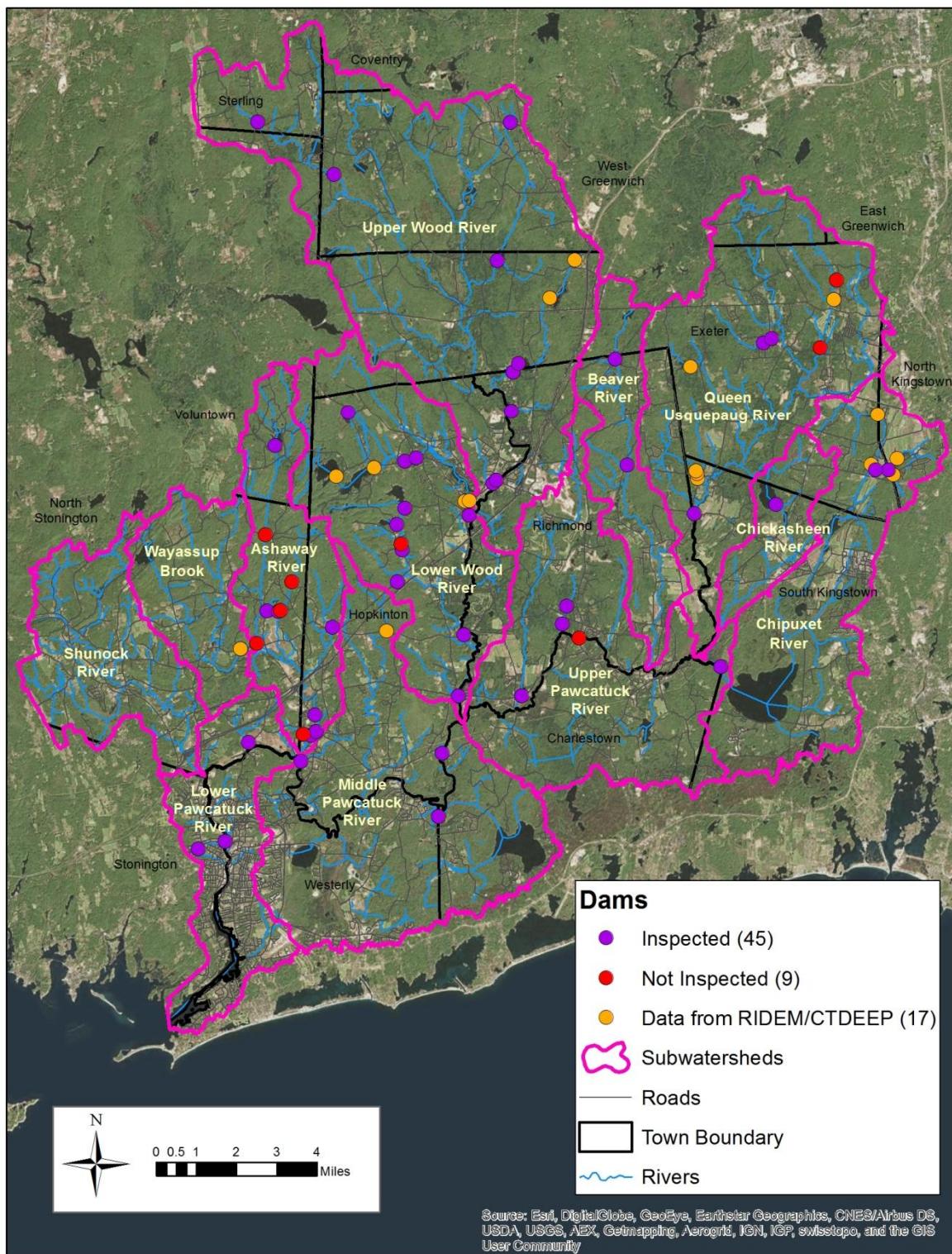


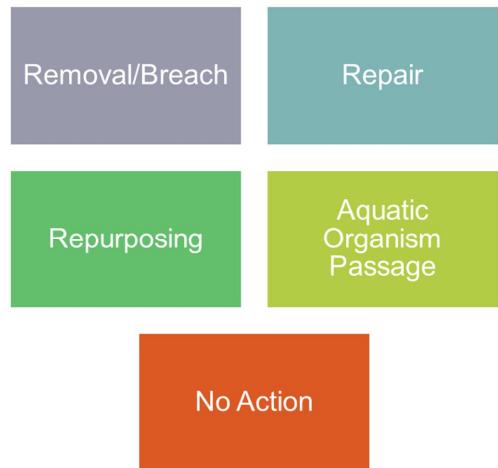
Figure 3-1. Locations of dams in the Wood-Pawcatuck watershed selected for limited visual condition assessment

Two dams in the RIDEM database had the same geographic coordinates (Arcadia Mill Lower Dam and Browning Mill Bypass Dam), but only one dam could be located during the inspection. Of the 70 dams selected for limited visual condition assessment, visual inspections were conducted of 43 dams. Access to 27 dams was either unavailable or denied by the land owner. Of the 27 dams that were not inspected, 16 had sufficient information in the RIDEM or CTDEEP files such that the file review information was used to assess and make recommendations for those dams.

3.3 Initial Screening of Management Alternatives

An initial screening-level assessment was conducted to evaluate and guide the development of management recommendations for each dam, with the goal of improving flood resiliency and aquatic habitat, river continuity, and fish passage. The following dam management alternatives were initially evaluated (see graphic at right):

- Removal/Breach: this alternative consists of full removal or partial breach of a dam, thereby eliminating or lowering the impoundment, reducing the risk of failure or breach, and restoring free-flowing conditions to the river system. Dam removal eliminates flood risk due to failure or breach, potentially reduces flood risk in upstream areas, and meets aquatic organism passage objectives. However, the feasibility of removing a dam is also dictated by many other factors including current uses of the impoundment, cooperation of the owner, potential impacts to existing wetlands and habitat, and management of potentially contaminated sediments.
- Repair: the repair alternative includes repair of structural components of a dam to address existing deficiencies that threaten the structural integrity of the dam, thereby reducing the potential for failure or breach during a large storm event. The dam repair alternative alone does not eliminate the risk of failure nor does it improve aquatic organism passage. In some cases, the repair option, potentially combined with provision of aquatic organism passage, may be the only viable alternative if removal is not feasible. The dam repair alternative involves the up-front cost of the repairs and a long-term financial commitment to inspect and maintain the dam following the initial repairs. It also assumes that the current owner has the willingness, ability, and financial resources to adequately maintain the dam.
- Repurposing: this alternative includes modification of an existing dam to provide increased storage during floods. For example, repurposing could include modification of the low-level outlet structure to significantly reduce the impoundment size and normal pool elevation, allowing the river or stream to flow freely, under normal conditions (i.e., a dry impoundment), but allowing the impoundment to fill up and store floodwaters during larger storms. Given the low-gradient nature of the Wood-Pawcatuck system, none of the dams were originally constructed for flood control purposes and most of the existing impoundments provide limited flood storage. Repurposing also assumes that the current owner has the willingness, ability, and financial resources to adequately maintain the dam.
- Aquatic Organism Passage Structure: this alternative involves construction of an engineered structure at a dam to provide for Aquatic Organism Passage (AOP), including fishways such as fish ladders and rock ramps and bypass channels. This option is designed to provide enhanced stream continuity if dam removal is not feasible.



Management alternatives evaluated for dams in the Wood-Pawcatuck watershed.

- No Action/Maintain: the No Action alternative is to essentially maintain the dam in its current condition.

For each dam, the above alternatives were evaluated based on a combination of the following factors, providing a standardized set of criteria against which all of the dams were initially assessed. A numerical score ranging from 1 to 5 was assigned for each of the criteria, with a 1 indicating lower flood risk and 5 indicating higher flood risk.

- Hazard Classification: Hazard classification or "hazard class" is a rating assigned to a dam by state dam safety officials (RIDEM and CTDEEP) that relates to the probable consequences of failure of the dam. It is based on dam height, potential hazard to downstream infrastructure, potential loss of human life, and potential property damage in the event of failure. Hazard class does not relate to the current condition of the dam or the probability that the dam might fail.

In Rhode Island, RIDEM classifies dams as High Hazard, Significant Hazard, or Low Hazard. High Hazard dams are dams where failure or misoperation will result in a probable loss of human life. Significant Hazard dams are those dams where failure or misoperation results in no probable loss of human life but can cause major economic loss, disruption of lifeline facilities or impact to other concerns detrimental to the public's health, safety or welfare. Low Hazard refers to a dam where failure or misoperation results in no probable loss of human life and low economic losses. Connecticut uses a similar classification system, but with five categories – High Hazard, Significant Hazard, Moderate Hazard, Low Hazard, and Negligible Hazard.

For this assessment, dam hazard classifications were lumped into four classes – High, Significant, Moderate, and Low – and assigned relative numerical scores of 5, 3, 3, and 1, respectively, as a measure of overall hazard potential. Connecticut's Moderate hazard class would likely be considered a Significant hazard class in Rhode Island, thus the equivalent scores.

- Overall Condition: The overall condition of the dam is based on observations made during the limited dam condition visual inspections, as well as recent inspections and photographs from file reviews. Dams were assigned a score of 1-5, with 1 being better condition and 5 being poorer condition.
- Watershed Ratio: The watershed ratio is the ratio of the watershed area to the impoundment area. The watershed ratio provides a rough quantitative measure of an impoundment's flood storage potential. A higher ratio reflects an impoundment that is small in relation to the size of the watershed, and thus is less likely to provide significant flood protection benefit to downstream properties and infrastructure. Conversely, a lower watershed ratio indicates that the impoundment may provide some level of flood mitigation, assuming adequate freeboard is available above the normal pool elevation. For each dam, the watershed area was obtained from the USGS StreamStats program, and the impoundment area was obtained from Rhode Island Dam Hazard reports, information from the CTDEEP file reviews, or estimated from aerial imagery (i.e., GoogleEarth).

For this assessment, dams were assigned the following scores based on their watershed ratio:

Watershed Ratio greater than or equal to 75	5
Watershed ratio between 75 and 15	3
Watershed ratio less than or equal to 15	1

- Capacity Ratio: The capacity ratio is the ratio of the estimated dam hydraulic capacity to the estimated 100-year flood flow. The capacity ratio provides a rough quantitative measure of a dam's ability to safely pass flood flows. A higher ratio means that a dam is less likely to fail during a flood as a result of inadequate conveyance capacity. It should be noted that all dams should be able to pass their spillway design flood, which is typically greater than the 100-year flood flow. However, the 100-year flood flow was used in the analysis as data was available for this parameter for all dams, which allowed a relative comparison.

The hydraulic capacity of each dam was estimated using the weir flow equation for overflow spillways and drop inlets, and CulvertMaster software (i.e., culvert hydraulic equations) was used for low-level or conduit spillways. Low-level outlets or structures that require manual operation to increase the flow capacity were not considered in this analysis. The 100-year flood flow was estimated using regional regression equations (USGS StreamStats) and TR-20 (SCS unit hydrograph method) for one dam (Great Swamp Goose Marsh Dam) where regional regression equations could not be used to estimate flood flows. Similar to the culvert/bridge hydraulic capacity analyses, some of the dams had input parameters outside of the range for which the regional regression equations were developed. StreamStats output and TR-20 results are provided in *Database D*.

For this assessment, dams were assigned the following scores based on their capacity ratio:

Capacity Ratio greater than or equal to 5	1
Capacity Ratio between 5 and 2	2
Capacity Ratio between 2 and 1	3
Capacity Ratio between 1 and 0.75	4
Capacity Ratio less than 0.75	5

- Other Factors: Several other subjective factors were considered for some of the alternatives, including the current uses of the impoundments and associated benefits/values, existing downstream stream continuity, cost-effectiveness, ease of permitting, the owner's ability to maintain the dam, and land area available for aquatic organism passage structures. These considerations were worded as questions. If the answer to a question was 'Yes,' that consideration was assigned a score of 5; if the answer was 'No,' it was assigned a score of 1. Intermediate answers were assigned a score of 2 to 4, accordingly.

Table 3-1 lists the evaluation factors that were considered for each alternative. A 1-5 score was assigned to each factor, as described above. An average score (across all of the factors evaluated) was then calculated for each alternative. The evaluation matrix and associated scores are provided in *Appendix G*.

Table 3-1. Dam management alternatives evaluation factors

Dam Removal/Breach	Dam Repair	Dam Repurposing	Aquatic Organism Passage Structure	No Action/Maintain
Hazard Classification	Dam Condition	Inverse of Watershed Ratio	Current AOP Prevention	Inverse of Dam Condition
Dam Condition	Inverse of Capacity Ratio	Owner's Ability to Maintain Dam	Available Land Area for an AOP Structure	Inverse of Hazard Classification
Watershed Ratio	Reduction in Likelihood of Failure/Cost-Effectiveness	Repurposing Feasibility	Owner's Ability to Maintain Dam	Inverse of Watershed Ratio
Capacity Ratio	Owner's Ability to Maintain Dam		Downstream Stream Continuity	Inverse of Capacity Ratio
Benefits vs. Loss of Current Uses	Existing Uses/Values of the Impoundment			Owner's Ability to Maintain Dam
Downstream Stream Continuity				Anticipated Impact on Flood Risk
Cost-effectiveness				Existing Uses/Values of the Impoundment
Ease of Permitting				

3.4 Development of Final Recommendations

This initial screening-level assessment was used to help identify the highest scoring management alternatives for each dam (i.e., relative management priorities for each dam). Due to the site-specific nature of the alternatives considered, the highest scoring alternatives were further evaluated for feasibility based on information specific to each dam. Planned and ongoing dam removal and repair projects, owner opinions, relationships/proximity with upstream and downstream dams, habitat conditions, recreational value, and other potential benefits and impacts were considered. For example, multiple dams on the same river or tributary, and even within the same subwatershed, were considered collectively when making final recommendations since they are hydrologically connected. Recommendations related to dam removal and aquatic organism passage structures were also considered jointly since it does not make sense, for example, to recommend an AOP structure upstream of a dam that is recommended to be maintained, unless an AOP structure is also recommended for the downstream structure. Input regarding management alternatives for individual dams was also sought from key project partners including WPWA, the Project Steering Committee, RIDEM Office of Dam Safety, and the CTDEEP Dam Safety Program in developing final recommendations for each dam.

In general, dam removal was given priority over other alternatives since dam removal best meets the goals of increased flood resiliency and improved stream continuity. While dam removal is not always the best alternative, where feasible, dam removal has the greatest potential to restore the natural floodplain, reduce upstream flood hazards, eliminate downstream flood risk associated with dam failure, and provide full aquatic organism passage. Removal was therefore recommended as the preferred alternative where it was determined to be a viable option and where dam removal would not cause long-term harm to the ecosystem.

The feasibility of dam removal is commonly dictated by environmental, economic, and social factors including current uses of the impoundment, cooperation of the owner, and public acceptance. Although dam removal is the best long-term solution for increasing flood resiliency, removing public safety hazards, and restoration of fish and wildlife habitat, local communities with strong attachments to a dam and its impoundment and a strong preference for the status quo can be a significant impediment to removal of a dam where the public safety risk and life-cycle costs are not well understood. Changes in public attitudes and social norms related to dams and healthy and naturally functioning river systems are needed for dam removal to be considered and then accepted or rejected on its merits (Johnson & Graber, 2002).

While each dam was evaluated on a case-by-case basis, the following general guidelines were used in developing final recommendations:

- Removal is considered a viable alternative where a dam is currently used solely for recreational purposes unless (1) it is determined that dam removal is not a high priority due to its location, hazard class, condition or maintenance history; (2) if a private owner is actively maintaining the dam; or (3) if the impoundment is a key resource in a dedicated recreational area.
- If current operations or other uses rely on the existing impoundment or dam (i.e., wildlife habitat preservation, agriculture, fish hatchery production, historic structure preservation, etc.), the preferred alternatives generally include repair of the dam, maintaining the dam in its existing condition with no further action, or construction of an aquatic organism passage structure depending on the current condition of the dam and its location.
- Rock ramps or similar nature-like fish passage structures are recommended, where feasible, where removal is not a viable option due to the need to maintain the impoundment for recreational or other purposes. Rock ramps can also be used in conjunction with phased removal of a dam if it is determined that the hydrologic or environmental impacts resulting from a full dam removal are unacceptable.

- Maintenance, rather than removal, is considered a potentially feasible option if the owner of a privately-owned dam is not interested in dam removal and has demonstrated a record of maintaining the dam in good condition consistent with RIDEM or CTDEEP dam safety standards. Removal is preferred for privately-owned dams where consistent and adequate maintenance has not been performed.
- If a dam is already breached, formalizing the breach or completely removing the remaining embankment to eliminate the remaining dam safety risk and restore stream connectivity is the recommended approach.

The table in *Appendix H* summarizes the highest-scoring management alternatives from the initial screening, the recommended alternative based on consideration of other site-specific factors, and comments related to the recommendations for each dam. *Figure 3-2* shows management recommendations for the assessed dams in the Wood-Pawcatuck watershed, grouped into High, Intermediate, and Low priority. More detailed maps showing management recommendations for each subwatershed are provided in *Appendix H*.

High-, intermediate-, and low-priority dam recommendations are presented in *Tables 3-2, 3-3, and 3-4*. Recommendations of “No Action” or “Maintain” are considered low-priority. All other dam recommendations are classified as medium- or high-priority. The priorities are based on current conditions and could change over time as management recommendations are completed. For example, removal of an upstream dam could become a higher priority after a downstream dam is removed on the same river or stream.

Of the approximately 60 dams in the watershed that had sufficient information to be assessed, 34 are recommended to be considered for removal or breach, 7 are recommended for repair, consideration for construction of rock ramps or other AOP structures are recommended at 6 dams, and another 13 dams are recommended to be maintained as-is.

The recommendations provided in this report (i.e., dam removal, repair, AOP structures, etc.) are preliminary in nature and require more detailed, site-specific evaluation to adequately assess various management alternatives, potential flood resiliency and ecological benefits, and potential impacts. Detailed feasibility studies are required to support future planning, design, permitting, and funding requests for implementation of specific dam management recommendations.

The dam management recommendations presented in this report may also be modified based on the findings of the separate Watershed-Scale Wetlands Assessment, which is being conducted as part of the Wood-Pawcatuck Watershed Flood Resiliency planning effort. Final recommendations will be presented in the watershed management plan.

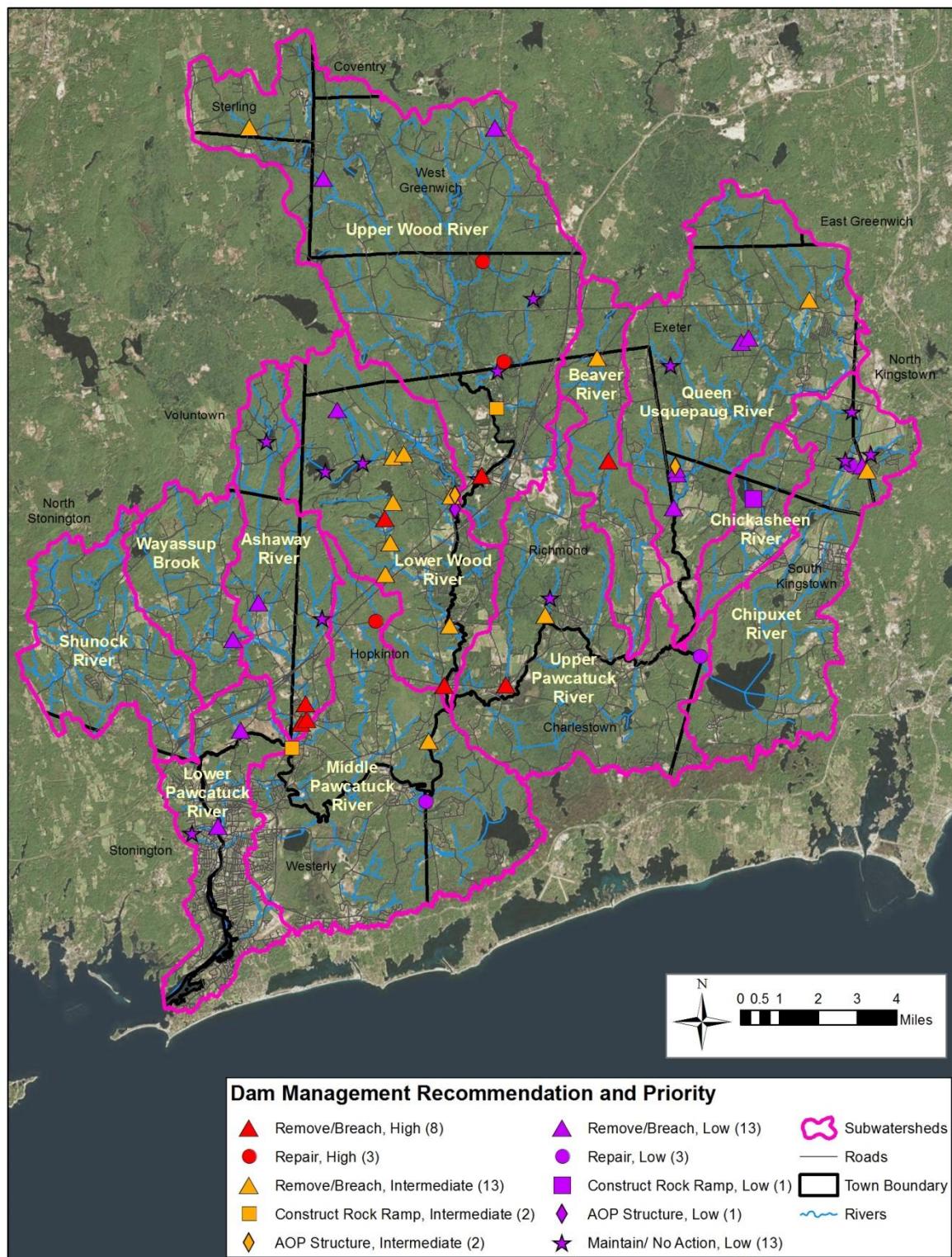


Figure 3-2. Management recommendations for the assessed dams in the Wood-Pawcatuck watershed

Table 3-2. High-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Alton Pond Dam	247	Hopkinton / Richmond	Wood River	Remove	<p>Alton Pond Dam is the downstream-most dam on the Wood River, restricting aquatic passage to the river. Removal should be considered. Replacement or reconfiguration of the Church Street bridge would be required to accommodate dam removal.</p>	
Ashaway Line Pond Dam	266	Hopkinton	Ashaway River	Remove	<p>The impoundment is currently used for fire suppression, although the owner is not opposed to removal. The downstream watercourse is open to fish passage, and the dam is deteriorating. Removal should be considered.</p>	
Ashaway Mill Pond Dam	265	Hopkinton	Ashaway River	Remove	<p>This dam is part of the RIDOT bridge supporting High Street (Route 216). The impoundment does not appear to support any active uses. The dam is deteriorating. Removal is recommended in conjunction with Ashaway Line Pond Dam removal.</p>	

Table 3-2. High-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Ashville Pond Dam	227	Hopkinton	Blue Pond Brook	Remove (Replace culvert to maintain roadway)	The dam is not being maintained, is deteriorating, and supports a public road. Dam could be decommissioned by replacing the culvert with a larger structure and draining the impoundment over time. Repurposing was evaluated and determined not to be a priority based on location, lack of downstream hazards and hydrology.	
Bethel Pond Dam	264	Hopkinton	Ashaway River	Remove	The impoundment does not appear to support any active uses and the dam is not being maintained. Removal should be considered in conjunction with the removal of Ashaway Line Pond Dam and Ashaway Mill Pond Dam to increase stream continuity.	

Table 3-2. High-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Breakheart Pond Dam	214	Exeter	Breakheart Brook	Repair	This dam is located within the Arcadia Management Area, which has significant recreational value. The downstream watercourse has obstructions to fish passage, and the dam is in poor condition.	
Browning Mill Pond Dam	221	Exeter	Roaring Brook	Repair	RIDEM owns the dam and operates a hatchery downstream. Browning Mill Pond has significant public recreational value. The dam is deteriorating.	

Table 3-2. High-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Decappett Pond Dam	230	Richmond	Beaver River	Remove	The dam is located on the Beaver River, which is one of the most valued cold water streams in the State and has a known population of Brook Trout. The impoundment does not appear to support any active uses and the dam is deteriorating. Removal should be considered.	
Potter Hill Dam	254	Hopkinton	Pawcatuck River	Remove	Although the dam has a fish ladder, removal of the dam should be considered to enhance AOP and flood resiliency. Concerns exist about impacts to upstream wetland habitats based on previous evaluations by the U.S. Fish and Wildlife Service.	

Table 3-2. High-priority dam recommendations

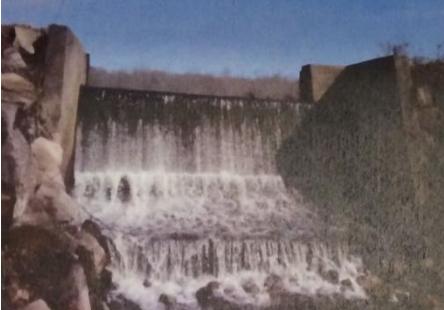
Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Harris Pond Dam	274	Hopkinton	Tomaquag Brook Tributary	Repair	The owner wants to maintain the dam to provide a wildlife refuge and has completed repairs in the past. A 2013 inspection report indicates that the embankment was in fair to poor condition and was in need of repair (vegetation removal and establishment of grass cover).	
Wood River Junction Dam	273	Richmond	Meadow Brook	Remove	According to RIDEM Dam Safety, the dam is owned by RIDOT, but there is no official owner designation. Dam is in generally poor condition and is not being maintained although the impoundment has high recreational value. Removal should be considered.	

Table 3-2. High-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Wyoming Upper Dam	216	Hopkinton/Richmond	Wood River	Removal or Repair (see description)	<p>RIDEM (owner) plans to repair the dam. Dam removal would reduce flood risk to adjacent and upstream properties, improve stream connectivity and water quality. Significant public opposition to dam removal has been expressed by some Hopkinton residents and Town Council. The Richmond Town Council has expressed support for further evaluating the dam removal and other alternatives and requested that RIDEM publicly conduct such an evaluation prior to moving forward with the planned repairs.</p>	

Table 3-3. Intermediate-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Barberville Pond Dam	215	Hopkinton / Richmond	Wood River	Construct Rock Ramp	Removal of the dam is not recommended due to the impoundment's recreational value. A fish passage structure is recommended as an intermediate priority given the downstream obstructions to fish passage.	
Blue Pond Dam	229	Hopkinton	Blue Pond Brook	Formalize Breach	The dam is partially breached, currently supporting a reduced impoundment. Further erosion and embankment failure could occur during high flows. Formalizing the partial breach is recommended. RIDEM has considered managing the impoundment as a waterfowl management area, which could also be reconsidered.	

Table 3-3. Intermediate-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Burdickville Dam	251	Charlestown/ Hopkinton	Pawcatuck River	Remove/Formalize Breach	The impoundment does not appear to support any active uses. The dam is partially breached but may currently prevent passage of some fish species such as shad.	
Centerville Pond Dam	223	Hopkinton	Moscow Brook	Remove (Re-evaluate hazard class)	The dam is deteriorating and not being maintained. The only current known use of the impoundment is private recreation. Removal should be considered. The hazard classification of the dam should be re-evaluated given the downstream infrastructure.	
Edward's Pond Dam	238	Exeter	Queen River	Remove	The impoundment does not appear to support any active uses. A NOV was issued in 2015 for vegetation on the embankment. The dam is classified as a significant hazard. Removal should be considered.	

Table 3-3. Intermediate-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Glen Rock Reservoir Dam	236	South Kingstown	Usquepaug River	Repair and AOP Structure	<p>It is understood that the owner wants to maintain this dam and the impoundment is frequently used for recreation. However, the dam is deteriorating and needs repair. The dam is the downstream-most structure on the Usquepaug River, preventing fish passage to the Usquepaug.</p>	
Hoxie Farm Pond Dam	440	Hopkinton	Canonchet Brook Tributary	Remove (Replace culvert to maintain roadway)	<p>Replace culvert with larger structure and lower invert to drain impoundment and decommission dam. Repurposing was evaluated and determined not to be a priority based on location, lack of downstream hazards and hydrology.</p>	

Table 3-3. Intermediate-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Langworthy Pond Dam	285	Hopkinton	Brushy Brook Tributary	Remove	<p>The impoundment is used for private recreation, and the owner has maintained the dam. Removal should be considered given its location and hazard classification. The dam is a significant hazard dam.</p>	
Locustville Pond Dam	262	Hopkinton	Brushy Brook	Maintain/ AOP Structure	<p>The dam is a hydropower dam and powers the commercial buildings downstream of the dam. Owners recently repaired but did not apply to RIDEM for permits for repairs. Repairs have not been inspected by RIDEM and current status is unknown. The dam should be maintained. An AOP structure should be considered once the downstream obstructions are removed.</p>	

Table 3-3. Intermediate-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Moscow Pond Dam	222	Hopkinton	Moscow Brook	Remove (Re-evaluate hazard class)	<p>Impoundment is used for fishing.</p> <p>Although the dam is deteriorating, a public road traverses the dam crest and there appears to be a house downstream of the dam.</p> <p>Removal should be considered, and the hazard classification should be re-evaluated.</p>	
Porter Pond Dam	13602	Sterling	Wood River	Remove	<p>The impoundment supports limited recreation uses. The owner of the dam could not be identified. The dam is not being maintained and is in disrepair.</p> <p>Removal should be considered.</p>	

Table 3-3. Intermediate-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Slocum Road Upper Dam	710	North Kingstown	Chipuxet River - Tributary	Remove	NOVs were issued in 2011 and 2012 by RIDEM. The owner indicated that repairs were made but RIDEM has not confirmed. The impoundment supports limited recreational use. The dam should be removed if the owner is amenable.	
Tanner Pond Dam	280	Richmond	White Brook	Remove	The hatchery is no longer in operation and the dam is in very poor condition. The dam and hatchery facilities should be removed.	

Table 3-3. Intermediate-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Tug Hollow Pond Dam	232	Richmond	Beaver River	Remove	The impoundment does not appear to support any active uses. Removal would improve water quality and connectivity on the Beaver River, which is one of the most valued cold water streams in the State. Removal could require replacement of the downstream culvert.	
Union Pond Dam	288	Hopkinton	Blue Pond Brook	Remove	The impoundment supports private recreational uses. Owner lives out of state and does not actively maintain the dam. Secondary spillway was reportedly breached in 2010 when Blue Pond Dam breached, but has since been dammed by beavers. Dam removal should be considered.	

Table 3-3. Intermediate-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Woodville Pond Dam	246	Hopkinton / Richmond	Wood River	Remove (Re-evaluate hazard class)	The impoundment supports no significant active uses and is in disrepair. Removal of the dam could promote connectivity and allow fish passage from the main stem of the Pawcatuck up Meadow Brook. Removal should be considered. Challenges to removal include owner support, use of the impoundment for fire suppression, impacts to upstream wetlands, scour on the downstream bridge, and potential impacts on adjacent dry wells.	

Table 3-3. Intermediate-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
USGS Stream Gage Weir (USGS Station Number 01117500)	N/A	Richmond	Pawcatuck River	Retrofit (allow gaging to continue while increasing Aquatic Organism Passage)	The weir is a 4-foot high, concrete and stone masonry structure traversing the width of the river. This continuous record stream gage has been in operation since 1940. The weir has significant impacts on stream morphology, sediment transport and AOP (Field, 2016). Given the historical and ongoing data collected by the USGS at this site and the overall importance of this stream gage to the Wood-Pawcatuck and statewide streamflow data collection program, the stream gage weir should not be removed. Retrofitting the site may allow gaging to continue while increasing AOP along the Pawcatuck River. The potential impacts to streamflow measurements resulting from structural modifications at this location, such as the addition of an AOP structure, would need to be evaluated.	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Arcadia Mill Lower Dam (Browning Mill Bypass Pond Dam)	402	Hopkinton	Roaring Brook	Maintain	This impoundment is part of the RIDEM-owned Arcadia Warm Water Hatchery, which is still in partial operation and is also used for fire suppression.	
Boone Lake Dam	219	Exeter	Roaring Brook	Maintain	The owner's association is very active and maintains the dam. It is understood that the owners would not be supportive of removal.	
Dolly Pond Dam	243	Exeter	Sodom Brook	Remove	The dam is not being maintained and the owner is unknown. The impoundment supports private recreational uses. Removal should be considered, although it is understood that adjacent land owners may not be in favor of dam removal.	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Glen Rock Lower Pond Dam	233	South Kingstown	Glen Rock Brook	Remove	The impoundment does not support any known uses. The dam is not being maintained. Removal is recommended if supported by the owner.	No Recent Photographs Available
Glen Rock Middle Pond Dam	234	South Kingstown	Glen Rock Brook	Remove	The impoundment does not support any known uses. The dam is not being maintained. Removal is recommended if supported by the owner.	No Recent Photographs Available
Glen Rock Upper Pond Dam	235	South Kingstown	Glen Rock Brook	Remove	The impoundment does not support any known uses. The dam is not being maintained. Removal is recommended if supported by the owner.	No Recent Photographs Available
Grassy Pond Dam	289	Hopkinton	Wincheck Pond Tributary	Remove (Replace culvert to maintain roadway)	Dam was decommissioned by RIDEM (no longer on current dam list). The culvert could be replaced with a larger structure and lower invert to drain the impoundment. Repurposing was evaluated and determined not to be a priority based on location, lack of downstream hazards and hydrology.	

Table 3-4. Low-priority dam recommendations

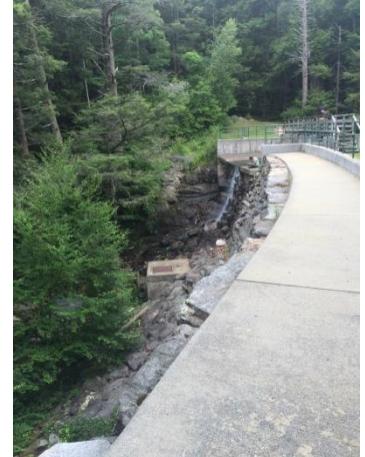
Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Great Swamp Goose Marsh Dam	531	South Kingstown	Pawcatuck River	Repair	Dam was constructed by RIDEM to create bird habitat. Dam is a low hazard dam in disrepair.	
Green Falls Reservoir Dam	14701	Voluntown	Green Fall River	Maintain	Impoundment is located in the Pachaug State Forest and has significant public recreational value. Dam is in fair condition.	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Green River Pond Dam	10220	North Stonington	Green Fall River Tributary	Formalize breach, replace downstream culvert	<p>Current uses are unknown. The dam has not been maintained and is partially breached. The culvert downstream of this impoundment (AWR-GRE-5-2) is likely undersized and contributing to backwater flooding.</p>	
Hallville Pond Dam	571	Exeter	Sodom Brook	Remove	<p>The dam is in poor condition and is not being maintained. The impoundment does not appear to support any active uses. Removal should be considered.</p>	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Hazard Pond Dam	200	West Greenwich	Falls River	Remove	<p>Dam is on the main stem of the Wood River. The downstream watercourse is unobstructed for 5+ miles until Barberville Pond, which is recommended for construction of a rock ramp or other fish passage structure. The impoundment does not appear to support any active uses.</p>	
Hope Valley Mill Pond Dam	245	Hopkinton / Richmond	Wood River	AOP Structure	<p>Dam is a historic structure and has been maintained as such. Fish were observed attempting to jump over the dam during the 2015 field assessment. Obstructions to fish passage exist downstream of the dam. Installation of an AOP structure is a low priority until the downstream obstructions are removed.</p>	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Kasella Farm Pond Dam	468	West Greenwich	Breakheart Brook	Remove	The current uses of the dam are unknown. The dam was recently reconstructed when a road was built across the crest, but the dam requires further repair. Removal should be considered. Roadway could be maintained and culverts constructed to sufficiently drain the impoundment.	
Lewis Pond Dam	10217	North Stonington	Pawcatuck River Tributary	Remove	While current uses are unknown, it appears that the owner may use the impoundment as a watering hole for cattle. Removal should be considered.	
Liepold Pond Dam	13713	Stonington	Pawcatuck River	Maintain	The dam is being maintained, and the owner has indicated a desire to maintain the impoundment for private uses.	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Metcalf Wildlife Marsh Dam	527	Exeter	Locke Brook	Maintain	The dam and impoundment support wildlife habitat associated with the Metcalf Wildlife Marsh. The owner is actively maintaining the dam, and repairs were completed in 2013.	
Olaf Farm Pond Dam	493	Westerly	Cedar Swamp Brook	Repair	The owner is currently maintaining this low hazard dam, but further repairs are needed (dense vegetation on slopes and erosion at informal secondary spillway). The owner is currently opposed to removal.	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Slocum Reservoir Dam	239	Exeter	Chipuxet River	Maintain (Confirm repairs were made)	Dam is owned and maintained by a church. The impoundment provides an environmental resource and recreational facility for the church camp. Owner indicated recent repairs were made to the dam.	
Slocum Road Lower Dam	711	Exeter	Chipuxet River Tributary	Remove	Dam is in disrepair and the impoundment provides private recreational uses. The owner lives out of state and does not actively maintain the dam. Removal should be considered.	
Slocum Woods Dam	693	North Kingstown	Chipuxet River Tributary	Maintain	Dam was in good condition in 2013 (last documented inspection) and is being maintained. It is owned by the Slocum Woods Homeowner's Association and is used for recreational purposes. The impoundment also appears to be used for irrigation for turf farming operations (Sodco).	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Smith's Ice Pond Dam	272	Hopkinton	Parmenter Brook	No Action	<p>Owner uses the impoundment for agricultural purposes and is not anticipated to be supportive of removal. The dam is a very low head dam and, although it is in poor condition, is not believed to pose significant flood risk.</p>	
Sodco Dam	767	Exeter	Chipuxet River Tributary	Repair	<p>The dam is owned by Sodco, and the impoundment supports turf farming operations. The dam is in disrepair, but the owner has been working with NRCS on the design of repairs to the dam and to allow the dam to overtop.</p>	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Spaulding Pond Dam	10208	North Stonington	Wyassup Brook	Remove	The impoundment supports recreational uses. Repairs were recommended in 2013 (last documentation of correspondence in CTDEEP file). Once the dams on the Ashaway River are removed, removal of this dam would become a higher priority.	 09/26/2013
Stillmanville Dam	256	Westerly / CT	Pawcatuck River	Remove	This concrete structure does not prevent fish passage or have a significant impact on the flow regime. However, removal could provide other river restoration benefits.	
White's Pond Dam	261	Richmond	White Brook	Maintain	This impoundment is part of the RIDEM-owned Carolina Trout Hatchery, which is still in operation. RIDEM has been maintaining the dam.	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Wincheck Pond Dam	225	Hopkinton	Moscow Brook	Maintain	The dam is owned and operated by the Narragansett Council Boy Scouts of America. The impoundment is used for recreational purposes during Boy Scout Camp. The owner maintains the dam and completed repairs in 2013 to address an NOV.	
Wyoming Pond Lower Dam	217	Hopkinton	Wood River	No Action	The remaining structure is not preventing fish passage, is not significantly impacting the flow regime, and is only on one of several braided stream channels. The dam does not pose significant flood risk.	

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Yawgoo Pond Dam	290	South Kingstown	Chickasheen Brook	Construct Rock Ramp	<p>The dam is a low head dam (hydraulic height of less than 1 foot) with a natural wetland downstream. The dam does not pose significant flood risk.</p> <p>The impoundment provides public recreational uses, but is not being maintained.</p> <p>Construction of a small rock ramp up to the spillway could allow for fish passage.</p>	
Yawgoog Pond Dam	226	Hopkinton	Wincheck Brook	Maintain	<p>The dam is owned and operated by The Boy Scouts of Rhode Island, Narragansett Council. The impoundment is used for recreational purposes for a boy scout camp. The owner maintains the dam and completed repairs to the embankment in 2014 and low level outlet repairs in 2015.</p>	No Photographs are Available After the 2015 Repairs

Table 3-4. Low-priority dam recommendations

Dam Name	Dam ID	Town	River/Stream	Recommendation	Description	Photograph
Yorker Mill Pond Dam	240	Exeter	Chipuxet River	Maintain (Confirm repairs were made)	The current owner actively maintains the dam and wants to keep it although current uses of the impoundment are unknown. The owner planned to make repairs to the dam in 2014.	

3.5 Preliminary Hydraulic Assessment

An objective of dam removal is to eliminate downstream flood risk associated with dam failure. Dam removal can also impact river and floodplain hydraulics, including water surface elevations, upstream and downstream of the dam. Potential hydraulic impacts were qualitatively evaluated for each dam for which removal is recommended. Aerial imagery, Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) flood profiles (where available), and FEMA Flood Insurance Rate Maps (FIRMS) were reviewed to assess potential hydraulic impacts upstream and downstream of dams recommended for removal. *Table 3-5* summarizes the findings of this preliminary hydraulic assessment for each dam where adequate flood-related information is available. A full hydrologic and/or hydraulic analysis is beyond the scope of this planning-level assessment. Hydraulic modeling would be required in support of future design to quantitatively assess potential upstream and downstream impacts on flow velocities and water surface profiles. Other potential impacts and constraints would also need to be considered during design and permitting.

3.6 Preliminary Wetland Habitat Assessment

A preliminary, screening-level ecological function evaluation was also conducted for each of the priority dams in the Wood-Pawcatuck watershed. Impoundment reaches (segments of streams) were initially identified for each dam and then intersected with state-mapped wetlands, including the impoundment and any wetlands adjacent to or contiguous with the impoundment. The U.S. Fish and Wildlife Service National Wetlands Inventory (NWI+) wetland data were used to evaluate the ecological functions of the wetlands. NWI+ or Landscape, Landform, Water Flow and Waterbody (LLWW) wetlands were intersected with state-mapped wetlands to identify NWI+ wetlands (and associated wetland acreage) for each impoundment. Each NWI+ wetland was then assessed based on four LLWW classes indicative of potential ecological functions:⁵

- Fish/Aquatic Invertebrate Habitat (FAIH)
- Waterfowl and Waterbird Habitat (WBIRD)
- Other Wildlife Habitat (OWH)
- Unique, Uncommon or Highly Diverse Wetland Plant Communities (UWPC)

For each LLWW class, a numerical rating or weight was assigned to each wetland:

- FAIH
 - High = 1.0
 - Moderate = 0.5
- WBIRD
 - High = 1.0
 - Moderate = 0.5
 - Wood Duck = 0.25
- OWH
 - High = 1.0
 - Moderate = 0.5
- UWPC
 - Regionally Significant = 1.0
 - Locally Significant = 0.5

Each of the four classes was combined and an average Habitat Rating was assigned to each NWI+ wetland. Habitat Rating was multiplied by the Total Area of NWI+ wetlands associated with each dam, resulting in a Weighted Habitat Rating. *Table 3-6* sorts the dams first based on management recommendation priority (i.e., high, intermediate, low) then based on Weighted Habitat Rating.

⁵ Rhode Island Wetlands: Updated Inventory, Characterization, and Landscape-Level Functional Assessment. 2014. USFWS. Available Online: http://www.aswm.org/wetlandsonestop/rhode_island%20wetlands_llww_2014.pdf

State-listed species were also considered based on approximate locations of endangered, threatened and special concern species in Rhode Island and Connecticut. This was accomplished by identifying state-mapped wetlands associated with each impoundment that intersect mapped areas of state-listed species. *Table 3-6* lists those dams and associated wetlands that have the potential to support state-listed species.

As stated previously, this assessment is a preliminary screening-level evaluation of potential ecological functions. As such there are certain limitations to the analysis:

- Mapping of natural resource areas, (i.e., the NWI+ and state-mapped wetlands data) was created based on remotely-sensed data. The actual location and extent of wetlands and waterbodies may be substantially different than what is depicted by the available geospatial data.
- The analysis identified ecological functions that could be potentially impacted, but does not account for site-specific impacts of the proposed management recommendations, such as the extent of the drawdown of an impoundment and associated acreage of actual wetland impacts resulting from dam removal.
- State-mapped wetlands were not wholly coincidental with NWI+ wetlands. Therefore, the ecological functions from the NWI+ data set were used as a proxy for the state-listed wetlands. Similarly, the calculation of a Weighted Habitat Rating was based on the NWI+ data only. It was assumed that the ecological functions identified in the NWI+ data extend to the state-mapped wetlands and that the Weighted Habitat Rating is a reasonable approximation for state-mapped wetlands.
- The analysis does not differentiate between NWI+ wetland types (e.g., lacustrine, riverine, palustrine, etc.). Rather, the analysis considers all wetland types the same.

Further site-specific evaluation is necessary to adequately assess the ecological effects of dam removal or other management recommendations for individual dams and associated impoundments. Such evaluations are required to support future planning, design, permitting, and funding requests for implementation of specific dam management recommendations.

A more detailed assessment of wetlands within the Wood-Pawcatuck watershed was conducted to identify and prioritize wetland conservation and restoration opportunities that may enhance flood resiliency in the watershed. The watershed-scale assessment is described in a separate technical memorandum.

Table 3-5. Preliminary hydraulic assessment of dams recommended for removal

Dam Name	Potential Hydraulic Impacts
Alton Pond Dam	<ul style="list-style-type: none"> • There is no FIS flood profile for this dam. • The dam is believed to have several vertical feet of flood storage capacity; therefore removal could impact the downstream floodplain. Based on aerial imagery, it appears that other than the former mill complex, no other significant infrastructure is located within the downstream floodplain. • Based on the FIRM it appears that there are not any homes or buildings located within the 100-year floodplain; however, there are several homes adjacent to the impoundment, just beyond the limit of the 100-year floodplain. Removal of the dam may require replacement of some private shallow wells. • Replacement/reconfiguration of the Church Street bridge would be required to accommodate dam removal.
Ashaway Line Pond Dam	<ul style="list-style-type: none"> • It is assumed that minimal flood storage capacity is currently provided by the impoundment. • Removal would likely only impact water surface elevations immediately upstream of the dam. • There is a 1.8-foot difference in base flood elevations upstream and downstream of the dam. • To remove the dam, the High Street Bridge would likely have to be replaced (new footings would need to be evaluated for potential scour).
Ashaway Mill Pond Dam	<ul style="list-style-type: none"> • The impoundment is believed to provide minimal flood storage capacity. • Removal would likely only impact water surface elevations upstream of the dam, between the dam and Bethel Pond Dam (which is recommended for removal). Should Bethel Pond Dam be removed, the hydraulic influence of removing Ashaway Mill Pond Dam could extend further upstream (the FIS only extends approximately 200 feet upstream of the dam so the extent of the impact is unknown). • Based on the FIRM, it appears that there are no homes within the 100-year floodplain; however, there are several homes/businesses adjacent to the 100-year floodplain. • There is a 6.1-foot difference in base flood elevations upstream and downstream of the dam. • Flow velocities upstream of the dam would be expected to increase if the dam were removed. The bridge footings at Laurel Street and High Street would need to be evaluated for scour potential.
Bethel Pond Dam	<ul style="list-style-type: none"> • The impoundment is believed to provide minimal flood storage capacity. • There is no FIS flood profile for this dam. • Based on the FIRM, it appears that there is no infrastructure within the 100-year floodplain. • Based on the FIRM it appears as if the impoundment may cause backwatering beyond the I-95 bridge. The bridge footings at Wellstown Road and I-95 would need to be evaluated for scour potential due to a potential increase in flow velocity at these locations.
Centerville Pond Dam	<ul style="list-style-type: none"> • The impoundment is believed to provide minimal flood storage capacity. • There is no FIS flood profile for this dam. • Based on the FIRM, there is no significant infrastructure within the 100-year floodplain, but there are several homes directly adjacent to the 100-year floodplain. Shallow wells associated with nearby residences may need to be replaced. • Flow velocities upstream of the dam would be expected to increase if the dam were removed. The bridge footings at Dye Hill Road and Spring Street would need to be evaluated for scour potential.

Table 3-5. Preliminary hydraulic assessment of dams recommended for removal

Dam Name	Potential Hydraulic Impacts
	<ul style="list-style-type: none"> The downstream dam (Moscow Pond Dam) is also recommended for removal.
Decappett Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. Based on the FIRM, it appears that the dam does not have a significant impact on upstream hydraulics. Other than the Hillsdale Road bridge, there is no infrastructure in or adjacent to the 100-year floodplain for several thousand feet upstream of this dam.
Dolly Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. The FIRM does not show the 100-year floodplain associated with this dam/stream. Only limited infrastructure or development is located around or upstream of the dam. Several homes adjacent to the impoundment may be affected by flooding as a result of the dam. The downstream dam (Hallville Pond Dam) is also recommended for removal.
Edward's Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. The FIRM does not show the 100-year floodplain associated with this dam/stream; however, it appears that there are farms adjacent to the impoundment (potentially in the floodplain) that could benefit from dam removal.
Glen Rock Lower Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. The FIRM does not show the 100-year floodplain associated with this dam/stream; however, it appears that no significant infrastructure exists upstream of this dam that would be impacted by removal. This dam is the downstream-most of three dams within close proximity, all of which are recommended for removal.
Glen Rock Middle Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. The FIRM does not show the 100-year floodplain associated with this dam/stream; however, it appears that no significant infrastructure exists upstream of this dam that would be impacted by removal. This dam is the middle of three dams within close proximity, all of which are recommended for removal.
Glen Rock Upper Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. The FIRM does not show the 100-year floodplain associated with this dam/stream; however, it appears that no significant infrastructure exists upstream of this dam that would be impacted by removal. This dam is the upstream-most of three dams within close proximity, all of which are recommended for removal.
Hallville Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. The FIRM does not show the 100-year floodplain associated with this dam/stream; however, it appears that there is no significant infrastructure around or upstream of the dam.

Table 3-5. Preliminary hydraulic assessment of dams recommended for removal

Dam Name	Potential Hydraulic Impacts
	<ul style="list-style-type: none"> Flow velocities upstream of the dam would be expected to increase if the dam were removed. The bridge footings at Hallville Road would need to be evaluated for scour potential. The upstream dam (Dolly Pond Dam) is also recommended for removal.
Hazard Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. Based on the FIRM, there is no infrastructure upstream of this dam within the 100-year floodplain.
Kasella Farm Pond Dam	<ul style="list-style-type: none"> A bridge and several homes are located downstream of the dam. The dam may provide some flood storage; therefore, removal could affect downstream hydraulics and flooding. A hydraulic analysis is recommended to assess the significance of potential downstream impacts. There is no FIS flood profile for this dam. The FIRM does not show the 100-year floodplain associated with this dam/stream; however, it appears that there are several homes adjacent to the impoundment (potentially in the floodplain) that could benefit from dam removal.
Langworthy Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. The FIRM does not show the 100-year floodplain associated with this dam/stream; however, it appears that there are several homes adjacent to the impoundment (potentially in the floodplain) that could benefit from dam removal.
Moscow Pond Dam	<ul style="list-style-type: none"> The dam may provide some flood storage; therefore, removal could affect downstream hydraulics and flooding. A hydraulic analysis is recommended to assess the significance of potential impacts on the homes located downstream of the dam. There is no FIS flood profile for this dam. Based on the FIRM, there is no infrastructure within the 100-year floodplain upstream or downstream of this dam. There are several homes directly adjacent to the dam. Shallow wells associated with nearby residences may need to be replaced. The upstream dam (Centerville Pond Dam) is also recommended for removal. Based on the FIRM, it appears that the hydraulic influence of Moscow Pond Dam does not extend upstream to Centerville Pond Dam. Replacement/reconstruction of the Woody Hill Road bridge (above the dam) would be required for dam removal.
Slocum Road Lower Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. The FIRM does not show the 100-year floodplain associated with this dam and does not show a hydraulic connection between the upstream and downstream dams (Slocum Road Upper Dam and Sodco Dam, respectively). Both Slocum Road Upper Dam and Sodco Dam are recommended to be maintained. Therefore, the hydraulic impact of removing Slocum Road Lower dam would be limited to the reach of river between the dam and Slocum Road Upper Dam. Several homes are located between these two dams. Removal of Slocum Road Lower dam would likely reduce flood risk for these homes, but may require replacement of any shallow wells at these residences.
Tanner Pond Dam	<ul style="list-style-type: none"> The flood storage capacities of this dam and the downstream fish hatchery are unknown and should be evaluated. There is no FIS flood profile for this dam.

Table 3-5. Preliminary hydraulic assessment of dams recommended for removal

Dam Name	Potential Hydraulic Impacts
	<ul style="list-style-type: none"> This dam is associated with a decommissioned fish hatchery. Discharge from the hatchery flows directly into the Pawcatuck River. Based on the FIRM, there isn't any infrastructure in the 100-year floodplain upstream of the dam other than a bridge at Pine Hill Road and the fish hatchery (which is still in operation) associated with White's Pond Dam. Removal of Tanner Pond Dam and the associated fish hatchery infrastructure is not expected to have a negative impact on the White's Pond Dam fish hatchery. Flow velocities upstream of the dam would be expected to increase if the dam were removed. The bridge footings at Pine Hill Road would need to be evaluated for scour potential.
Union Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. There is no FIS flood profile for this dam. Based on the FIRM, there is no infrastructure within the 100-year floodplain, but there are several farms directly adjacent to the 100-year floodplain. Shallow wells associated with the farms may need to be replaced if the dam is removed. The upstream dam (Lower Mill Pond Dam) could not be inspected. Therefore, there is no recommendation for that dam at this time.
Woodville Pond Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. Removal will likely only impact water surface elevations upstream of the dam, between the dam and Hope Valley Mill Pond Dam (an historic structure for which the recommendation is to add an AOP structure.) Based on the FIRM, it appears that there are no homes within the 100-year floodplain, but there are several homes directly adjacent to the 100-year floodplain. The hydraulic influence (backwater) of the dam appears to extend upstream along the main stem of the Wood River and in Canonchet Brook, which enters the Wood River approximately 1,500 feet upstream of the dam. There appears to be a wetland along the Wood River that could be impacted by removal of the dam. There is a 5.4-foot difference in base flood elevations upstream and downstream of the dam. Flow velocities upstream of the dam would be expected to increase if the dam were removed. The bridge footings at Switch Road and I-95 would need to be evaluated for scour potential.
Wyoming Upper Dam	<ul style="list-style-type: none"> The impoundment is believed to provide minimal flood storage capacity. Removal would likely only impact water surface elevations upstream of the dam, between the dam and Barberville Pond Dam (which is recommended to be replaced with a rock ramp to maintain the current impoundment). Based on the FIRM, there appear to be approximately 10 homes located in the 100-year floodplain that would likely be removed from the special flood hazard area if the dam were removed. If these homes have shallow wells, they may have to be replaced. There is an 11.9-foot difference in base flood elevations upstream and downstream of the dam. However, it appears that there is a natural bedrock outcrop under the dam, which would likely limit the change in base flood elevation at that location. Flow velocities upstream of the dam would be expected to increase if the dam were removed. The bridge footings at Skunk Hill Road and Arcadia Road would need to be evaluated for scour potential. Removing this dam could significantly decrease flooding along the Wood River in the Valley Lodge Estates (Wood River Drive) neighborhood.

Table 3-6. Screening-level assessment of ecological functions for priority dams in the Wood-Pawcatuck watershed

Dam ID	Dam Name	# of Associated NWI+ Wetlands	Average Habitat Rating	Total Area of Associated NWI+ Wetlands (acres)	Weighted Habitat Rating (Habitat Rating * Total Area)	Overall Rank	Presence of State-Listed Species	Management Recommendation	Recommendation Priority
230	Decappet Pond Dam	1	0.13	0.4	0.1	59		Remove/Breach	High
266	Ashaway Line Pond Dam	1	0.31	0.3	0.1	58		Remove/Breach	High
265	Ashaway Mill Pond Dam	3	0.33	7.4	2.5	38		Remove/Breach	High
264	Bethel Pond Dam	8	0.23	23.4	5.5	32		Remove/Breach	High
273	Wood River Junction Dam	3	0.25	22.3	5.6	31	Yes	Remove/Breach	High
274	Harris Pond Dam	5	0.15	39.8	6.0	30		Repair	High
216	Wyoming Upper Dam	4	0.19	45.9	8.6	26		Remove/Breach	High
227	Ashville Pond Dam	1	0.38	32.1	12.1	22		Remove/Breach	High
214	Breakheart Pond Dam	2	0.28	47.0	13.2	21		Repair	High
247	Alton Pond Dam	10	0.29	57.7	16.6	17	Yes	Remove/Breach	High
221	Browning Mill Pond Dam	1	0.38	50.8	19.1	15	Yes	Repair	High
254	Potter Hill Dam	15	0.30	87.7	26.3	10	Yes	Remove/Breach	High
285	Langworthy Pond Dam	1	0.13	1.0	0.1	55		Remove/Breach	Intermediate
440	Hoxie Farm Pond Dam	2	0.13	2.3	0.3	52		Remove/Breach	Intermediate
288	Union Pond Dam	2	0.13	3.8	0.5	50		Remove/Breach	Intermediate
223	Centerville Pond Dam	2	0.13	6.2	0.8	49	Yes	Remove/Breach	Intermediate
280	Tanner Pond Dam	1	0.13	7.4	0.9	48	Yes	Remove/Breach	Intermediate
238	Edward's Pond Dam	3	0.19	6.4	1.2	44		Remove/Breach	Intermediate
222	Moscow Pond Dam	2	0.13	11.6	1.5	42	Yes	Remove/Breach	Intermediate
710	Slocum Road Upper Dam	4	0.19	8.1	1.5	41		Remove/Breach	Intermediate
235	Glen Rock Upper Pond Dam	2	0.31	24.7	7.7	27		AOP Structure	Intermediate
13602	Porter Pond Dam	7	0.41	21.0	8.6	25	Yes	Remove/Breach	Intermediate
232	Tug Hollow Pond Dam	8	0.22	61.2	13.4	20	Yes	Remove/Breach	Intermediate
262	Locustville Pond Dam	5	0.15	98.9	14.8	18		AOP Structure	Intermediate

Table 3-6. Screening-level assessment of ecological functions for priority dams in the Wood-Pawcatuck watershed

Dam ID	Dam Name	# of Associated NWI+ Wetlands	Average Habitat Rating	Total Area of Associated NWI+ Wetlands (acres)	Weighted Habitat Rating (Habitat Rating * Total Area)	Overall Rank	Presence of State-Listed Species	Management Recommendation	Recommendation Priority
229	Blue Pond Dam	1	0.25	98.9	24.7	12	Yes	Remove/Breach	Intermediate
246	Woodville Pond Dam	31	0.18	182.3	32.3	7	Yes	Remove/Breach	Intermediate
215	Barberville Pond Dam	14	0.30	119.6	36.3	6		Construct Rock Ramp	Intermediate
251	Burdickville Dam	28	0.28	239.0	67.2	4	Yes	Remove/Breach	Intermediate
233	Glen Rock Lower Pond Dam	1	0.13	0.8	0.1	57		Remove/Breach	Low
711	Slocum Road Lower Dam	1	0.13	0.9	0.1	56		Remove/Breach	Low
234	Glen Rock Middle Pond Dam	1	0.13	1.0	0.1	54		Remove/Breach	Low
402	Arcadia Mill Lower Dam	1	0.13	1.5	0.2	53		Maintain/ No Action	Low
10220	Green River Pond Dam	2	0.63	0.6	0.4	51		Remove/Breach	Low
10217	Lewis Pond Dam	2	0.44	2.2	1.0	47	Yes	Remove/Breach	Low
217	Wyoming Pond Lower Dam	3	0.27	3.7	1.0	46	Yes	Maintain/ No Action	Low
261	White's Pond Dam	1	0.31	3.3	1.0	45	Yes	Maintain/ No Action	Low
493	Olaf Farm Pond Dam	3	0.19	6.8	1.3	43	Yes	Repair	Low
256	Stillmanville Dam	6	0.25	6.7	1.7	40	Yes	Remove/Breach	Low
240	Yorker Mill Pond Dam	2	0.13	19.1	2.4	39		Maintain/ No Action	Low
571	Hallville Pond Dam	4	0.13	20.7	2.6	37		Remove/Breach	Low
13713	Liepold Pond Dam	3	0.42	6.6	2.7	36		Maintain/ No Action	Low
272	Smith's Ice Pond Dam	5	0.21	14.9	3.2	35		Maintain/ No Action	Low
693	Slocum Woods Dam	4	0.19	18.0	3.4	34		Maintain/ No Action	Low
767	Sodco Dam	2	0.25	14.6	3.6	33		Repair	Low
468	Kasella Farm Pond Dam	3	0.25	25.4	6.3	29		Remove/Breach	Low
245	Hope Valley Mill Pond Dam	10	0.19	37.2	7.0	28	Yes	AOP Structure	Low
243	Dolly Pond Dam	5	0.20	50.3	10.1	24		Remove/Breach	Low
236	Glen Rock Reservoir Dam	10	0.23	46.4	10.4	23		Remove/Breach	Low

Table 3-6. Screening-level assessment of ecological functions for priority dams in the Wood-Pawcatuck watershed

Dam ID	Dam Name	# of Associated NWI+ Wetlands	Average Habitat Rating	Total Area of Associated NWI+ Wetlands (acres)	Weighted Habitat Rating (Habitat Rating * Total Area)	Overall Rank	Presence of State-Listed Species	Management Recommendation	Recommendation Priority
239	Slocum Reservoir Dam	11	0.18	77.9	14.2	19	Yes	Maintain/ No Action	Low
531	Great Swamp Goose Marsh Dam	27	0.13	138.4	18.6	16	Yes	Repair	Low
527	Metcalf Wildlife Marsh Dam	9	0.24	95.6	22.6	14		Maintain/ No Action	Low
219	Boone Lake Dam	3	0.38	60.9	22.8	13		Maintain/ No Action	Low
289	Grassy Pond Dam	5	0.28	92.2	25.3	11	Yes	Remove/Breach	Low
290	Yawgoo Pond Dam	3	0.19	159.5	29.9	9	Yes	Construct Rock Ramp	Low
14701	Green Falls Reservoir Dam	3	0.54	57.7	31.3	8	Yes	Maintain/ No Action	Low
225	Wincheck Pond Dam	2	0.25	151.3	37.8	5		Maintain/ No Action	Low
226	Yawgoog Pond Dam	6	0.40	177.2	70.1	3	Yes	Maintain/ No Action	Low
200	Hazard Pond Dam	26	0.43	262.2	112.2	2		Remove/Breach	Low
10208	Spaulding Pond Dam	17	0.45	265.2	119.0	1	Yes	Remove/Breach	Low

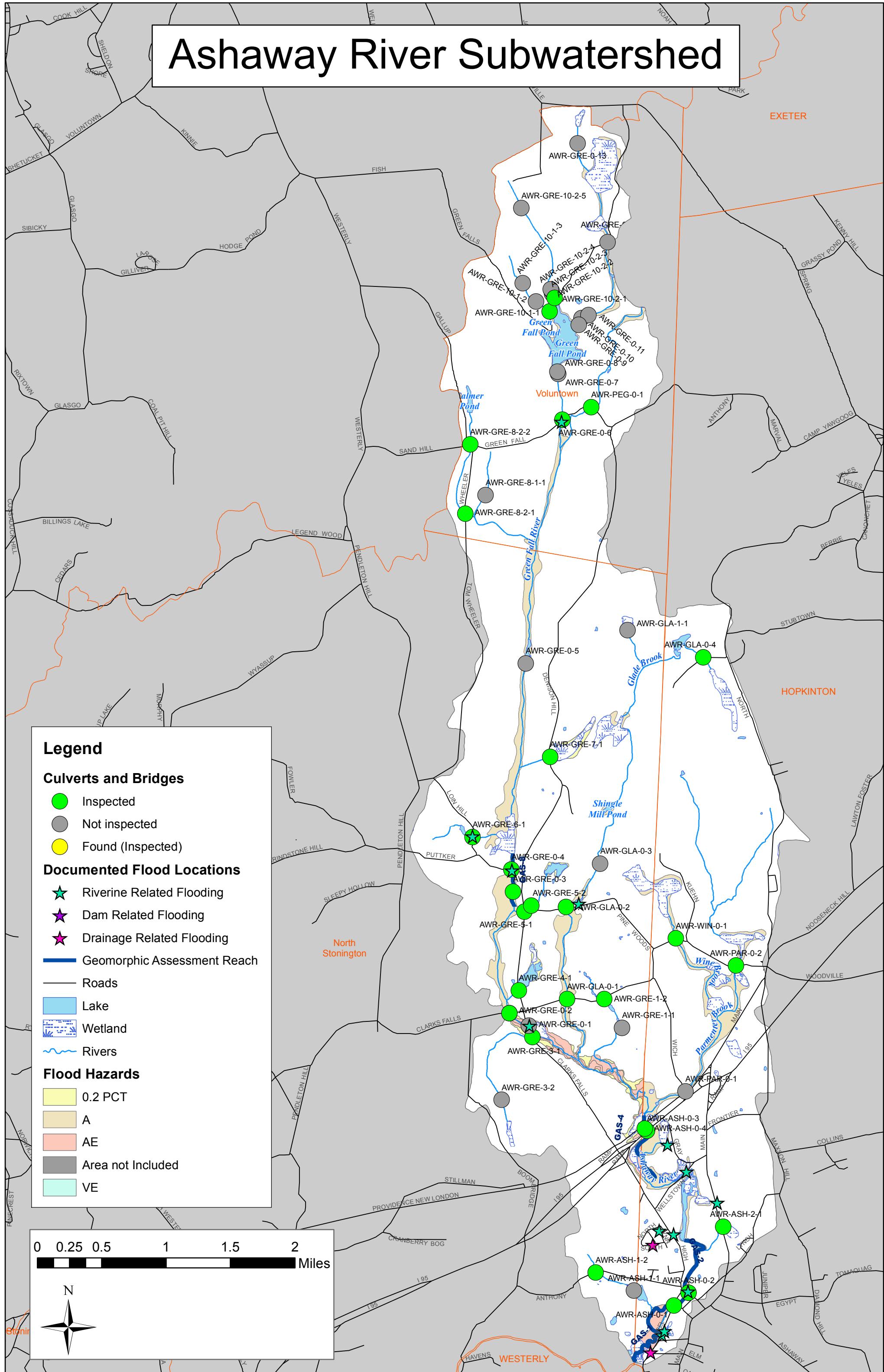
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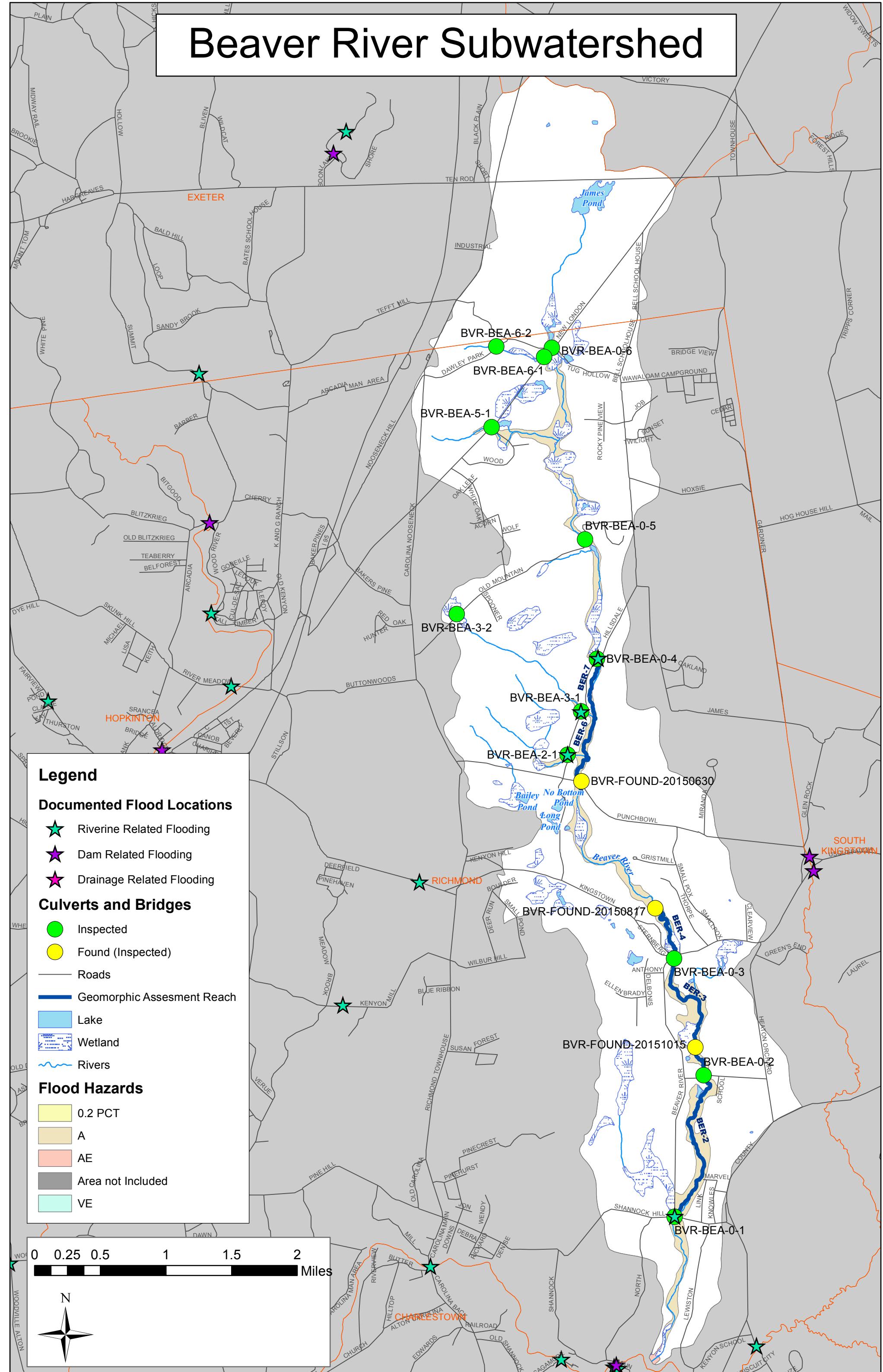
Appendix A

Culverts/Bridges - Subwatershed Location Maps and Summary Tables

Ashaway River Subwatershed



Beaver River Subwatershed



Chickasheen River Subwatershed

Legend

Culverts and Bridges

- Inspected
- Not Inspected
- Found (Inspected)

Documented Flood Locations

- ★ Riverine Related Flooding
- ★ Dam Related Flooding
- ★ Drainage Related Flooding

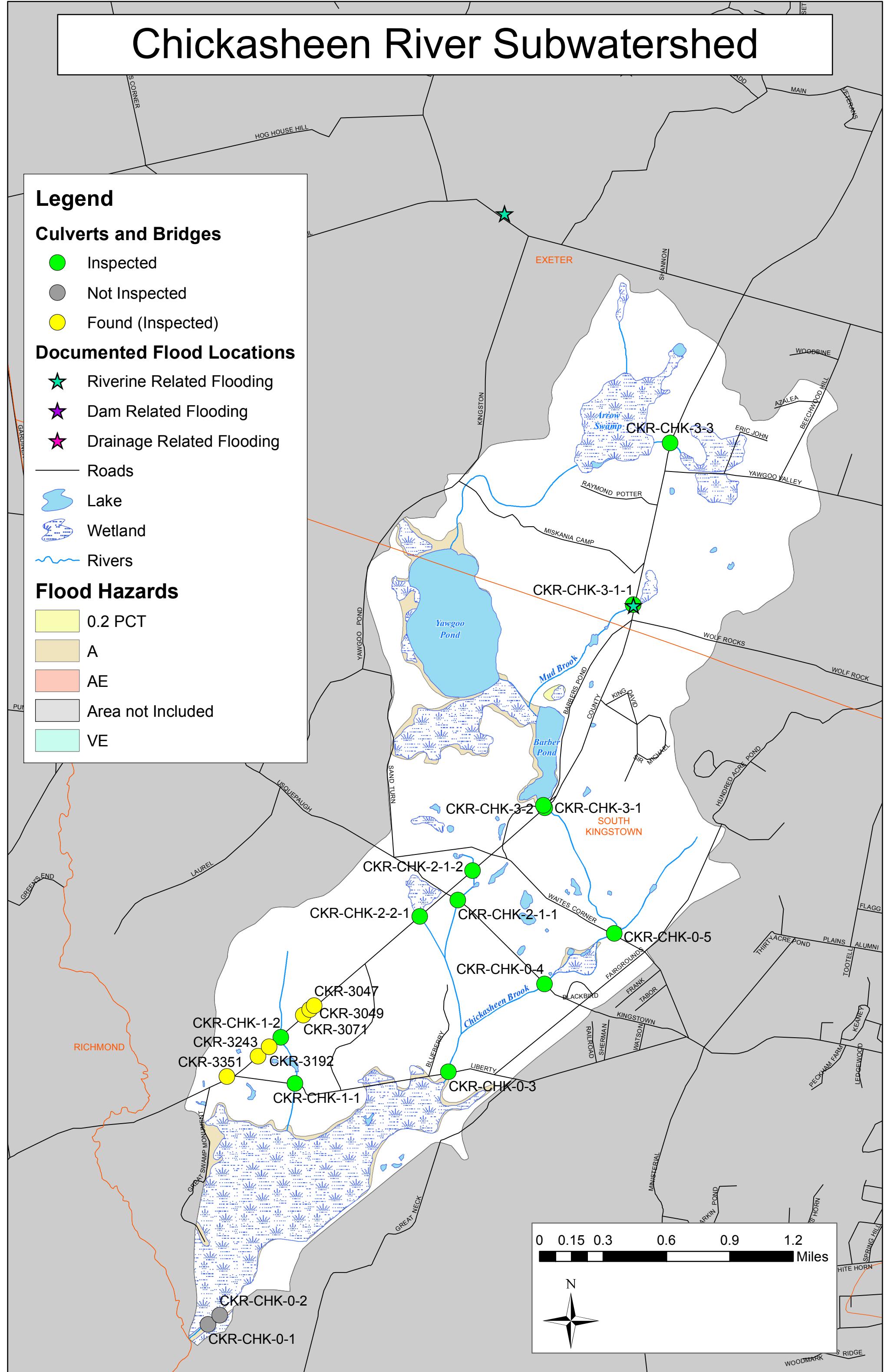
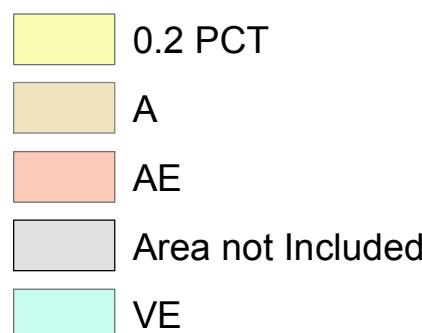
Roads

Lake

Wetland

Rivers

Flood Hazards



0 0.15 0.3 0.6 0.9 1.2 Miles



Chipuxet River Subwatershed

Legend

Culverts and Bridges

- Inspected
- Not Inspected
- Found (Inspected)

Documented Flood Locations

- ★ Riverine Related Flooding
- ★ Dam Related Flooding
- ★ Drainage Related Flooding

Geomorphic Assessment Reach

Roads

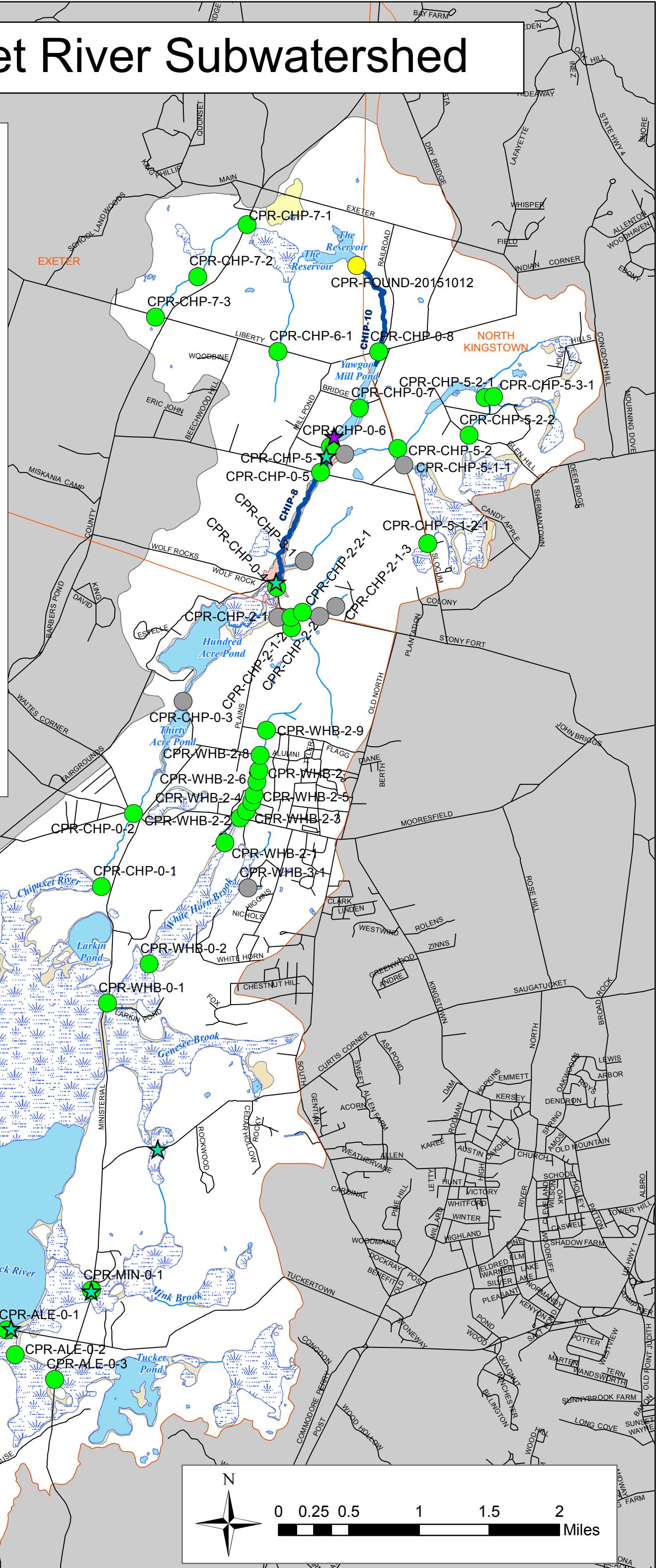
Lake

Wetland

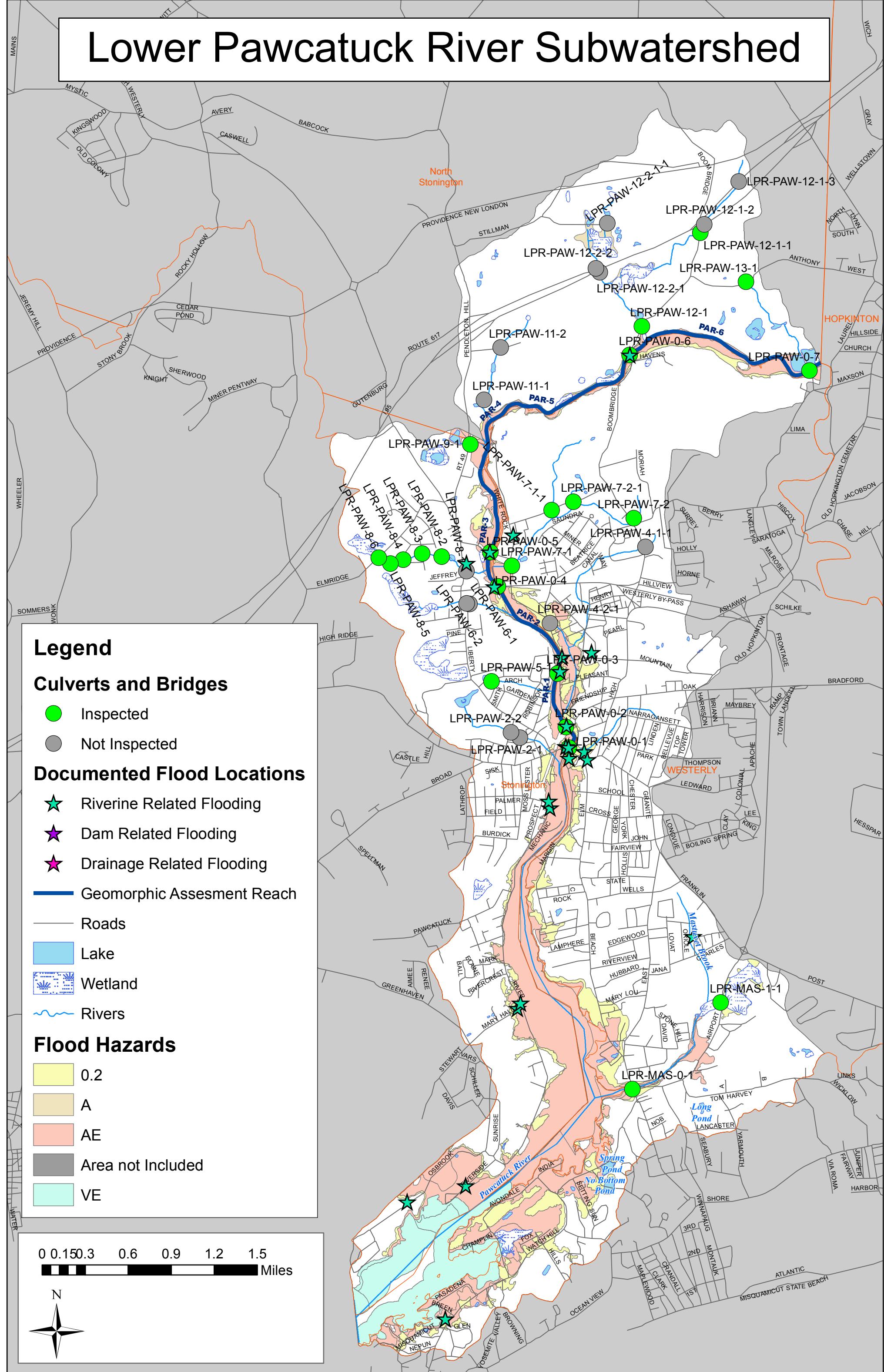
Rivers

Flood Hazard

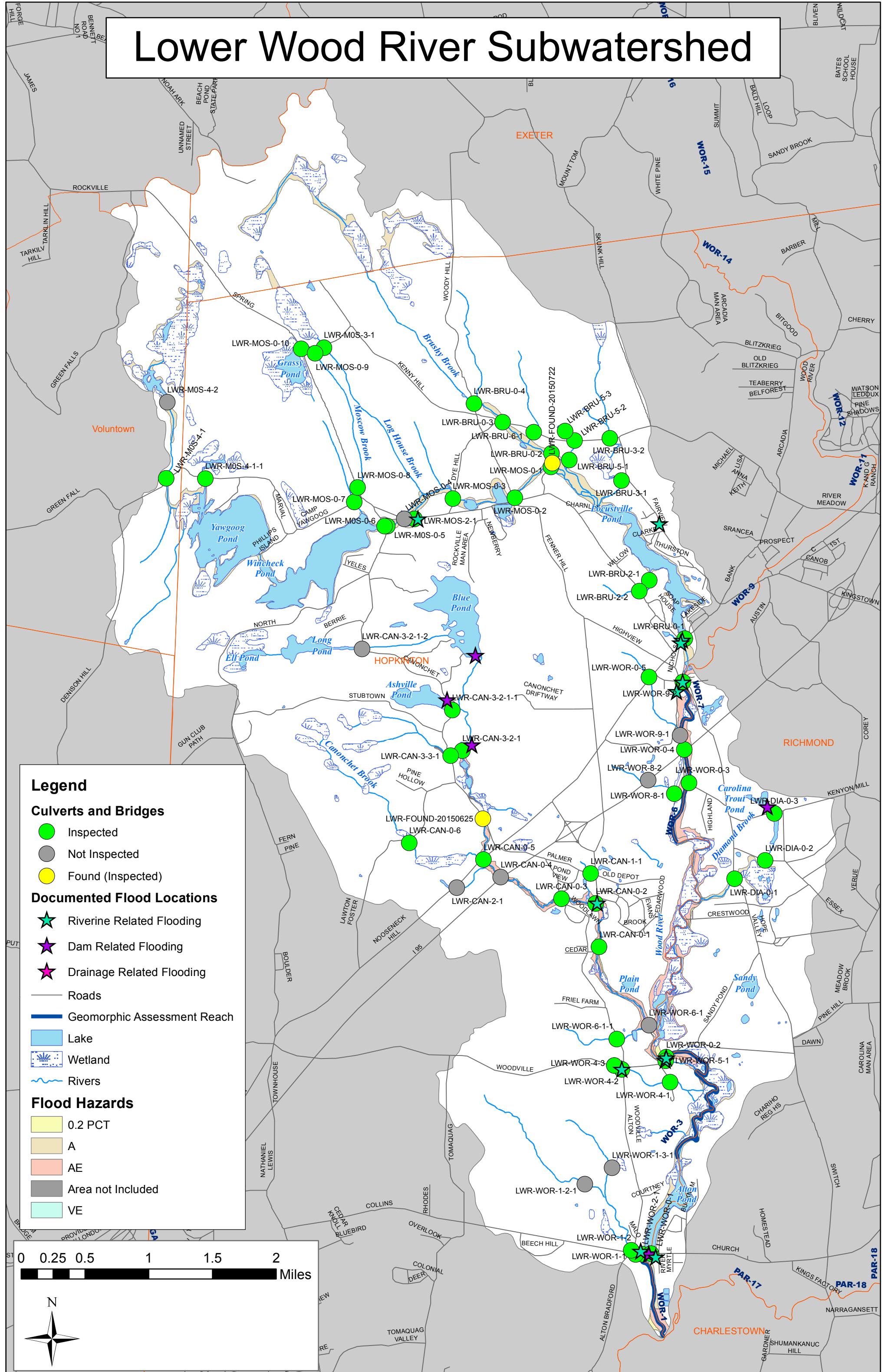
- 0.2 PCT
- A
- AE
- Area not Included
- VE



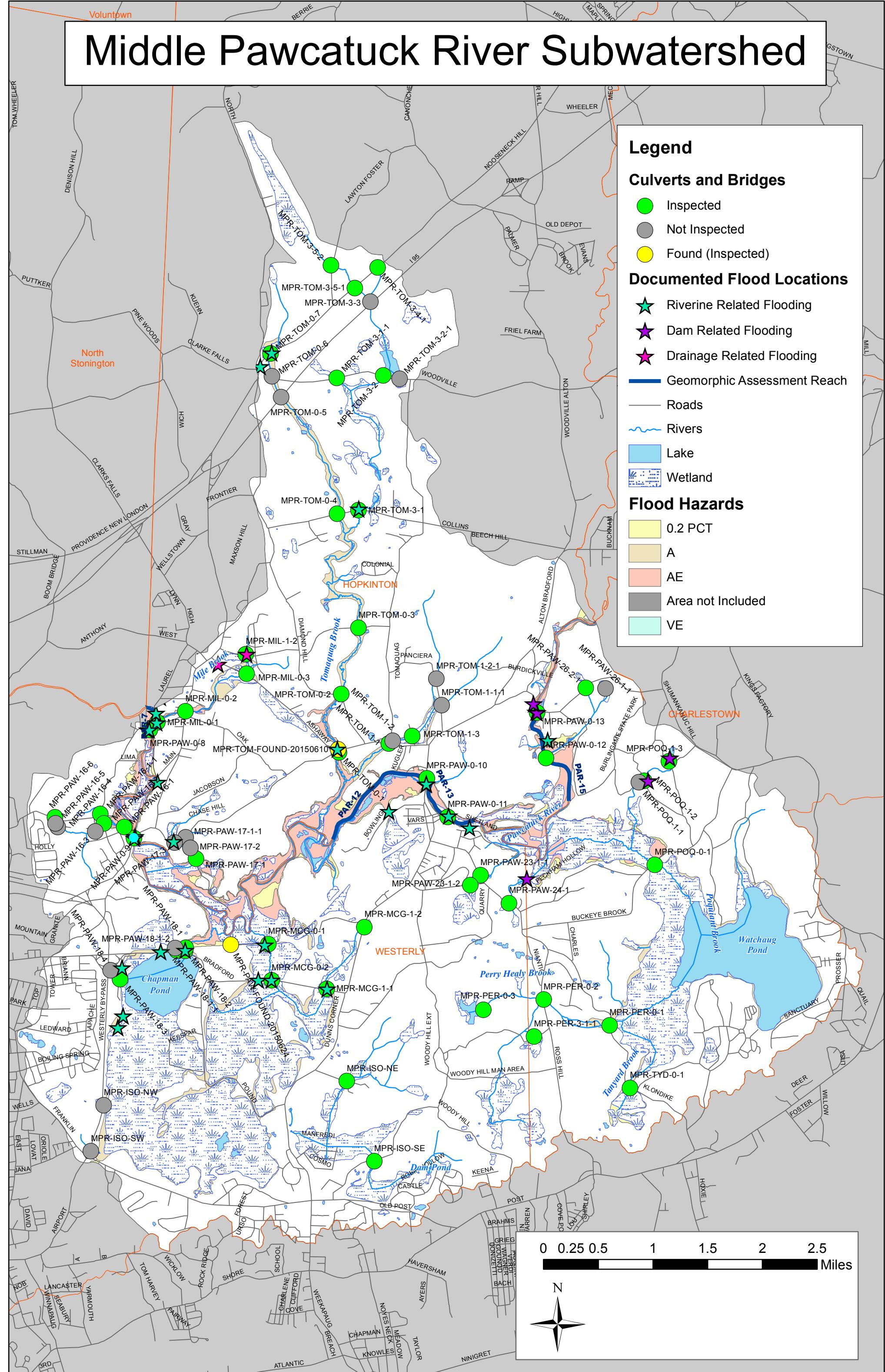
Lower Pawcatuck River Subwatershed



Lower Wood River Subwatershed



Middle Pawcatuck River Subwatershed



Shunock River Subwatershed

Legend

Culverts an Bridges

- Inspected
- Not Inspected

Documented Flood Locations

- ★ Riverine Related Flooding
- ★ Dam Related Flooding
- ★ Drainage Related Flooding

Geomorphic Assessment Reach

Roads

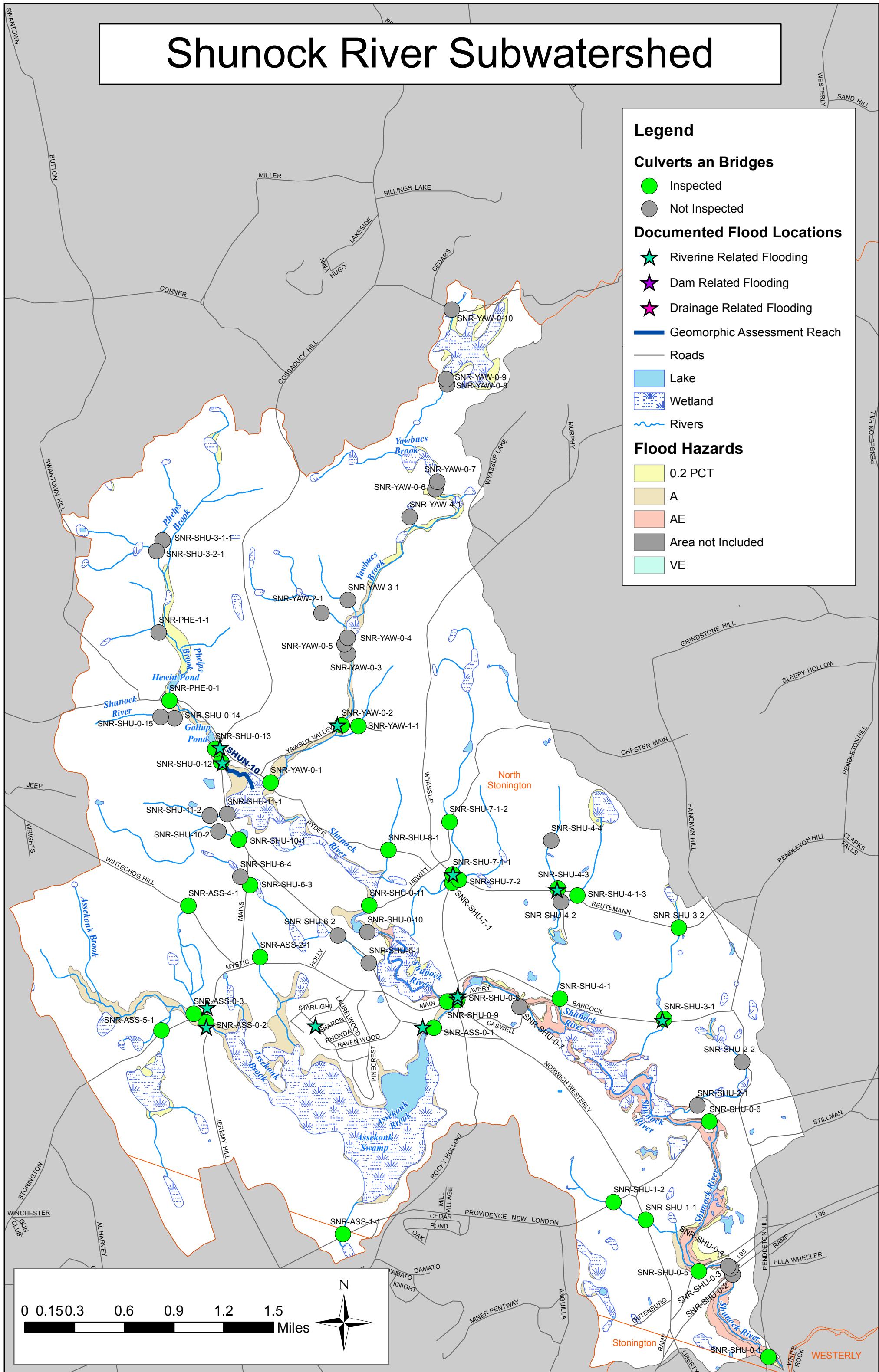
Lake

Wetland

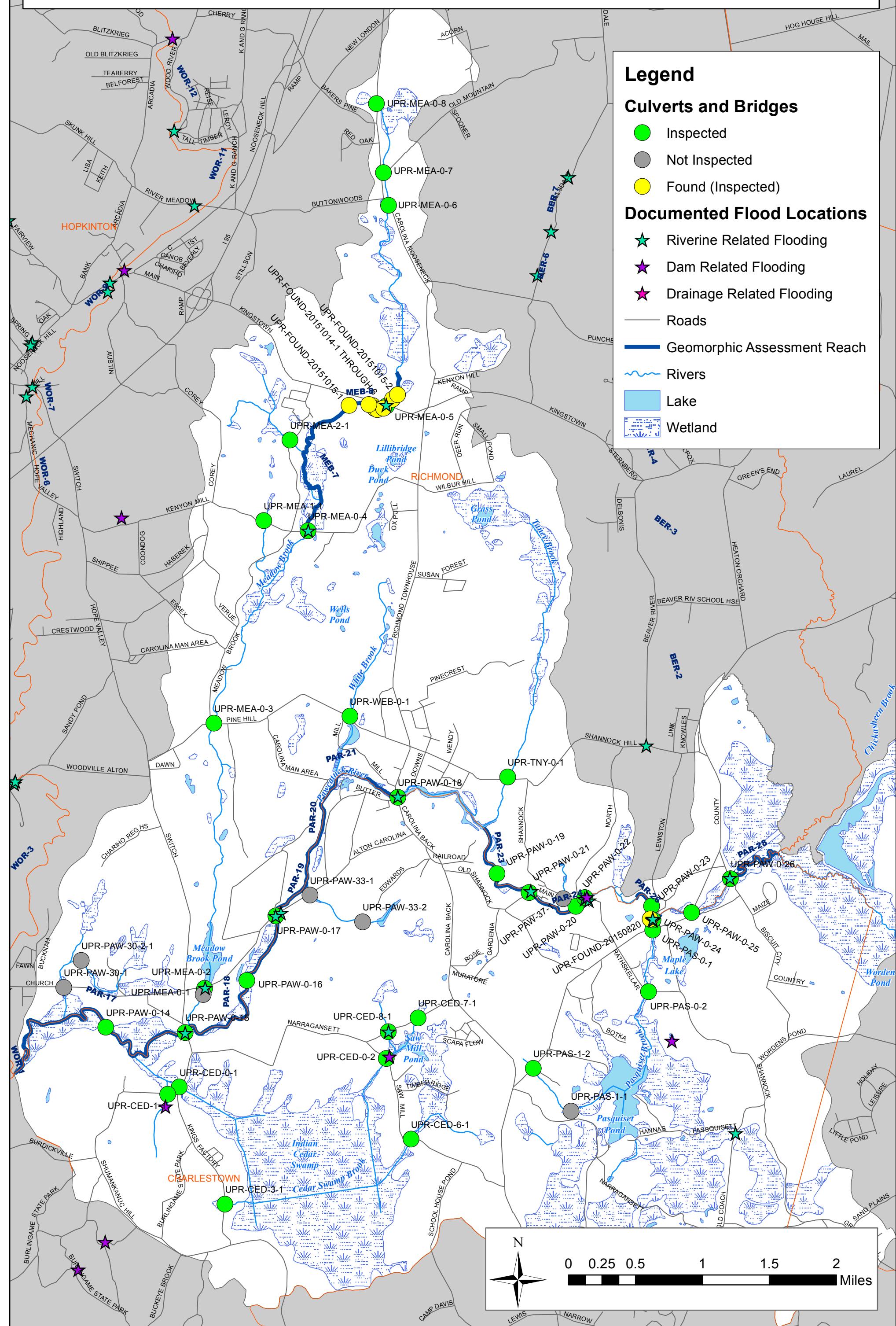
Rivers

Flood Hazards

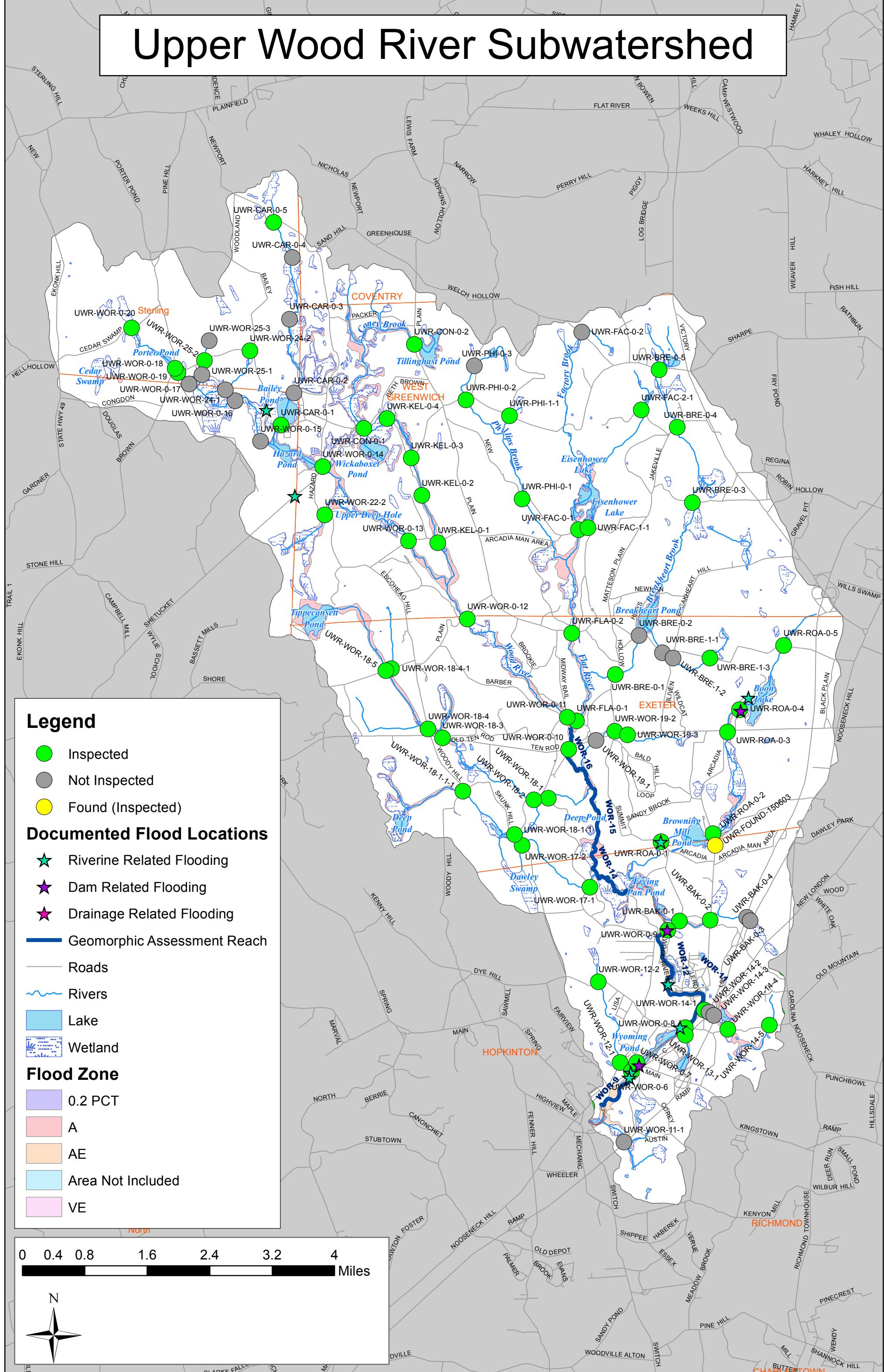
- | |
|-------------------|
| 0.2 PCT |
| A |
| AE |
| Area not Included |
| VE |



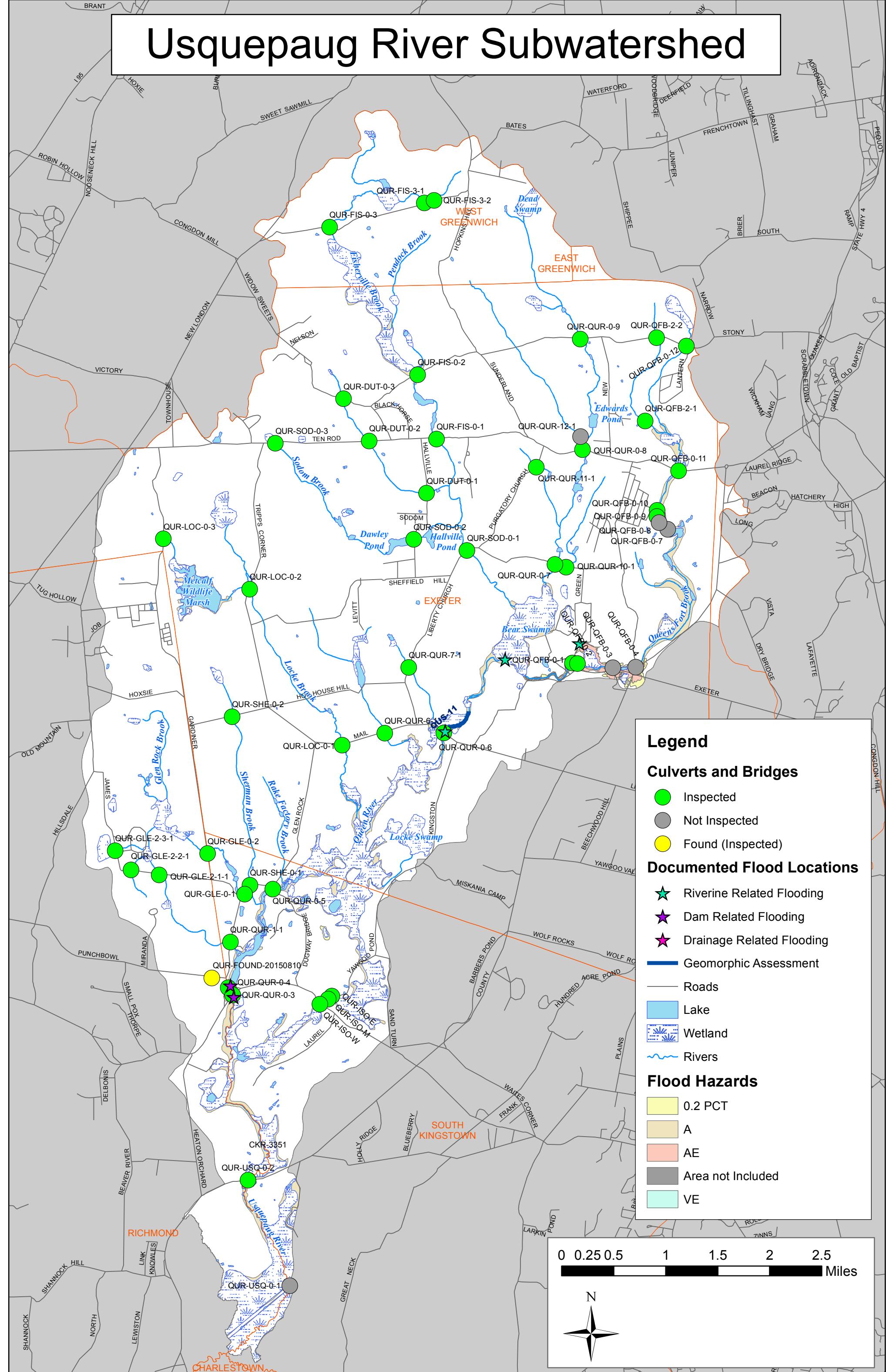
Upper Pawcatuck River Subwatershed



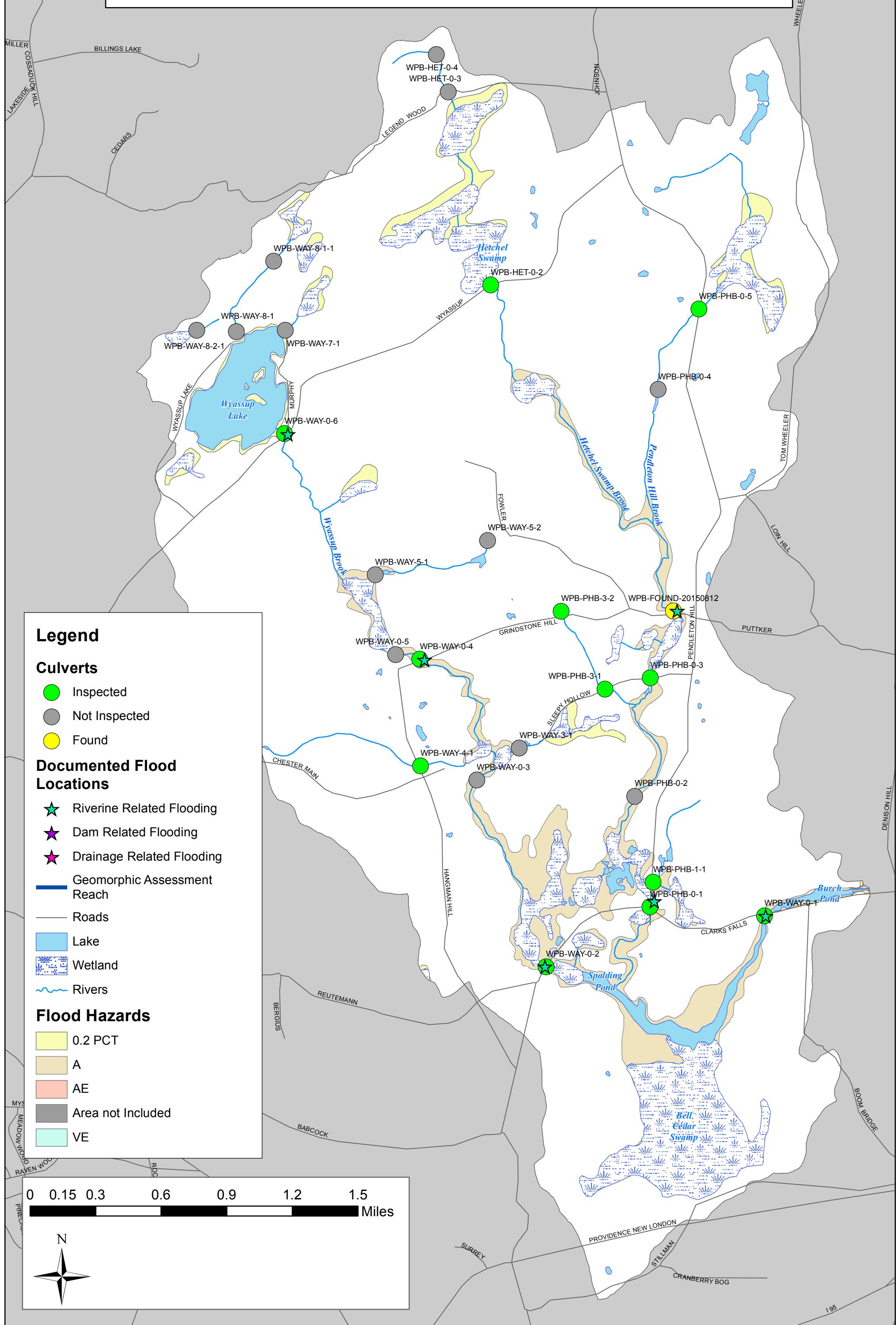
Upper Wood River Subwatershed



Usquepaug River Subwatershed



Wayassup Brook Subwatershed



List of Bridges and Culverts in the Wood-Pawcatuck Watershed Selected for Assessment

Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
AWR-ASH-0-1	X	Field Geology Services	AWR	124019.363031	248059.300797	692	Hopkinton	Laurel Street	State	Ashaway River	bridge	concrete
AWR-ASH-0-2	X	Field Geology Services	AWR	124542.985035	248662.878975	699	Hopkinton	High Street	State	Ashaway River	bridge	concrete
AWR-ASH-0-3	X	Field Geology Services	AWR	131187.489955	246953.658801	721	Hopkinton	Interstate 95	Highway	Ashaway River	bridge	concrete
AWR-ASH-0-4	X	Field Geology Services	AWR	131277.758356	246856.572035	719	Hopkinton	Providence New London Turnpike	State	Ashaway River	bridge	concrete
AWR-ASH-1-2	X	Fuss & O'Neill	AWR	125372.874685	244851.423914	396	North Stonington	Anthony Road	Local	Unnamed	circular conduit	CMP
AWR-ASH-2-1	X	Fuss & O'Neill	AWR	127252.127699	250077.266957	2240	Hopkinton	Nooseneck Hill Road	State	Unnamed	bridge	concrete
AWR-GLA-0-1	X	Fuss & O'Neill	AWR	136586.939583	243677.736899	64	North Stonington	East Clarks Falls Road	Local	Glade Brook	circular conduit	concrete
AWR-GLA-0-2	X	Fuss & O'Neill	AWR	140361.761857	243631.981766	148	North Stonington	Pine Woods Road	Local	Glade Brook	circular conduit	concrete
AWR-GLA-0-4	X	Fuss & O'Neill	AWR	150603.165700	249258.580990	2723	Hopkinton	Gunclub Path	Local	Glade Brook	circular conduit	concrete
AWR-GRE-0-2	X	Fuss & O'Neill	AWR	136005.112970	241313.954513	150	North Stonington	Clarks Falls Road	State	Green Fall River	bridge	concrete
AWR-GRE-0-3	X	Field Geology Services	AWR	140990.253031	241464.507000	527	North Stonington	Denison Hill Road	Local	Green Fall River	bridge	stone masonry
AWR-GRE-0-4	X	Field Geology Services	AWR	141899.759039	241391.635884	347	North Stonington	Puttke Road	Local	Green Fall River	box culvert	concrete
AWR-GRE-0-6	X	Fuss & O'Neill	AWR	160346.282172	243480.125673	129	Voluntown	Sand Hill Road	Local	Green Fall River	box culvert	stone masonry
AWR-GRE-10-1-1	X	Fuss & O'Neill	AWR	164776.356907	242956.799060	126	Voluntown	Green Fall Road	Local	Unnamed	circular conduit	concrete
AWR-GRE-10-2-1	X	Fuss & O'Neill	AWR	165330.656834	243160.357470	127	Voluntown	Green Fall Road	Local	Unnamed	box culvert	stone masonry
AWR-GRE-1-2	X	Fuss & O'Neill	AWR	136588.266793	245204.487249	63	North Stonington	East Clarks Falls Road	Local	Unnamed	circular conduit	concrete
AWR-GRE-3-1	X	Fuss & O'Neill	AWR	135033.735134	242259.489034	65	North Stonington	Clarks Falls Road	State	Unnamed	circular conduit	concrete
AWR-GRE-4-1	X	Fuss & O'Neill	AWR	136937.779047	241701.806541	387	North Stonington	Denison Hill Road	Local	Unnamed	circular conduit	concrete
AWR-GRE-5-1	X	Fuss & O'Neill	AWR	140164.059873	241923.780512	389	North Stonington	Denison Hill Road	Local	Unnamed	circular conduit	concrete
AWR-GRE-5-2	X	Fuss & O'Neill	AWR	140415.463298	242213.944266	144	North Stonington	Denison Hill Road	Local	Unnamed	circular conduit	CMP
AWR-GRE-6-1	X	Fuss & O'Neill	AWR	143230.036209	239799.722933	27	North Stonington	Loin Hill Road	Local	Unnamed	circular conduit	HDPE
AWR-GRE-7-1	X	Fuss & O'Neill	AWR	146512.582295	242979.239102	390	North Stonington	Denison Hill Road	Local	Unnamed	circular conduit	HDPE
AWR-GRE-8-2-1	X	Fuss & O'Neill	AWR	156485.172582	239497.792936	576	Voluntown	Tom Wheeler Road	Local	Unnamed	circular conduit	concrete
AWR-GRE-8-2-2	X	Fuss & O'Neill	AWR	159332.345801	239704.535160	128	Voluntown	Sand Hill Road	Local	Unnamed	circular conduit	CMP
AWR-PAR-0-2	X	Fuss & O'Neill	AWR	137963.803237	250601.593320	2263	Hopkinton	Clarks Falls Road	State	Parameter Brook	circular conduit	CMP
AWR-PEG-0-1	X	Fuss & O'Neill	AWR	160853.061204	244661.977053	449	Voluntown	Sand Hill Road	Local	Peg Mill Brook	box culvert	stone masonry
AWR-WIN-0-1	X	Fuss & O'Neill	AWR	139076.100493	248138.979420	715	Hopkinton	East Clarks Falls Road	Local	Wine Brook	circular conduit	CMP
BVR-BEA-0-1	X	Fuss & O'Neill	BVR	138730.367087	293038.504767	4037	Richmond	Shannock Hill Road	Local	Beaver River	bridge	concrete
BVR-BEA-0-2	X	Fuss & O'Neill	BVR	144418.001576	294202.883117	3310	Richmond	Schoolhouse Road	Local	Beaver River	box culvert	concrete
BVR-BEA-0-3	X	Field Geology Services	BVR	149110.427780	293013.851260	2914	Richmond	Kingstown Road	State	Beaver River	bridge	concrete
BVR-BEA-0-4	X	Fuss & O'Neill	BVR	161154.307778	289922.302146	2967	Richmond	Hillsdale Road	Local	Beaver River	circular conduit	concrete
BVR-BEA-0-5	X	Fuss & O'Neill	BVR	165947.705278	289444.307120	3470	Richmond	Old Mountain Road	Local	Beaver River	circular conduit	concrete
BVR-BEA-0-6	X	Fuss & O'Neill	BVR	173649.518858	288107.636098	3398	Richmond	New London Turnpike	State	Beaver River	circular conduit	CMP
BVR-BEA-2-1	X	Fuss & O'Neill	BVR	157296.990198	288740.373439	2968	Richmond	Hillsdale Road	Local	Unnamed	circular conduit	concrete
BVR-BEA-3-1	X	Fuss & O'Neill	BVR	159044.614355	289282.321266	2969	Richmond	Hillsdale Road	Local	Unnamed	circular conduit	concrete
BVR-BEA-3-2	X	Fuss & O'Neill	BVR	162946.285714	284282.498540	3497	Richmond	Old Mountain Road	Local	Unnamed	circular conduit	concrete
BVR-BEA-5-1	X	Fuss & O'Neill	BVR	170467.340378	285680.435193	2856	Richmond	New London Turnpike	State	Unnamed	circular conduit	CMP
BVR-BEA-6-1	X	Fuss & O'Neill	BVR	173288.769026	287795.864469	3253	Richmond	New London Turnpike	State	Unnamed	circular conduit	CMP
BVR-BEA-6-2	X	Fuss & O'Neill	BVR	173710.646874	285872.723013	3391	Richmond	Dawley Park Road	Local	Unnamed	box culvert	stone masonry
BVR-FOUND-20150630	X	Field Geology Services	BVR	4598969.40000	279553.300000	9034	Richmond	Punchbowl Road	Local	Beaver River	bridge	stone masonry
BVR-FOUND-20150817	X	Field Geology Services	BVR	151127.844454	292266.788148	9035	Richmond	Unnamed	Trail	Beaver River	bridge	concrete
BVR-FOUND-20151015	X	Field Geology Services	BVR	145535.751580	293877.236257	9036	Richmond	Unnamed	Driveway	Beaver River	bridge	timber
CKR-3047	X	Fuss & O'Neill	CKR	4595818.600000	284133.400000	9037	South Kingstown	South County Trail Driveway	Driveway	Driveway Ditch	circular conduit	CMP
CKR-3049	X	Fuss & O'Neill	CKR	4595790.100000	284097.400000	9038	South Kingstown	South County Trail Driveway	Driveway	Driveway Ditch	circular conduit	CMP

List of Bridges and Culverts in the Wood-Pawcatuck Watershed Selected for Assessment

Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
CKR-3071	X	Fuss & O'Neill	CKR	4595790.100000	284097.400000	9039	South Kingstown	South County Trail Driveway	Driveway	Driveway Ditch	circular conduit	CMP
CKR-3192	X	Fuss & O'Neill	CKR	4595515.700000	283781.300000	9041	South Kingstown	South County Trail Driveway	Driveway	Driveway Ditch	circular conduit	CMP
CKR-3243	X	Fuss & O'Neill	CKR	4595447.000000	283694.500000	9042	South Kingstown	South County Trail Driveway	Driveway	Driveway Ditch	circular conduit	concrete
CKR-3351	X	Fuss & O'Neill	CKR	4595299.200000	283452.100000	9043	South Kingstown	South County Trail Driveway	Driveway	Driveway Ditch	circular conduit	concrete
CKR-CHK-0-3	X	Fuss & O'Neill	CKR	144687.696894	307964.213306	4510	South Kingstown	Liberty Lane	Local	Chickasheen Brook	box culvert	concrete
CKR-CHK-0-4	X	Fuss & O'Neill	CKR	146885.720104	310363.031162	4463	South Kingstown	Kingstown Road	State	Chickasheen Brook	box culvert	concrete
CKR-CHK-0-5	X	Fuss & O'Neill	CKR	148148.967692	312105.255208	4560	South Kingstown	Waites Corner Road	Local	Chickasheen Brook	box culvert	concrete
CKR-CHK-1-1	X	Fuss & O'Neill	CKR	144394.703730	304129.301868	3416	South Kingstown	Liberty Road	Local	Unnamed	circular conduit	concrete
CKR-CHK-1-2	X	Fuss & O'Neill	CKR	145547.180192	303770.736822	3272	South Kingstown	South County Trail	State	Unnamed	circular conduit	concrete
CKR-CHK-2-1-1	X	Fuss & O'Neill	CKR	148983.281003	308199.190970	4342	South Kingstown	Kingstown Road	State	Unnamed	arched conduit	concrete
CKR-CHK-2-1-2	X	Fuss & O'Neill	CKR	149717.296870	308568.410348	4434	South Kingstown	South County Trail	State	Unnamed	box culvert	concrete
CKR-CHK-2-2-1	X	Fuss & O'Neill	CKR	148567.934999	307245.098148	2988	South Kingstown	South County Trail	State	Unnamed	box culvert	concrete
CKR-CHK-3-1	X	Fuss & O'Neill	CKR	151283.790580	310373.503516	4536	South Kingstown	South County Trail	State	Chickasheen Brook	box culvert	concrete
CKR-CHK-3-1-1	X	Fuss & O'Neill	CKR	156360.028884	312582.079834	4435	Exeter	South County Trail	State	Mud Brook	circular conduit	CMP
CKR-CHK-3-2	X	Fuss & O'Neill	CKR	151350.587921	310335.570042	4445	South Kingstown	Barbers Pond Road	Local	Chickasheen Brook	circular conduit	concrete
CKR-CHK-3-3	X	Fuss & O'Neill	CKR	160407.340394	313501.251768	4387	Exeter	South County Trail	State	Chickasheen Brook	circular conduit	concrete
CPR-ALE-0-1	X	Fuss & O'Neill	CPR	126046.576184	309332.131072	4243	South Kingstown	Wardens Pond Road	Local	Alewife Brook	circular conduit	concrete
CPR-ALE-0-2	X	Fuss & O'Neill	CPR	125117.172792	309646.775824	9012	South Kingstown	Worden Pond Family Campground	Local	Alewife Brook	circular conduit	HDPE
CPR-ALE-0-3	X	Fuss & O'Neill	CPR	124184.950529	311122.868531	4207	South Kingstown	Ministerial Road	State	Alewife Brook	circular conduit	CMP
CPR-CHP-0-1	X	Fuss & O'Neill	CPR	142737.901660	312885.074386	5084	South Kingstown	Bike Path	Trail (Bike Path)	Chipuxet River	bridge	stone masonry
CPR-CHP-0-2	X	Fuss & O'Neill	CPR	145486.265784	314094.413403	4534	Exeter	Kingstown Road	State	Chipuxet River	bridge	concrete
CPR-CHP-0-4	X	Field Geology Services	CPR	153994.534610	319478.741912	4455	Exeter	Wolf Rocks Road	Local	Chipuxet River	box culvert	concrete
CPR-CHP-0-5	X	Field Geology Services	CPR	158329.696603	321132.646681	4509	Exeter	Yawgoo Valley Road	Local	Chipuxet River	circular conduit	concrete
CPR-CHP-0-6	X	Field Geology Services	CPR	159302.041396	321504.683247	4548	Exeter	Dorset Mill Road	State	Chipuxet River	box culvert	concrete
CPR-CHP-0-7	X	Fuss & O'Neill	CPR	160749.470720	322591.714006	4554	Exeter	Liberty Road	State	Chipuxet River	bridge	concrete
CPR-CHP-0-8	X	Fuss & O'Neill	CPR	162862.106770	323315.862184	4721	North Kingstown	Indian Corner Road	State	Chipuxet River	box culvert	concrete
CPR-CHP-2-1-1	X	Fuss & O'Neill	CPR	152872.639561	320012.965043	4469	South Kingstown	Plains Road	Local	Unnamed	box culvert	stone masonry
CPR-CHP-2-2	X	Fuss & O'Neill	CPR	152477.284617	320036.091294	4470	South Kingstown	Plains Road	Local	Unnamed	box culvert	stone masonry
CPR-CHP-2-2-1	X	Fuss & O'Neill	CPR	153054.863292	320446.744982	4514	South Kingstown	Stony Fort Road	Local	Unnamed	circular conduit	concrete
CPR-CHP-5-1-2-1	X	Fuss & O'Neill	CPR	155643.232189	325164.158263	4298	North Kingstown	Kayka Ricci Way	State	Drainage Ditch	circular conduit	concrete
CPR-CHP-5-2	X	Fuss & O'Neill	CPR	159220.087849	324035.829511	4328	North Kingstown	Slocum Road	State	Unnamed	box culvert	concrete
CPR-CHP-5-2-1	X	Fuss & O'Neill	CPR	161136.342573	327312.228625	4490	North Kingstown	Sylvan Court	Local	Unnamed	box culvert	concrete
CPR-CHP-5-2-2	X	Fuss & O'Neill	CPR	159723.518747	326717.291590	4364	North Kingstown	Glen Hill Road	Local	Unnamed	circular conduit	concrete
CPR-CHP-5-3-1	X	Fuss & O'Neill	CPR	161179.415605	327635.342199	4823	North Kingstown	Explorer Drive	Local	Unnamed	box culvert	concrete
CPR-CHP-6-1	X	Fuss & O'Neill	CPR	162873.933337	319523.848530	4676	Exeter	Liberty Road	Local	Unnamed	circular conduit	HDPE
CPR-CHP-7-1	X	Fuss & O'Neill	CPR	167655.146625	318361.671548	4742	Exeter	South County Trail	State	Unnamed	box culvert	concrete
CPR-CHP-7-2	X	Fuss & O'Neill	CPR	165688.932051	316507.452907	9018	Exeter	Deer Brook Lane	Local	Unnamed	circular conduit	concrete
CPR-CHP-7-3	X	Fuss & O'Neill	CPR	164165.413846	314922.176759	4782	Exeter	Mail Road	Local	Unnamed	circular conduit	concrete
CPR-FOUND-20151012	X	Field Geology Services	CPR	166106.985336	322493.910303	9044	South Kingstown	Trail	Trail	Chipuxet River	bridge	concrete
CPR-MIN-0-1	X	Fuss & O'Neill	CPR	127543.500985	312514.832602	4274	South Kingstown	Ministerial Road	State	Mink Brook	circular conduit	concrete
CPR-WHB-0-1	X	Fuss & O'Neill	CPR	138350.259051	313106.073880	4160	South Kingstown	Ministerial Road	State	White Horn Brook	box culvert	concrete
CPR-WHB-0-2	X	Fuss & O'Neill	CPR	139819.600885	314674.847246	5083	South Kingstown	Bike Path	Trail (Bike Path)	White Horn Brook	bridge	concrete
CPR-WHB-2-1	X	Fuss & O'Neill	CPR	144378.891542	317531.758463	9014	South Kingstown	Peckham Farm Road	Local	Unnamed	circular conduit	concrete
CPR-WHB-2-2	X	Fuss & O'Neill	CPR	145317.248930	318098.342503	4385	South Kingstown	Kingstown Road	State	Unnamed	bridge	concrete

List of Bridges and Culverts in the Wood-Pawcatuck Watershed Selected for Assessment

Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
CPR-WHB-2-3	X	Fuss & O'Neill	CPR	145585.488764	318347.730685	9013	South Kingstown	Walking Path	Trail	Unnamed	bridge	concrete
CPR-WHB-2-4	X	Fuss & O'Neill	CPR	145922.859854	318551.286615	4333	South Kingstown	Fraternity Road	Local	Unnamed	box culvert	concrete
CPR-WHB-2-5	X	Fuss & O'Neill	CPR	146193.127653	318625.508463	9015	South Kingstown	Walking Path	Trail	Unnamed	box culvert	concrete
CPR-WHB-2-6	X	Fuss & O'Neill	CPR	146679.238764	318738.355685	9016	South Kingstown	Walking Path	Trail	Unnamed	box culvert	concrete
CPR-WHB-2-7	X	Fuss & O'Neill	CPR	147095.905431	318807.800130	9017	South Kingstown	Walking Path	Trail	Unnamed	box culvert	concrete
CPR-WHB-2-8	X	Fuss & O'Neill	CPR	147672.175053	318856.008444	4462	South Kingstown	Plains Road	Local	Unnamed	circular conduit	concrete
CPR-WHB-2-9	X	Fuss & O'Neill	CPR	148620.583352	319098.152513	4603	South Kingstown	Flagg Road	Local	Unnamed	circular conduit	concrete
LPR-MAS-0-1	X	Fuss & O'Neill	LPR	94885.165547	239472.023844	731	Westerly	Watch Hill Road	State	Mastuxet Brook	circular conduit	concrete
LPR-MAS-1-1	X	Fuss & O'Neill	LPR	98075.194976	242726.306533	954	Westerly	Watch Hill Road	State	Unnamed	arched conduit	concrete
LPR-PAW-0-1	X	Fuss & O'Neill	LPR	107454.747443	237128.999975	9	Westerly	Broad Street	State	Pawcatuck River	bridge	concrete
LPR-PAW-0-2	X	Field Geology Services	LPR	108213.616358	237016.727727	5309	Westerly	Railroad	Railroad	Pawcatuck River	bridge	concrete
LPR-PAW-0-3	X	Field Geology Services	LPR	110185.938881	236706.714565	557	Westerly	Stillman Avenue	Local	Pawcatuck River	bridge	concrete
LPR-PAW-0-4	X	Field Geology Services	LPR	113397.456169	234509.803590	4	Westerly	Westerly Bypass	Local	Pawcatuck River	bridge	concrete
LPR-PAW-0-5	X	Field Geology Services	LPR	114657.985676	234239.881603	486	Westerly	White Rock Road	Local	Pawcatuck River	bridge	stone masonry
LPR-PAW-0-6	X	Field Geology Services	LPR	121927.907294	239369.777036	69	Westerly	Boom Bridge Road	Local	Pawcatuck River	bridge	concrete
LPR-PAW-0-7	X	Field Geology Services	LPR	121346.074234	245994.022658	478	Westerly	Post Office Lane	Local	Pawcatuck River	bridge	stone masonry
LPR-PAW-12-1	X	Fuss & O'Neill	LPR	122984.785249	239817.877123	66	North Stonington	Boom Bridge Road	Local	Unnamed	bridge	stone masonry
LPR-PAW-12-1-1	X	Fuss & O'Neill	LPR	126422.586083	241967.840671	68	North Stonington	Boom Bridge Road	Local	Unnamed	circular conduit	CMP
LPR-PAW-13-1	X	Fuss & O'Neill	LPR	124617.321079	243656.552820	395	North Stonington	Anthony Road	Local	Unnamed	circular conduit	stone masonry
LPR-PAW-5-1	X	Fuss & O'Neill	LPR	109903.941306	234274.982143	91	Westerly	West Arch Street	Local	Unnamed	circular conduit	concrete
LPR-PAW-7-1	X	Fuss & O'Neill	LPR	114160.983410	235027.135016	1520	Westerly	White Rock Road	Local	Unnamed	circular conduit	concrete
LPR-PAW-7-1-1	X	Fuss & O'Neill	LPR	116211.892577	236489.260034	1972	Westerly	Spring Brook Road	Local	Unnamed	box culvert	stone masonry
LPR-PAW-7-2	X	Fuss & O'Neill	LPR	115909.977034	239521.007464	1906	Westerly	Boom Bridge Road	Local	Unnamed	arched conduit	stone masonry
LPR-PAW-7-2-1	X	Fuss & O'Neill	LPR	116517.397698	237292.318240	1971	Westerly	Spring Brook Road	Local	Unnamed	bridge	concrete
LPR-PAW-8-2	X	Fuss & O'Neill	LPR	114492.651402	232441.065815	9003	Westerly	Timber Ridge Road	Local	Unnamed	circular conduit	concrete
LPR-PAW-8-3	X	Fuss & O'Neill	LPR	114610.644938	231722.992425	319	Westerly	Somerset Drive	Local	Unnamed	circular conduit	concrete
LPR-PAW-8-4	X	Fuss & O'Neill	LPR	114386.412513	231030.774457	318	Westerly	Canterbury Lane	Local	Unnamed	circular conduit	concrete
LPR-PAW-8-5	X	Fuss & O'Neill	LPR	114235.459643	230559.257846	320	Westerly	Fairview Drive	Local	Unnamed	circular conduit	concrete
LPR-PAW-8-6	X	Fuss & O'Neill	LPR	114453.006186	230125.819525	551	Westerly	Elmridge Avenue	Local	Unnamed	box culvert	stone masonry
LPR-PAW-9-1	X	Fuss & O'Neill	LPR	118632.148529	233493.724267	333	North Stonington	Voluntown Road	Local	Unnamed	circular conduit	concrete
LWR-BRU-0-1	X	Fuss & O'Neill	LWR	154702.563326	268914.652055	3246	Hopkinton	Nooseneck Road	State	Brushy Brook	bridge	concrete
LWR-BRU-0-2	X	Fuss & O'Neill	LWR	162381.823126	263396.615436	2530	Hopkinton	Sawmill Road	Local	Brushy Brook	circular conduit	concrete
LWR-BRU-0-3	X	Fuss & O'Neill	LWR	163671.010237	261362.349181	2788	Hopkinton	Dye Hill Road	Local	Brushy Brook	circular conduit	concrete
LWR-BRU-0-4	X	Fuss & O'Neill	LWR	164442.992041	260176.738358	2603	Hopkinton	Woody Hill Road	Local	Brushy Brook	bridge	concrete
LWR-BRU-2-1	X	Fuss & O'Neill	LWR	157122.425719	267445.226738	2577	Hopkinton	Harningstuns Crossing	Local	Unnamed	bridge	concrete
LWR-BRU-2-2	X	Fuss & O'Neill	LWR	156679.148697	267031.889085	2776	Hopkinton	Harningstuns Crossing	State	Unnamed	circular conduit	concrete
LWR-BRU-3-1	X	Fuss & O'Neill	LWR	161259.909890	266291.557155	9023	Hopkinton	Fairview Avenue	Local	Unnamed	circular conduit	concrete
LWR-BRU-3-2	X	Fuss & O'Neill	LWR	163002.535266	265812.001602	2685	Hopkinton	Dye Hill Road	Local	Unnamed	box culvert	concrete
LWR-BRU-5-1	X	Fuss & O'Neill	LWR	162109.435158	264132.128033	2647	Hopkinton	Pleasant View Drive	Local	Unnamed	box culvert	concrete
LWR-BRU-5-2	X	Fuss & O'Neill	LWR	162914.862697	264349.590720	2686	Hopkinton	Dye Hill Road	Local	Unnamed	circular conduit	HDPE
LWR-BRU-5-3	X	Fuss & O'Neill	LWR	163297.573537	263959.829536	2787	Hopkinton	Stone Bridge Way	Local	Unnamed	box culvert	concrete
LWR-BRU-6-1	X	Fuss & O'Neill	LWR	163257.030815	262651.712030	2791	Hopkinton	Dye Hill Road	Local	Unnamed	circular conduit	concrete
LWR-CAN-0-1	X	Fuss & O'Neill	LWR	141941.764529	265359.552754	2173	Hopkinton	Wicasta Farm Drive	Local	Canonchet Brook	bridge	timber
LWR-CAN-0-2	X	Fuss & O'Neill	LWR	143740.846484	265227.722657	2699	Hopkinton	Woodville Alton Road	Local	Canonchet Brook	bridge	concrete

List of Bridges and Culverts in the Wood-Pawcatuck Watershed Selected for Assessment

Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
LWR-CAN-0-3	X	Fuss & O'Neill	LWR	143935.563477	263802.318989	2713	Hopkinton	Woodlawn Drive	Local	Canonchet Brook	circular conduit	concrete
LWR-CAN-0-5	X	Fuss & O'Neill	LWR	145551.508189	260571.838235	2520	Hopkinton	Nooseneck Hill Road	State	Canonchet Brook	bridge	concrete
LWR-CAN-0-6	X	Fuss & O'Neill	LWR	146243.294075	257500.679639	2663	Hopkinton	Lawton Foster Road	Local	Canonchet Brook	circular conduit	concrete
LWR-CAN-1-1	X	Fuss & O'Neill	LWR	144979.778103	265013.437688	2719	Hopkinton	Palmer Circle	Local	Unnamed	circular conduit	concrete
LWR-CAN-3-2-1	X	Fuss & O'Neill	LWR	150070.372611	259704.115348	2789	Hopkinton	Marshall Driftway	Local	Unnamed	box culvert	HDPE
LWR-CAN-3-2-1-1	X	Fuss & O'Neill	LWR	151747.895810	259279.068926	2612	Hopkinton	Canonchet Road	Local	Unnamed	circular conduit	CMP
LWR-CAN-3-3-1	X	Fuss & O'Neill	LWR	149859.711991	259216.292400	2660	Hopkinton	Cannonchet Road	Local	Unnamed	circular conduit	concrete
LWR-DIA-0-1	X	Fuss & O'Neill	LWR	144762.667029	270980.555846	3297	Richmond	Switch Road	State	Diamond Brook	circular conduit	CMP
LWR-DIA-0-2	X	Fuss & O'Neill	LWR	145519.974728	272249.154742	2888	Richmond	Shippee Trail Road	Local	Diamond Brook	circular conduit	CMP
LWR-DIA-0-3	X	Fuss & O'Neill	LWR	147467.391536	272622.684822	3365	Richmond	Kenyon Hill Trail	Local	Diamond Brook	circular conduit	concrete
LWR-FOUND-20150625	X	Fuss & O'Neill	LWR	4596484.90000	270715.600000	9045	Hopkinton	Cannonchet Road	Local	Unnamed	box culvert	concrete
LWR-FOUND-20150722	X	Fuss & O'Neill	LWR	4600949.00000	271722.400000	9046	Hopkinton	Sawmill Road	Local	Moscow Brook	circular conduit	concrete
LWR-MOS-0-1	X	Fuss & O'Neill	LWR	161822.787990	263373.102329	2531	Hopkinton	Sawmill Road	Local	Moscow Brook	bridge	concrete
LWR-MOS-0-10	X	Fuss & O'Neill	LWR	166707.824423	253020.054173	2767	Hopkinton	Spring Street	State	Moscow Brook	bridge	concrete
LWR-MOS-0-2	X	Fuss & O'Neill	LWR	160539.884250	261878.898902	2671	Hopkinton	Woody Hill Road	Local	Moscow Brook	bridge	stone masonry
LWR-MOS-0-3	X	Fuss & O'Neill	LWR	160502.683864	259306.527084	2762	Hopkinton	Dye Hill Road	Local	Moscow Brook	circular conduit	concrete
LWR-MOS-0-5	X	Fuss & O'Neill	LWR	159363.544611	256590.533436	2666	Hopkinton	Canonchet Road	Local	Moscow Brook	circular conduit	concrete
LWR-MOS-0-6	X	Fuss & O'Neill	LWR	159362.076061	256478.141316	2715	Hopkinton	Wincheck Pond Road	Local	Moscow Brook	box culvert	concrete
LWR-MOS-0-7	X	Fuss & O'Neill	LWR	160367.640466	255217.315401	2755	Hopkinton	Camp Yawgoog Road	State	Moscow Brook	circular conduit	CMP
LWR-MOS-0-8	X	Fuss & O'Neill	LWR	160962.446804	255355.871885	2763	Hopkinton	Spring Street	State	Moscow Brook	circular conduit	concrete
LWR-MOS-0-9	X	Fuss & O'Neill	LWR	166520.401516	253593.278487	2597	Hopkinton	Grassy Pond Road	Local	Moscow Brook	circular conduit	concrete
LWR-MOS-2-1	X	Fuss & O'Neill	LWR	159663.329917	257721.978759	2591	Hopkinton	Spring Street	State	Unnamed	bridge	concrete
LWR-MOS-3-1	X	Fuss & O'Neill	LWR	166761.007324	253969.495104	2598	Hopkinton	Grassy Pond Road	Local	Long House Brook	circular conduit	concrete
LWR-MOS-4-1	X	Fuss & O'Neill	LWR	161351.732080	247429.542910	518	Hopkinton	Camp Yawgoog Road	Local	Unnamed	bridge	stone masonry
LWR-MOS-4-1-1	X	Fuss & O'Neill	LWR	161336.039652	249050.662252	2661	Hopkinton	Camp Yawgoog Road	Local	Unnamed	circular conduit	concrete
LWR-WOR-0-1	X	Field Geology Services	LWR	129215.365621	267152.938841	2088	Hopkinton	Alton Bradford Road	State	Wood River	bridge	concrete
LWR-WOR-0-2	X	Field Geology Services	LWR	137371.813765	268147.339001	2157	Hopkinton	Woodville Road	State	Wood River	bridge	concrete
LWR-WOR-0-3	X	Field Geology Services	LWR	148737.623909	269088.400903	3244	Richmond	Switch Road	State	Wood River	bridge	concrete
LWR-WOR-0-4	X	Field Geology Services	LWR	150110.694432	268897.449779	2861	Richmond	Interstate 95	Highway	Wood River	bridge	concrete
LWR-WOR-0-5	X	Field Geology Services	LWR	152909.287782	268840.513210	2822	Richmond	Old Switch Road	State	Wood River	bridge	stone masonry
LWR-WOR-1-1	X	Fuss & O'Neill	LWR	129203.341491	266877.224735	2190	Hopkinton	Church Street	State	Unnamed	bridge	concrete
LWR-WOR-1-2	X	Fuss & O'Neill	LWR	129378.675345	266698.366923	2079	Richmond	Woodville Alton Road	Local	Unnamed	circular conduit	concrete
LWR-WOR-2-1	X	Field Geology Services	LWR	129233.149599	267510.645751	2143	Richmond	Church Street	State	Unnamed	bridge	concrete
LWR-WOR-4-1	X	Fuss & O'Neill	LWR	136341.125640	268306.395788	2166	Hopkinton	Crowthor Road	Local	Unnamed	circular conduit	CMP
LWR-WOR-4-2	X	Fuss & O'Neill	LWR	136862.806901	266308.099744	2167	Hopkinton	Woodville Road	State	Unnamed	circular conduit	concrete
LWR-WOR-4-3	X	Fuss & O'Neill	LWR	137029.418821	265998.705082	2110	Hopkinton	Woodville Road	State	Unnamed	circular conduit	concrete
LWR-WOR-5-1	X	Field Geology Services	LWR	137225.528346	268124.573815	2156	Hopkinton	Woodville Road	State	Unnamed	bridge	concrete
LWR-WOR-6-1-1	X	Fuss & O'Neill	LWR	138115.903455	266100.769386	2171	Hopkinton	Woodville Alton Road	Local	Unnamed	circular conduit	concrete
LWR-WOR-8-1	X	Fuss & O'Neill	LWR	148287.070692	268484.687197	2677	Hopkinton	Graniteville Road	Local	Unnamed	circular conduit	CMP
LWR-WOR-9-2	X	Fuss & O'Neill	LWR	153119.674692	267428.836700	2626	Hopkinton	Noseneek Hill Road	State	Unnamed	box culvert	stone masonry
MPR-ISO-NE	X	Fuss & O'Neill	MPR	103586.186581	256094.872562	2270	Westerly	Moorehouse Road	Local	Unnamed	box culvert	HDPE
MPR-ISO-SE	X	Fuss & O'Neill	MPR	99721.613872	257421.994795	1256	Westerly	South Woody Trail Road	Local	Unnamed	bridge	stone masonry
MPR-MCG-0-1	X	Fuss & O'Neill	MPR	110204.769929	252301.306551	5275	Westerly	Railroad	Railroad	McGowan Brook	bridge	concrete
MPR-MCG-0-2	X	Fuss & O'Neill	MPR	108458.536126	252470.370328	2416	Westerly	Westerly-Bradford Road	State	McGowan Brook	bridge	concrete

List of Bridges and Culverts in the Wood-Pawcatuck Watershed Selected for Assessment

Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
MPR-MCG-1-1	X	Fuss & O'Neill	MPR	108032.846481	255130.453851	2343	Westerly	Westerly-Bradford Road	State	McGowan Brook	circular conduit	CMP
MPR-MCG-1-2	X	Fuss & O'Neill	MPR	111013.694291	256942.363006	2432	Westerly	Bradford Road	State	McGowan Brook	arched conduit	concrete
MPR-MIL-0-1	X	Fuss & O'Neill	MPR	120895.073761	246946.964596	1765	Hopkinton	Laurel Hill Road	State	Mile Brook	arched conduit	concrete
MPR-MIL-0-2	X	Fuss & O'Neill	MPR	121435.189393	248309.257757	1995	Hopkinton	Main Street	State	Mile Brook	box culvert	concrete
MPR-MIL-0-3	X	Fuss & O'Neill	MPR	123253.203208	251260.507778	2209	Hopkinton	Ashaway Road	State	Mile Brook	circular conduit	concrete
MPR-MIL-1-2	X	Fuss & O'Neill	MPR	124192.747046	251221.150665	2186	Hopkinton	Ashaway Road	State	Mile Brook	box culvert	concrete
MPR-PAW-0-10	X	Field Geology Services	MPR	118202.836998	259958.542806	2401	Hopkinton	Alton Bradford Road	State	Pawcatuck River	bridge	concrete
MPR-PAW-0-11	X	Field Geology Services	MPR	116330.179952	260969.243578	5272	Westerly	Railroad	Railroad	Pawcatuck River	bridge	concrete
MPR-PAW-0-12	X	Field Geology Services	MPR	119179.536282	265703.626410	5271	Hopkinton	Railroad	Railroad	Pawcatuck River	bridge	concrete
MPR-PAW-0-13	X	Fuss & O'Neill	MPR	121368.054384	265274.641991	2378	Hopkinton	Burdickville Road	Local	Pawcatuck River	bridge	concrete
MPR-PAW-0-8	X	Fuss & O'Neill	MPR	120538.287488	246585.274943	1419	Westerly	Potter Hill Road	State	Pawcatuck River	bridge	concrete
MPR-PAW-0-9	X	Fuss & O'Neill	MPR	115307.568529	245827.099107	1494	Hopkinton	Main Street	State	Pawcatuck River	bridge	concrete
MPR-PAW-16-1	X	Fuss & O'Neill	MPR	115847.729980	245350.606965	1378	Westerly	Hiscox Road	Local	Unnamed	circular conduit	concrete
MPR-PAW-16-1-1	X	Fuss & O'Neill	MPR	116476.314927	244199.285262	9001	Westerly	Potter Hill Road	State	Unnamed	circular conduit	CMP
MPR-PAW-16-2	X	Fuss & O'Neill	MPR	116029.485979	244375.148602	1873	Westerly	Forrestal Drive	Local	Unnamed	circular conduit	concrete
MPR-PAW-16-6	X	Fuss & O'Neill	MPR	116316.968094	242008.266318	9000	Westerly	Berry Road	Local	Unnamed	circular conduit	CMP
MPR-PAW-17-1	X	Fuss & O'Neill	MPR	114318.704441	248821.028952	9006	Hopkinton	Naragansett Way	Local	Unnamed	circular conduit	concrete
MPR-PAW-18-1	X	Fuss & O'Neill	MPR	110021.514552	248315.307172	5277	Westerly	Railroad	Railroad	Unnamed	arched conduit	concrete
MPR-PAW-18-1-1	X	Fuss & O'Neill	MPR	109886.990916	247890.974458	1427	Westerly	Bradford Road	State	Unnamed	arched conduit	concrete
MPR-PAW-18-2	X	Fuss & O'Neill	MPR	109871.791775	248297.583346	1428	Westerly	Bradford Road	State	Unnamed	bridge	stone masonry
MPR-PAW-18-3	X	Fuss & O'Neill	MPR	108510.767022	245152.206984	1783	Westerly	Larry Hirsch Lane	Local	Unnamed	bridge	stone masonry
MPR-PAW-23-1-1	X	Fuss & O'Neill	MPR	113521.620922	262545.649777	2329	Westerly	Church Street	State	Unnamed	box culvert	concrete
MPR-PAW-23-1-2	X	Fuss & O'Neill	MPR	113050.259700	262058.809370	2452	Westerly	Vars Road	Local	Unnamed	circular conduit	concrete
MPR-PAW-24-1	X	Fuss & O'Neill	MPR	112170.484072	263926.978122	2444	Westerly	Ross Hill Road	State	Unnamed	circular conduit	concrete
MPR-PAW-26-2-1	X	Fuss & O'Neill	MPR	122557.929730	267625.718825	3665	Charlestown	Burdickville Road	Local	Unnamed	circular conduit	concrete
MPR-PAW-FOUND-20150624	X	Fuss & O'Neill	MPR	4585272.20000	267324.300000	9047	Westerly	Railroad	Railroad	Unnamed	circular conduit	concrete
MPR-PER-0-1	X	Fuss & O'Neill	MPR	106280.966621	268781.170265	3699	Charlestown	Klondike Road	Local	Perry Healy Brook	box culvert	concrete
MPR-PER-0-2	X	Fuss & O'Neill	MPR	107524.224622	265593.615901	2272	Charlestown	Ross Hill Road	State	Perry Healy Brook	circular conduit	CMP
MPR-PER-0-3	X	Fuss & O'Neill	MPR	107028.914083	262678.942610	2402	Westerly	Ross Hill Road	State	Perry Healy Brook	circular conduit	CMP
MPR-PER-3-1-1	X	Fuss & O'Neill	MPR	105738.815099	265132.392240	2404	Charlestown	Burdickville Road	Local	Unnamed	circular conduit	concrete
MPR-POQ-0-1	X	Fuss & O'Neill	MPR	114029.515340	270955.392346	3623	Charlestown	Buckeye Brook Road	Local	Poquiant Brook	circular conduit	concrete
MPR-POQ-1-2	X	Fuss & O'Neill	MPR	118081.556983	270446.793258	3593	Charlestown	Burlingame State Park - Mgmt Area	State	Unnamed	circular conduit	concrete
MPR-POQ-1-3	X	Fuss & O'Neill	MPR	119020.675758	271643.116080	3629	Charlestown	Burlingame State Park - Mgmt Area	State	Unnamed	circular conduit	concrete
MPR-TOM-0-1	X	Fuss & O'Neill	MPR	119450.347706	255715.686707	2274	Hopkinton	Chase Hill Road	State	Tomaquag Brook	bridge	stone masonry
MPR-TOM-0-2	X	Fuss & O'Neill	MPR	122264.546209	255823.128199	2323	Hopkinton	Diamond Hill Road	Local	Tomaquag Brook	bridge	stone masonry
MPR-TOM-0-3	X	Fuss & O'Neill	MPR	125465.954377	256662.554956	2076	Hopkinton	Diamond Hill Road	Local	Tomaquag Brook	circular conduit	concrete
MPR-TOM-0-4	X	Fuss & O'Neill	MPR	130971.377130	255628.333895	2078	Hopkinton	Collins Road	Local	Tomaquag Brook	circular conduit	concrete
MPR-TOM-0-7	X	Fuss & O'Neill	MPR	138699.353796	252414.007067	2117	Hopkinton	Nooseneck Road	State	Tomaquag Brook	circular conduit	concrete
MPR-TOM-1-1	X	Fuss & O'Neill	MPR	119882.148467	258119.743153	2476	Hopkinton	Tomaquag Road	Local	Unnamed	box culvert	concrete
MPR-TOM-1-3	X	Fuss & O'Neill	MPR	120243.094003	259246.698421	2475	Hopkinton	Vuono Road	Local	Unnamed	circular conduit	HDPE
MPR-TOM-3-1	X	Fuss & O'Neill	MPR	131144.100547	256659.918186	2077	Hopkinton	Collins Road	Local	Unnamed	bridge	concrete
MPR-TOM-3-1-1	X	Fuss & O'Neill	MPR	137525.675220	255614.646940	2261	Hopkinton	Clarks Falls Road	State	Unnamed	circular conduit	concrete
MPR-TOM-3-2	X	Fuss & O'Neill	MPR	137645.561102	257848.950280	2262	Hopkinton	Clarks Falls Road	State	Unnamed	box culvert	concrete
MPR-TOM-3-4-1	X	Fuss & O'Neill	MPR	142849.789782	257579.370497	2138	Hopkinton	Noonseck Hill Road	State	Unnamed	box culvert	stone masonry

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MPR-TOM-3-5-1	X	Fuss & O'Neill	MPR	141851.756272	256485.430924	2139	Hopkinton	Nooseneck Road	State	Unnamed	box culvert	concrete
MPR-TOM-3-5-2	X	Fuss & O'Neill	MPR	142957.895138	255322.439279	2786	Hopkinton	Walton Forester Road	State	Unnamed	circular conduit	concrete
MPR-TOM-FOUND-20150610	X	Fuss & O'Neill	MPR	4588100.700000	268985.600000	9048	Hopkinton	Ashaway Road	State	Tomaquag Brook	box culvert	concrete
MPR-TYD-0-1	X	Fuss & O'Neill	MPR	103262.795179	269759.484493	1279	Charlestown	Klondike Road	Local	Tanyard Brook	circular conduit	concrete
QUR-DUT-0-1	X	Fuss & O'Neill	QUR	178217.581975	308420.743255	4725	Exeter	Hallville Road	Local	Dutemple Brook	circular conduit	concrete
QUR-DUT-0-2	X	Fuss & O'Neill	QUR	180869.125196	305506.798121	3326	Exeter	Ten Rod Road	State	Dutemple Brook	box culvert	concrete
QUR-DUT-0-3	X	Fuss & O'Neill	QUR	183007.984715	304200.836384	4942	Exeter	Widow Sweets Road	Local	Dutemple Brook	circular conduit	concrete
QUR-FIS-0-1	X	Fuss & O'Neill	QUR	180965.492734	308923.921103	4796	Exeter	Ten Rod Road	State	Fisherville Brook	bridge	concrete
QUR-FIS-0-2	X	Fuss & O'Neill	QUR	184234.844413	307966.723068	5058	Exeter	Pardon Joslin Road	Local	Fisherville Brook	circular conduit	concrete
QUR-FIS-0-3	X	Fuss & O'Neill	QUR	191723.272487	303492.591619	5056	West Greenwich	Henry Brown Road	Local	Fisherville Brook	circular conduit	CMP
QUR-FIS-3-1	X	Fuss & O'Neill	QUR	192949.584166	308309.389938	5057	West Greenwich	Henry Brown Road	Local	Unnamed	circular conduit	concrete
QUR-FIS-3-2	X	Fuss & O'Neill	QUR	193085.055715	308797.008885	9033	West Greenwich	Shetucket Turnpike	Local	Unnamed	circular conduit	concrete
QUR-FOUND-20150810	X	Fuss & O'Neill	QUR	4598096.10000	282037.500000	9049	Exeter	Punchbowl Road	Local	Unnamed	circular conduit	concrete
QUR-GLE-0-1	X	Fuss & O'Neill	QUR	157856.451175	299184.954058	3285	South Kingstown	Glen Rock Road	Local	Glen Rock Brook	circular conduit	concrete
QUR-GLE-0-2	X	Fuss & O'Neill	QUR	159920.699909	297299.597170	3181	Richmond	Gardiner Road	Local	Glen Rock Brook	box culvert	concrete
QUR-GLE-2-1-1	X	Fuss & O'Neill	QUR	158838.767870	294844.176687	2910	Richmond	James Trail	Local	Unnamed	circular conduit	HDPE
QUR-GLE-2-2-1	X	Fuss & O'Neill	QUR	159093.116639	293419.912300	2911	Richmond	James Trail	Local	Unnamed	circular conduit	cement
QUR-GLE-2-3-1	X	Fuss & O'Neill	QUR	160073.911284	292610.435481	3129	Richmond	James Trail	Local	Unnamed	circular conduit	CMP
QUR-ISO-E	X	Fuss & O'Neill	QUR	152680.741874	303610.889074	2877	South Kingstown	Jingle Valley Road	Local	Unnamed	circular conduit	concrete
QUR-ISO-M	X	Fuss & O'Neill	QUR	152535.966853	303431.589566	2876	South Kingstown	Jingle Valley Road	Local	Unnamed	circular conduit	concrete
QUR-ISO-W	X	Fuss & O'Neill	QUR	152275.043797	303001.562602	2980	South Kingstown	Kingstown Road	State	Unnamed	circular conduit	concrete
QUR-LOC-0-1	X	Fuss & O'Neill	QUR	165424.439573	304138.246926	3252	Exeter	Mail Road	Local	Locke Brook	circular conduit	concrete
QUR-LOC-0-2	X	Fuss & O'Neill	QUR	173345.482028	299434.301376	3228	Exeter	Tripps Corner Road	Local	Locke Brook	bridge	concrete
QUR-LOC-0-3	X	Fuss & O'Neill	QUR	175895.954168	295064.391178	3419	Exeter	Gardiner Road	Local	Locke Brook	circular conduit	concrete
QUR-QFB-0-1	X	Fuss & O'Neill	QUR	169598.076691	315831.487015	4740	Exeter	Ladd Drive	Local	Queens Fort Brook	bridge	concrete
QUR-QFB-0-10	X	Fuss & O'Neill	QUR	177344.274297	320123.416121	4726	Exeter	Pinoak Drive	Local	Queens Fort Brook	circular conduit	concrete
QUR-QFB-0-11	X	Fuss & O'Neill	QUR	179357.725593	321218.235082	4751	Exeter	Ten Rod Road	State	Queens Fort Brook	box culvert	concrete
QUR-QFB-0-12	X	Fuss & O'Neill	QUR	185688.525141	321610.599142	5070	Exeter	Stony Lane	Local	Queens Fort Brook	circular conduit	concrete
QUR-QFB-0-2	X	Fuss & O'Neill	QUR	169566.379653	316088.238018	4686	Exeter	Main Street	Local	Queens Fort Brook	box culvert	concrete
QUR-QFB-0-9	X	Fuss & O'Neill	QUR	177039.233710	320116.010766	4780	Exeter	Tarbox Drive	Local	Queens Fort Brook	circular conduit	concrete
QUR-QFB-2-1	X	Fuss & O'Neill	QUR	181880.588091	319520.132018	5062	Exeter	Brook Ridge Drive	Local	Reuben Brown Brook	box culvert	concrete
QUR-QFB-2-2	X	Fuss & O'Neill	QUR	186114.548853	320100.862232	5071	Exeter	Stony Lane	Local	Reuben Brown Brook	circular conduit	concrete
QUR-QUR-0-3	X	Fuss & O'Neill	QUR	152743.244900	298574.808603	3040	Richmond	Old Usquepaug Road	State	Usquepaug River	bridge	concrete
QUR-QUR-0-4	X	Fuss & O'Neill	QUR	153117.274185	298353.810475	3183	Richmond	Old Usquepaug Road	State	Usquepaug River	bridge	concrete
QUR-QUR-0-5	X	Fuss & O'Neill	QUR	158120.807777	300610.488430	2986	South Kingstown	Dug Way Bridge Road	Local	Queen River	bridge	stone masonry
QUR-QUR-0-6	X	Field Geology Services	QUR	166049.604438	309293.723308	4768	Exeter	Mail Road	Local	Queen River	bridge	concrete
QUR-QUR-0-7	X	Fuss & O'Neill	QUR	174601.857499	314942.227753	4649	Exeter	William Reynolds Road	Local	Queen River	box culvert	concrete
QUR-QUR-0-8	X	Fuss & O'Neill	QUR	180432.763105	316339.022102	4636	Exeter	Ten Rod Road	State	Queen River	box culvert	concrete
QUR-QUR-0-9	X	Fuss & O'Neill	QUR	186044.565927	316219.670163	5081	Exeter	Stony Lane	Local	Queen River	circular conduit	concrete
QUR-QUR-10-1	X	Fuss & O'Neill	QUR	174465.932247	315505.968360	4650	Exeter	William Reynolds Road	Local	Unnamed	circular conduit	HDPE
QUR-QUR-1-1	X	Fuss & O'Neill	QUR	155424.192780	298461.050070	3378	South Kingstown	Glen Rock Road	Local	Unnamed	circular conduit	concrete
QUR-QUR-11-1	X	Fuss & O'Neill	QUR	179539.146125	313994.153893	4786	Exeter	Purgatory Road	Local	Unnamed	circular conduit	concrete
QUR-QUR-6-1	X	Fuss & O'Neill	QUR	166030.804393	306293.142197	2891	Exeter	Mail Road	Local	Unnamed	circular conduit	concrete
QUR-QUR-7-1	X	Fuss & O'Neill	QUR	169365.553798	307518.458926	2879	Exeter	Liberty Church Road	Local	Unnamed	circular conduit	concrete

List of Bridges and Culverts in the Wood-Pawcatuck Watershed Selected for Assessment

Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
QUR-SHE-0-1	X	Fuss & O'Neill	QUR	158314.450178	299455.331484	3287	South Kingstown	Glen Rock Road	Local	Sherman Brook	circular conduit	concrete
QUR-SHE-0-2	X	Fuss & O'Neill	QUR	166869.342452	298546.998640	2913	Exeter	Hog House Hill Road	Local	Sherman Brook	circular conduit	concrete
QUR-SOD-0-1	X	Fuss & O'Neill	QUR	175307.002644	310472.512387	4763	Exeter	Liberty Church Road	Local	Sodom Brook	bridge	concrete
QUR-SOD-0-2	X	Fuss & O'Neill	QUR	175867.210534	307763.095445	3078	Exeter	Hallville Road	Local	Sodom Brook	circular conduit	concrete
QUR-SOD-0-3	X	Fuss & O'Neill	QUR	180747.582473	300740.313243	3095	Exeter	Ten Rod Road	State	Sodom Brook	circular conduit	CMP
QUR-USQ-0-2	X	Fuss & O'Neill	QUR	143347.944134	299352.059742	2956	South Kingstown	South County Trail	State	Usquepaug River	bridge	concrete
SNR-ASS-0-1	X	Fuss & O'Neill	SNR	129671.532270	222830.033487	234	North Stonington	State Highway 2	State	Assekonk Brook	box culvert	concrete
SNR-ASS-0-2	X	Fuss & O'Neill	SNR	129840.834200	215580.577940	352	North Stonington	Jeremy Hill Road	Local	Assekonk Brook	circular conduit	concrete
SNR-ASS-0-3	X	Fuss & O'Neill	SNR	130114.213728	215185.197520	436	North Stonington	Mystic Road	Local	Assekonk Brook	bridge	concrete
SNR-ASS-1-1	X	Fuss & O'Neill	SNR	123096.361890	219938.943982	178	North Stonington	New London Turnpike	State	Unnamed	circular conduit	concrete
SNR-ASS-2-1	X	Fuss & O'Neill	SNR	131918.206859	217307.055690	36	North Stonington	Mystic Road	Local	Unnamed	circular conduit	concrete
SNR-ASS-4-1	X	Fuss & O'Neill	SNR	133560.130098	215021.085284	24	North Stonington	Wintechog Hill Road	Local	Unnamed	circular conduit	HDPE
SNR-ASS-5-1	X	Fuss & O'Neill	SNR	129585.580811	214158.386973	437	North Stonington	State Highway 201	State	Unnamed	circular conduit	concrete
SNR-PHE-0-1	X	Fuss & O'Neill	SNR	140095.371470	214415.133148	233	North Stonington	State Highway 2	State	Phelps Brook	bridge	concrete
SNR-SHU-0-1	X	Fuss & O'Neill	SNR	119183.508907	233493.463496	242	North Stonington	Pendleton Hill Road	Local	Shunock River	bridge	concrete
SNR-SHU-0-11	X	Fuss & O'Neill	SNR	133572.553370	220782.328960	280	North Stonington	Bicentennial Trail	Local	Shunock River	bridge	timber
SNR-SHU-0-12	X	Fuss & O'Neill	SNR	138145.231806	216059.689868	119	North Stonington	State Highway 201	State	Shunock River	bridge	concrete
SNR-SHU-0-13	X	Field Geology Services	SNR	138562.504344	215876.565282	201	North Stonington	Norwich-Westerly Road	State	Shunock River	bridge	stone masonry
SNR-SHU-0-5	X	Fuss & O'Neill	SNR	121917.755960	231275.730571	544	North Stonington	State Highway 617	State	Shunock River	bridge	concrete
SNR-SHU-0-6	X	Fuss & O'Neill	SNR	126681.535103	231614.945687	2	North Stonington	Surrey Lane	Local	Shunock River	bridge	concrete
SNR-SHU-0-8	X	Fuss & O'Neill	SNR	130556.182504	223584.794723	81	North Stonington	Main Street	Local	Shunock River	bridge	concrete
SNR-SHU-0-9	X	Fuss & O'Neill	SNR	130510.895203	223255.005017	439	North Stonington	Main Street	Local	Shunock River	bridge	stone masonry
SNR-SHU-10-1	X	Fuss & O'Neill	SNR	135669.702272	216618.887245	121	North Stonington	State Highway 201	State	Unnamed	circular conduit	concrete
SNR-SHU-1-1	X	Fuss & O'Neill	SNR	123549.779251	229581.544233	1	North Stonington	Norwich-Westerly Road	State	Unnamed	circular conduit	concrete
SNR-SHU-1-2	X	Fuss & O'Neill	SNR	124115.681422	228558.872993	540	North Stonington	Providence New London Turnpike	State	Unnamed	circular conduit	concrete
SNR-SHU-3-1	X	Fuss & O'Neill	SNR	129954.663186	230164.862880	534	North Stonington	Babcock Road	State	Unnamed	circular conduit	CMP
SNR-SHU-3-2	X	Fuss & O'Neill	SNR	132856.433887	230640.439187	466	North Stonington	Reutemann Road	Local	Unnamed	circular conduit	concrete
SNR-SHU-4-1	X	Fuss & O'Neill	SNR	130600.699540	226850.376459	536	North Stonington	Babcock Road	State	Unnamed	circular conduit	concrete
SNR-SHU-4-1-3	X	Fuss & O'Neill	SNR	133883.633223	227404.976657	464	North Stonington	Reutemann Road	Local	Unnamed	circular conduit	CMP
SNR-SHU-4-3	X	Fuss & O'Neill	SNR	134110.511204	226787.995883	467	North Stonington	Reutemann Road	Local	Unnamed	circular conduit	CMP
SNR-SHU-6-3	X	Fuss & O'Neill	SNR	134212.465860	216982.302238	198	North Stonington	Mains Crossing	Local	Unnamed	circular conduit	concrete
SNR-SHU-7-1	X	Fuss & O'Neill	SNR	134296.548435	223429.657544	157	North Stonington	Wyassup Road	Local	Unnamed	circular conduit	CMP
SNR-SHU-7-1-1	X	Fuss & O'Neill	SNR	134555.347077	223437.968378	158	North Stonington	Wyassup Road	Local	Unnamed	circular conduit	CMP
SNR-SHU-7-1-2	X	Fuss & O'Neill	SNR	136233.427546	223336.120434	346	North Stonington	Chester Main Road	Local	Unnamed	circular conduit	CMP
SNR-SHU-7-2	X	Fuss & O'Neill	SNR	134394.583656	223639.192834	465	North Stonington	Reutemann Road	Local	Unnamed	circular conduit	concrete
SNR-SHU-8-1	X	Fuss & O'Neill	SNR	135338.580615	221387.791039	504	North Stonington	Ryder Road	Local	Unnamed	circular conduit	concrete
SNR-YAW-0-1	X	Fuss & O'Neill	SNR	137489.089727	217637.092190	503	North Stonington	Ryder Road	Local	Yawbucs Brook	circular conduit	CMP
SNR-YAW-0-2	X	Fuss & O'Neill	SNR	139311.717412	219899.862864	435	North Stonington	Yawbux Valley Road	Local	Yawbucs Brook	circular conduit	CMP
SNR-YAW-1-1	X	Fuss & O'Neill	SNR	139285.707771	220432.129385	434	North Stonington	Yawbux Valley Road	Local	Unnamed	circular conduit	CMP
UPR-CED-0-1	X	Fuss & O'Neill	UPR	125282.496835	274614.336921	3843	Charlestown	New Kings Factory Road	Local	Cedar Swamp Brook	circular conduit	concrete
UPR-CED-0-2	X	Fuss & O'Neill	UPR	126411.560153	282777.313462	3871	Charlestown	Saw Mill Road	Local	Cedar Swamp Brook	box culvert	concrete
UPR-CED-1-1	X	Fuss & O'Neill	UPR	125001.767345	274152.480841	3751	Charlestown	Shumankauac Hill Road	Local	Unnamed	circular conduit	concrete
UPR-CED-3-1	X	Fuss & O'Neill	UPR	120668.442368	276416.872913	3599	Charlestown	New Kings Factory Road	Local	Unnamed	circular conduit	concrete
UPR-CED-6-1	X	Fuss & O'Neill	UPR	123225.181351	283756.064148	3680	Charlestown	Saw Mill Road	Local	Unnamed	circular conduit	CMP

List of Bridges and Culverts in the Wood-Pawcatuck Watershed Selected for Assessment

Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
UPR-CED-7-1	X	Fuss & O'Neill	UPR	128008.784945	284034.826243	3915	Charlestown	Narragansett Trail	Local	Unnamed	circular conduit	concrete
UPR-CED-8-1	X	Fuss & O'Neill	UPR	127465.815487	282857.665037	3916	Charlestown	Saw Mill Road	Local	Unnamed	circular conduit	concrete
UPR-FOUND-20150820	X	Field Geology Services	UPR	131911.438825	293188.886272	9050	Richmond	Unnamed	Local	Pawcatuck River	bridge	stone masonry
UPR-FOUND-20151014-1	X	Field Geology Services	UPR	152198.211726	282097.246923	9051	Richmond	Unnamed	Trail	Meadow Brook	bridge	timber
UPR-FOUND-20151014-2	X	Field Geology Services	UPR	152159.657246	282249.204861	9052	Richmond	Unnamed	Trail	Meadow Brook	circular conduit	CMP
UPR-FOUND-20151014-3	X	Field Geology Services	UPR	152044.116086	282328.878779	9053	Richmond	Unnamed	Trail	Meadow Brook	circular conduit	CMP
UPR-FOUND-20151014-4	X	Field Geology Services	UPR	152000.198555	282428.323583	9054	Richmond	Unnamed	Trail	Meadow Brook	circular conduit	concrete
UPR-FOUND-20151014-5	X	Field Geology Services	UPR	152053.792560	282665.379933	9055	Richmond	Unnamed	Trail	Meadow Brook	bridge	timber
UPR-FOUND-20151014-6	X	Field Geology Services	UPR	152414.223711	283020.271443	9056	Richmond	Unnamed	Trail	Meadow Brook	bridge	timber
UPR-FOUND-20151015-1	X	Field Geology Services	UPR	152168.555048	281317.970422	9057	Richmond	Unnamed	Trail	Meadow Brook	circular conduit	concrete
UPR-FOUND-20151015-2	X	Field Geology Services	UPR	152588.374288	283220.196016	9058	Richmond	Unnamed	Trail	Meadow Brook	bridge	timber
UPR-MEA-0-2	X	Fuss & O'Neill	UPR	129177.766200	275618.576286	3833	Richmond	Church Street	State	Meadow Brook	box culvert	concrete
UPR-MEA-0-3	X	Fuss & O'Neill	UPR	139629.830862	275983.386539	3892	Richmond	Pine Hill Road	Local	Meadow Brook	box culvert	concrete
UPR-MEA-0-4	X	Field Geology Services	UPR	147225.484881	279692.575061	3019	Richmond	Kenyon Mill Trail	Local	Meadow Brook	box culvert	concrete
UPR-MEA-0-5	X	Field Geology Services	UPR	152147.202768	282791.305948	3016	Richmond	Kingstown Road	State	Meadow Brook	box culvert	concrete
UPR-MEA-0-6	X	Fuss & O'Neill	UPR	160059.585473	282865.852184	9007	Richmond	Green Fall Road	Local	Unnamed	circular conduit	concrete
UPR-MEA-0-7	X	Fuss & O'Neill	UPR	161344.307696	282671.407740	9008	Richmond	Green Fall Road	Local	Unnamed	circular conduit	concrete
UPR-MEA-0-8	X	Fuss & O'Neill	UPR	164073.979150	282388.640207	3281	Richmond	Carolina Nooseneck	Local	Meadow Brook	circular conduit	concrete
UPR-MEA-1-1	X	Fuss & O'Neill	UPR	147619.109854	277947.640871	2982	Richmond	Kenyon Hill Trail	Local	Unnamed	circular conduit	concrete
UPR-MEA-2-1	X	Fuss & O'Neill	UPR	150806.033807	278985.622847	3206	Richmond	Meadowbreek Road	Local	Unnamed	circular conduit	CMP
UPR-PAS-0-1	X	Fuss & O'Neill	UPR	131475.494005	293297.839532	4025	Charlestown	South County Trail	State	Pasquiset Brook	bridge	concrete
UPR-PAS-0-2	X	Fuss & O'Neill	UPR	129045.910117	293121.923239	4031	Charlestown	Shannock Road	Local	Pasquiset Brook	bridge	concrete
UPR-PAS-1-2	X	Fuss & O'Neill	UPR	126023.911936	288579.323174	3984	Charlestown	County Road	State	Unnamed	bridge	concrete
UPR-PAW-0-14	X	Field Geology Services	UPR	127636.793443	271717.783950	5267	Charlestown	Railroad	Railroad	Pawcatuck River	bridge	concrete
UPR-PAW-0-15	X	Field Geology Services	UPR	127434.976085	274846.234554	3739	Charlestown	Kings Factory Road	Local	Pawcatuck River	bridge	concrete
UPR-PAW-0-16	X	Field Geology Services	UPR	129484.469387	277282.574968	5265	Charlestown	Railroad	Railroad	Pawcatuck River	bridge	concrete
UPR-PAW-0-17	X	Field Geology Services	UPR	132031.644262	278424.600732	3759	Richmond	Church Street	State	Pawcatuck River	bridge	concrete
UPR-PAW-0-18	X	Field Geology Services	UPR	136712.928833	283234.419870	3873	Charlestown	Carolina Back Road	State	Pawcatuck River	bridge	stone masonry
UPR-PAW-0-19	X	Field Geology Services	UPR	133697.606307	287150.574407	9010	Charlestown	Railroad	State	Pawcatuck River	bridge	concrete
UPR-PAW-0-20	X	Field Geology Services	UPR	132405.939640	290254.741073	9011	Charlestown	Railroad	State	Pawcatuck River	bridge	concrete
UPR-PAW-0-21	X	Field Geology Services	UPR	132959.442553	288417.507701	3869	Charlestown	Old Shannock Road	Local	Pawcatuck River	bridge	concrete
UPR-PAW-0-22	X	Fuss & O'Neill	UPR	132755.104689	290615.789941	3963	Charlestown	Shannock Road	Local	Pawcatuck River	bridge	concrete
UPR-PAW-0-23	X	Field Geology Services	UPR	132416.302427	293251.346857	5259	Richmond	Railroad	Railroad	Pawcatuck River	bridge	concrete
UPR-PAW-0-24	X	Field Geology Services	UPR	131879.060925	293308.783391	3955	Richmond	Sherman Avenue	State	Pawcatuck River	bridge	concrete
UPR-PAW-0-25	X	Fuss & O'Neill	UPR	132167.325662	294832.206331	3936	Charlestown	South County Trail	State	Pawcatuck River	bridge	concrete
UPR-PAW-0-26	X	Field Geology Services	UPR	133500.172472	296363.857041	4005	Richmond	Biscuit City Road	Local	Pawcatuck River	bridge	stone masonry
UPR-TNY-0-1	X	Fuss & O'Neill	UPR	137509.236212	287572.325093	3788	Richmond	Shannock Hill Road	Local	Taney Brook	circular conduit	concrete
UPR-WEB-0-1	X	Fuss & O'Neill	UPR	139915.070574	281349.220666	3817	Richmond	Pine Hill Road	Local	White Brook	circular conduit	concrete
UWR-BAK-0-1	X	Fuss & O'Neill	UWR	167260.126051	275176.981163	3286	Richmond	Arcadia Road	State	Baker Brook	bridge	concrete
UWR-BAK-0-2	X	Fuss & O'Neill	UWR	167304.571440	277256.307632	3300	Richmond	K and G Ranch Road	Local	Baker Brook	circular conduit	concrete
UWR-BRE-0-1	X	Fuss & O'Neill	UWR	183926.362722	270846.812693	5052	Exeter	Frozen Hollow Road	Local	Breakheart Brook	bridge	timber
UWR-BRE-0-3	X	Fuss & O'Neill	UWR	195552.007140	276054.293592	5054	West Greenwich	Beaver Hill Road	Local	Breakheart Brook	circular conduit	concrete
UWR-BRE-0-4	X	Fuss & O'Neill	UWR	200658.700077	275038.111519	5016	West Greenwich	Beaver Hill Road	Local	Breakheart Brook	circular conduit	concrete
UWR-BRE-0-5	X	Fuss & O'Neill	UWR	204551.514921	273811.778613	4920	West Greenwich	Plain Meetinghouse Road	Local	Breakheart Brook	circular conduit	CMP

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UWR-BRE-1-3	X	Fuss & O'Neill	UWR	185039.516757	277246.704957	4953	Exeter	Austin Farm Road	State	Unnamed	circular conduit	concrete
UWR-CAR-0-1	X	Fuss & O'Neill	UWR	200813.844042	248217.360509	29	Voluntown	Bailey Pond Road	State	Carson Brook	circular conduit	CMP
UWR-CAR-0-5	X	Fuss & O'Neill	UWR	214517.596430	247737.745618	627	Sterling	Newport Road	Local	Carson Brook	box culvert	stone masonry
UWR-CON-0-1	X	Fuss & O'Neill	UWR	200573.466063	253832.343850	4881	West Greenwich	Muddy Brook Road	Local	Coney Brook	bridge	concrete
UWR-CON-0-2	X	Fuss & O'Neill	UWR	206256.383276	257241.453416	4890	West Greenwich	Tillinghast Pond Road	Local	Coney Brook	box culvert	stone masonry
UWR-FAC-0-1	X	Fuss & O'Neill	UWR	193732.031581	268342.633453	9030	West Greenwich	Shetucket Turnpike	Local	Factory Brook	circular conduit	concrete
UWR-FAC-1-1	X	Fuss & O'Neill	UWR	193862.239914	268993.675120	9031	West Greenwich	Shetucket Turnpike	Local	Unnamed	circular conduit	HDPE
UWR-FAC-2-1	X	Fuss & O'Neill	UWR	201832.516687	272602.710175	4999	West Greenwich	Stubble Brook Road	Local	Unnamed	circular conduit	HDPE
UWR-FLA-0-1	X	Fuss & O'Neill	UWR	180800.407553	268223.722702	2709	Exeter	Midway Rail Road	Local	Flat River	bridge	timber
UWR-FLA-0-2	X	Fuss & O'Neill	UWR	186721.137313	267902.487541	4878	Exeter	Flat River Road	Local	Flat River	bridge	timber
UWR-FOUND-20150603	X	Fuss & O'Neill	UWR	4603992.90000	276134.600000	9059	Richmond	K and G Ranch Road	Local	Unnamed	box culvert	stone masonry
UWR-KEL-0-1	X	Fuss & O'Neill	UWR	192835.143249	258837.347047	4867	West Greenwich	Falls River Road	Local	Kelley Brook	bridge	concrete
UWR-KEL-0-2	X	Fuss & O'Neill	UWR	196053.087361	257762.062106	4831	West Greenwich	Hudson Pond Road	Local	Kelley Brook	box culvert	concrete
UWR-KEL-0-3	X	Fuss & O'Neill	UWR	198575.555626	257044.090101	4842	West Greenwich	Liberty Hill Road	Local	Kelley Brook	box culvert	concrete
UWR-KEL-0-4	X	Fuss & O'Neill	UWR	201245.575167	255391.245569	4870	West Greenwich	Hudson Pond Road	Local	Kelley Brook	bridge	stone masonry
UWR-PHI-0-1	X	Fuss & O'Neill	UWR	195797.924980	264536.646705	4872	West Greenwich	Shoop Trail	Local	Phillips Brook	arched conduit	concrete
UWR-PHI-0-2	X	Fuss & O'Neill	UWR	202504.863859	260738.917199	4849	West Greenwich	Plain Meeting House Road	Local	Phillips Brook	circular conduit	concrete
UWR-PHI-1-1	X	Fuss & O'Neill	UWR	201437.209713	263688.381316	4885	West Greenwich	Plain Meeting House Road	Local	Unnamed	box culvert	stone
UWR-ROA-0-1	X	Fuss & O'Neill	UWR	172618.019566	273943.354011	3190	Exeter	Summit Road	Local	Roaring Brook	circular conduit	concrete
UWR-ROA-0-2	X	Fuss & O'Neill	UWR	173169.466018	277449.202446	3276	Exeter	Arcadia Road	State	Roaring Brook	bridge	concrete
UWR-ROA-0-3	X	Fuss & O'Neill	UWR	180038.307582	278430.697871	3235	Exeter	Ten Rod Road	State	Roaring Brook	bridge	concrete
UWR-ROA-0-4	X	Fuss & O'Neill	UWR	181547.783001	279240.487447	3112	Exeter	West Shore Drive	Local	Roaring Brook	circular conduit	concrete
UWR-ROA-0-5	X	Fuss & O'Neill	UWR	185896.478531	282220.233152	5044	Exeter	Austin Farm Road	State	Roaring Brook	circular conduit	concrete
UWR-WOR-0-10	X	Field Geology Services	UWR	178877.232000	267686.972397	2624	Exeter	Ten Rod Road	State	Wood River	bridge	stone masonry
UWR-WOR-0-11	X	Fuss & O'Neill	UWR	181045.109938	267592.763485	2714	Exeter	Arcadia Management Area	State	Wood River	bridge	concrete
UWR-WOR-0-12	X	Fuss & O'Neill	UWR	187687.222552	260835.255311	4836	Exeter	Plain Road	Local	Wood River	bridge	timber
UWR-WOR-0-13	X	Fuss & O'Neill	UWR	192974.280632	256845.410318	4854	West Greenwich	Falls River Road	Local	Wood River	bridge	stone masonry
UWR-WOR-0-14	X	Fuss & O'Neill	UWR	197995.991681	251053.673711	4858	West Greenwich	Hazard Road	Local	Wood River	circular conduit	CMP
UWR-WOR-0-18	X	Fuss & O'Neill	UWR	204350.720119	241251.432856	5422	Sterling	Pachaug Trail	State	Wood River	bridge	timber
UWR-WOR-0-19	X	Fuss & O'Neill	UWR	204642.855978	241062.208493	9002	Sterling	Brown Road	Local	Wood River	bridge	stone masonry
UWR-WOR-0-20	X	Fuss & O'Neill	UWR	207387.407031	238120.382841	651	Sterling	Cedar Swamp Road	Local	Wood River	box culvert	stone masonry
UWR-WOR-0-6	X	Field Geology Services	UWR	157079.518062	271939.246551	2871	Richmond	Nooseneck Hill Road	State	Wood River	bridge	concrete
UWR-WOR-0-7	X	Field Geology Services	UWR	157681.247355	272290.807867	3279	Hopkinton	Bridge Street	State	Wood River	bridge	stone masonry
UWR-WOR-0-8	X	Fuss & O'Neill	UWR	160049.515271	275573.540324	3273	Hopkinton	Skunk Hill Road	State	Wood River	bridge	concrete
UWR-WOR-0-9	X	Field Geology Services	UWR	166633.855433	274397.489134	2979	Hopkinton	Arcadia Road	State	Wood River	bridge	stone masonry
UWR-WOR-12-1	X	Fuss & O'Neill	UWR	157687.400363	271154.986658	3223	Hopkinton	Bank Street	Local	Unnamed	bridge	concrete
UWR-WOR-12-2	X	Fuss & O'Neill	UWR	163149.967784	269698.684690	3261	Hopkinton	Skunk Hill Road	Local	Unnamed	circular conduit	concrete
UWR-WOR-13-1	X	Fuss & O'Neill	UWR	159535.587274	275576.865985	3509	Richmond	Noonseck Hill Road	State	Unnamed	box culvert	concrete
UWR-WOR-14-1	X	Fuss & O'Neill	UWR	161229.631442	276871.969088	3476	Richmond	K and G Ranch Road	Local	Unnamed	circular conduit	concrete
UWR-WOR-14-4	X	Fuss & O'Neill	UWR	159930.962962	278450.717950	3341	Richmond	Buttonwood Road	Local	Unnamed	circular conduit	concrete
UWR-WOR-14-5	X	Fuss & O'Neill	UWR	160222.519155	281262.911078	3410	Richmond	Buttonwood Road	Local	Unnamed	circular conduit	concrete
UWR-WOR-17-1	X	Fuss & O'Neill	UWR	169548.557732	269125.159641	3013	Hopkinton	Blitzkrieg Trail	Local	Unnamed	box culvert	stone masonry
UWR-WOR-17-2	X	Fuss & O'Neill	UWR	172369.391685	264541.320880	2683	Exeter	Skunk Hill Road	Local	Unnamed	circular conduit	concrete
UWR-WOR-18-1	X	Fuss & O'Neill	UWR	175566.016566	266302.730231	2568	Exeter	White Pine Drive	Local	Unnamed	bridge	timber

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Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
UWR-WOR-18-1-1	X	Fuss & O'Neill	UWR	173105.230749	264032.466707	2618	Exeter	Skunk Hill Road	Local	Woody Hill Brook	circular conduit	concrete
UWR-WOR-18-1-1-1	X	Fuss & O'Neill	UWR	176032.322101	260541.276536	2749	Exeter	Woody Hill Road	Local	Woody Hill Brook	circular conduit	concrete
UWR-WOR-18-2	X	Fuss & O'Neill	UWR	175444.152962	265328.969133	2553	Exeter	Mount Tom Road	Local	Unnamed	bridge	stone masonry
UWR-WOR-18-3	X	Fuss & O'Neill	UWR	179646.914437	259151.049422	2552	Exeter	Ten Rod Road	State	Unnamed	bridge	concrete
UWR-WOR-18-4	X	Fuss & O'Neill	UWR	180239.258938	258180.782618	2734	Exeter	Escoheag Hill Road	State	Unnamed	bridge	timber
UWR-WOR-18-4-1	X	Fuss & O'Neill	UWR	184326.296353	255699.938679	4907	Exeter	Old Voluntown Road	Local	Unnamed	circular conduit	concrete
UWR-WOR-18-5	X	Fuss & O'Neill	UWR	184197.960423	255328.304193	4856	Exeter	Old Voluntown Road	Local	Unnamed	circular conduit	concrete
UWR-WOR-19-2	X	Fuss & O'Neill	UWR	180088.732323	270811.064264	5053	Exeter	Arcadia Management Area	State	Unnamed	circular conduit	concrete
UWR-WOR-19-3	X	Fuss & O'Neill	UWR	179852.382914	271675.493884	3170	Exeter	Ten Rod Road	State	Unnamed	circular conduit	concrete
UWR-WOR-22-2	X	Fuss & O'Neill	UWR	194730.679617	251190.302858	4905	West Greenwich	Hazard Road	Local	Unnamed	circular conduit	CMP
UWR-WOR-24-2	X	Fuss & O'Neill	UWR	205838.926510	246122.432892	665	Sterling	Gallup Homestead Road	Local	Unnamed	circular conduit	concrete
UWR-WOR-25-2	X	Fuss & O'Neill	UWR	205171.069951	243054.579444	666	Sterling	Gallup Homestead Road	Local	Unnamed	circular conduit	concrete
WPB-FOUND-20150812	X	Fuss & O'Neill	WPB	142830.477126	236465.222008	9021	North Stonington	Grindstone Hill Road	Local	Hetchel Swamp Brook	circular conduit	CMP
WPB-HET-0-2	X	Fuss & O'Neill	WPB	150709.748268	232050.679515	154	North Stonington	Wyassup Road	Local	Hetchel Swamp Brook	circular conduit	CMP
WPB-PHB-0-1	X	Fuss & O'Neill	WPB	135688.116133	235895.521466	155	North Stonington	State Highway 49	State	Pendleton Hill Brook	bridge	concrete
WPB-PHB-0-3	X	Fuss & O'Neill	WPB	141217.067678	235900.628549	452	North Stonington	Sleepy Hollow Road	Local	Pendleton Hill Brook	circular conduit	CMP
WPB-PHB-0-5	X	Fuss & O'Neill	WPB	150128.144288	237076.813710	156	North Stonington	State Highway 49	State	Pendleton Hill Brook	box culvert	HDPE
WPB-PHB-1-1	X	Fuss & O'Neill	WPB	136285.404716	235972.437234	151	North Stonington	State Highway 49	State	Unnamed	circular conduit	CMP
WPB-PHB-3-1	X	Fuss & O'Neill	WPB	140945.711452	234810.925088	9020	North Stonington	Sleepy Hollow Road	Local	Unnamed	circular conduit	concrete
WPB-PHB-3-2	X	Fuss & O'Neill	WPB	142825.951546	233751.929996	132	North Stonington	Grindstone Hill Road	Local	Unnamed	circular conduit	CMP
WPB-WAY-0-1	X	Fuss & O'Neill	WPB	135467.838699	238663.917023	67	North Stonington	Clarks Falls Road	State	Wyassup Brook	bridge	stone masonry
WPB-WAY-0-2	X	Fuss & O'Neill	WPB	134241.555573	233388.163106	152	North Stonington	State Highway 49	State	Wyassup Brook	bridge	concrete
WPB-WAY-0-4	X	Fuss & O'Neill	WPB	141671.116545	230334.471102	133	North Stonington	Grindstone Hill Road	Local	Wyassup Brook	circular conduit	CMP
WPB-WAY-0-6	X	Fuss & O'Neill	WPB	147116.905653	227065.804381	153	North Stonington	Wyassup Road	Local	Wyassup Brook	circular conduit	CMP
WPB-WAY-4-1	X	Fuss & O'Neill	WPB	139091.411729	230351.632335	450	North Stonington	Hangman Hill Road	Local	Unnamed	circular conduit	concrete
AWR-ASH-1-1	Trail Not found		AWR	124631.493363	246417.939911	477	North Stonington	Trail	Trail	Unnamed	-	-
AWR-GLA-0-3	Trail Not found		AWR	142138.553804	245031.576824	601	North Stonington	Trail	Trail	Glade Brook	-	-
AWR-GLA-1-1	Trail Not found		AWR	151715.434904	246159.869513	377	North Stonington	Trail	Trail	Unnamed	-	-
AWR-GRE-0-10	Trail Not found		AWR	164505.026901	244264.272282	589	Voluntown	Trail	Trail	Green Fall River	-	-
AWR-GRE-0-11	Trail Not found		AWR	164626.127195	244555.089075	124	Voluntown	Trail	Trail	Green Fall River	-	-
AWR-GRE-0-12	Trail Not found		AWR	167624.188982	245333.801606	125	Voluntown	Trail	Trail	Green Fall River	-	-
AWR-GRE-0-13	Trail Not found		AWR	171672.353622	244108.552811	5470	Voluntown	Trail	Trail	Green Fall River	-	-
AWR-GRE-0-5	Trail Not found		AWR	150350.037731	241986.197617	364	North Stonington	Trail	Trail	Green Fall River	-	-
AWR-GRE-0-7	Trail Not found		AWR	162218.115797	243313.619767	588	Voluntown	Trail	Trail	Green Fall River	-	-
AWR-GRE-0-8	Trail Not found		AWR	162307.210539	243277.634818	5501	Voluntown	Trail	Trail	Green Fall River	-	-
AWR-GRE-0-9	Trail Not found		AWR	164234.835321	244150.667500	587	Voluntown	Trail	Trail	Green Fall River	-	-
AWR-GRE-10-1-2	Trail Not found		AWR	165183.455016	242404.223952	5538	Voluntown	Trail	Trail	Unnamed	-	-
AWR-GRE-10-1-3	Trail Not found		AWR	165938.546934	241862.438746	516	Voluntown	Trail	Trail	Unnamed	-	-
AWR-GRE-10-2-2	Trail Not found		AWR	165509.749353	243063.965459	5522	Voluntown	Trail	Trail	Unnamed	-	-
AWR-GRE-10-2-3	Trail Not found		AWR	165628.543423	243045.751257	360	Voluntown	Trail	Trail	Unnamed	-	-
AWR-GRE-10-2-4	Trail Not found		AWR	165689.148287	243010.470945	361	Voluntown	Trail	Trail	Unnamed	-	-
AWR-GRE-10-2-5	Trail Not found		AWR	169015.896353	241803.964013	5474	Voluntown	Trail	Trail	Unnamed	-	-
AWR-GRE-1-1	Trail Not found		AWR	135406.384627	245926.367608	535	North Stonington	Trail	Trail	Unnamed	-	-
AWR-GRE-8-1-1	Trail Not found		AWR	157250.418110	240335.706950	5502	Voluntown	Trail	Trail	Unnamed	-	-

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Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
SNR-PHE-1-1	Trail Not found		SNR	142267.832750	214076.118353	37	North Stonington	Hewitt Pond	Local	Unnamed	-	-
SNR-SHU-3-1-1	Trail Not found		SNR	145201.627699	214201.222740	39	North Stonington	Cossaduck Hill Road	Local	Unnamed	-	-
SNR-SHU-3-2-1	Trail Not found		SNR	144857.031028	213997.999635	38	North Stonington	Swantown Hill Road	Local	Unnamed	-	-
SNR-YAW-0-3	Trail Not found		SNR	141574.138966	220099.184418	5675	North Stonington	Narragansett Trail	Trail	Yawbucs Brook	-	-
SNR-YAW-0-4	Trail Not found		SNR	141892.395556	219989.538011	590	North Stonington	Trail	Trail	Yawbucs Brook	-	-
SNR-YAW-0-5	Trail Not found		SNR	142095.612816	220089.813614	591	North Stonington	Trail	Trail	Yawbucs Brook	-	-
SNR-YAW-0-6	Trail Not found		SNR	146829.089618	222882.983396	5638	North Stonington	Pachaug Forest Trail	Trail	Yawbucs Brook	-	-
SNR-YAW-0-7	Trail Not found		SNR	147069.378777	222948.298020	5673	North Stonington	Narragansett Trail	Trail	Yawbucs Brook	-	-
SNR-YAW-2-1	Trail Not found		SNR	142886.770973	219258.068272	5657	North Stonington	Pachaug Forest Trail	Trail	Unnamed	-	-
SNR-YAW-3-1	Trail Not found		SNR	143304.131008	220100.340901	5658	North Stonington	Pachaug Forest Trail	Trail	Unnamed	-	-
SNR-YAW-4-1	Trail Not found		SNR	145951.017134	222064.621342	5637	North Stonington	Pachaug Forest Trail	Trail	Unnamed	-	-
WPB-HET-0-3	Trail Not found		WPB	155374.713108	231020.124727	359	North Stonington	Legend Wood Road	Local	Hetchel Swamp Brook	-	-
WPB-HET-0-4	Trail Not found		WPB	156273.320463	230735.744322	362	North Stonington	Trail	Trail	Hetchel Swamp Brook	-	-
WPB-PHB-0-4	Trail Not found		WPB	148184.507550	236097.358860	290	North Stonington	Trail	Trail	Pendleton Hill Brook	-	-
WPB-WAY-3-1	Trail Not found		WPB	139525.921538	232740.511960	292	North Stonington	Sleepy Hollow Road	Local	Unnamed	-	-
WPB-WAY-5-1	Trail Not found		WPB	143710.545534	229259.006898	50	North Stonington	Trail	Trail	Unnamed	-	-
WPB-WAY-8-1	Trail Not found		WPB	149578.728472	225900.715147	304	North Stonington	Wyassup Lake Road	Local	Unnamed	-	-
WPB-WAY-8-1-1	Trail Not found		WPB	151285.128455	226805.066416	224	North Stonington	Murphy Road	Local	Unnamed	-	-
WPB-WAY-8-2-1	Trail Not found		WPB	149616.225858	224946.573992	5655	North Stonington	Pachaug Forest Trail	Trail	Unnamed	-	-
AWR-PAR-0-1	Private No Access		AWR	132801.126514	248536.924585	720	Hopkinton	Providence New London Turnpike	State	Parameter Brook	-	-
LPR-PAW-4-1-1	Private No Access		LPR	114855.295373	239954.529056	1469	Westerly	High Street	State	Unnamed	-	-
MPR-TOM-1-1-1	Private No Access		MPR	121724.820928	260672.219237	2410	Hopkinton	Panciera Road	Local	Unnamed	-	-
MPR-TOM-1-2-1	Private No Access		MPR	123006.097760	260418.112287	2411	Hopkinton	Panciera Road	Local	Unnamed	-	-
QUR-QFB-0-7	Private No Access		QUR	176389.613826	320656.216739	4637	Exeter	One Stamp Place	Local	Queens Fort Brook	-	-
QUR-QUR-12-1	Private No Access		QUR	181089.956612	316231.109001	9019	Exeter	Shore Road	State	Unnamed	-	-
SNR-SHU-0-10	Private No Access		SNR	132722.664652	220717.036188	510	North Stonington	Hewitt Street	Local	Shunock River	-	-
SNR-SHU-0-14	Private No Access		SNR	139533.214855	214573.919513	9028	North Stonington	Norwich-Westerly Road	State	Unnamed	-	-
SNR-SHU-0-15	Private No Access		SNR	139574.881522	214132.947290	9029	North Stonington	Norwich-Westerly Road	State	Unnamed	-	-
SNR-SHU-10-2	Private No Access		SNR	135931.360120	215978.084978	299	North Stonington	Norwich-Westerly Road	State	Unnamed	-	-
SNR-SHU-11-2	Private No Access		SNR	136433.020954	215701.483095	300	North Stonington	Norwich-Westerly Road	State	Unnamed	-	-
SNR-SHU-2-1	Private No Access		SNR	127193.757143	231230.228667	0	North Stonington	Surrey Lane	Local	Unnamed	-	-
SNR-SHU-4-4	Private No Access		SNR	135635.439495	226571.862604	134	North Stonington	(Unnamed)	Local	Unnamed	-	-
SNR-SHU-6-4	Private No Access		SNR	134487.922570	216673.878822	379	North Stonington	Driveway	Driveway	Unnamed	-	-
SNR-YAW-0-8	Private No Access		SNR	150179.223958	223258.875540	5656	North Stonington	Pachaug Forest Trail	Trail	Unnamed	-	-
SNR-YAW-0-9	Private No Access		SNR	150332.740976	223227.046130	5634	North Stonington	Pachaug Forest Trail	Trail	Unnamed	-	-
UPR-PAS-1-1	Private No Access		UPR	124327.789514	290069.760213	4034	Charlestown	Pioneer Trail Road	Local	Unnamed	-	-
UPR-PAW-30-2-1	Private No Access		UPR	130275.137290	270746.007442	3883	Richmond	Honestead Road	Local	Unnamed	-	-
UWR-CAR-0-2	Private No Access		UWR	202979.766804	249113.337777	635	Voluntown	Netop Trail	Local	Carson Brook	-	-
UWR-CAR-0-3	Private No Access		UWR	207969.666301	248804.018302	657	Sterling	(Unnamed)	Local	Carson Brook	-	-
UWR-CAR-0-4	Private No Access		UWR	212139.271773	248994.127711	634	Sterling	Trail	Trail	Carson Brook	-	-
UWR-FAC-0-2	Private No Access		UWR	207096.626679	268574.224158	4891	West Greenwich	Welch Hollow Road	Local	Factory Brook	-	-
UWR-WOR-0-15	Private No Access		UWR	199716.631304	246845.520258	277	Voluntown	Bailey Pond Road	State	Wood River	-	-
UWR-WOR-0-16	Private No Access		UWR	202446.220608	245124.496281	5388	Voluntown	Pachaug Forest Trail	Trail	Wood River	-	-
UWR-WOR-0-17	Private No Access		UWR	203585.519491	242015.732207	5393	Sterling	Pachaug Forest Trail	Trail	Wood River	-	-

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Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
UWR-WOR-24-1	Private No Access		UWR	203190.859822	244472.807983	5389	Sterling	Pachaug Forest Trail	Trail	Unnamed	-	-
UWR-WOR-25-3	Private No Access		UWR	206503.975155	243380.047053	5395	Sterling	Pachaug Forest Trail	Trail	Unnamed	-	-
WPB-PHB-0-2	Private No Access		WPB	138358.005992	235525.147611	418	North Stonington	(Unnamed)	Local	Pendleton Hill Brook	-	-
WPB-WAY-0-3	Private No Access		WPB	138753.137033	231709.429145	293	North Stonington	Sleepy Hollow Road No 2	Local	Wyassup Brook	-	-
WPB-WAY-0-5	Private No Access		WPB	141782.828357	229748.823212	593	North Stonington	(Unnamed)	Local	Wyassup Brook	-	-
WPB-WAY-5-2	Private No Access		WPB	144533.237409	231974.205056	457	North Stonington	Fowler Road	Local	Unnamed	-	-
WPB-WAY-7-1	Private No Access		WPB	149615.333842	227085.515023	223	North Stonington	Murphy Road	Local	Unnamed	-	-
MPR-ISO-NW	On State Highway (No Access)		MPR	102419.112014	244365.058529	681	Westerly	State Highway 78	State	Unnamed	-	-
MPR-ISO-SW	On State Highway (No Access)		MPR	100209.019222	243745.785574	682	Westerly	State Highway 78	State	Unnamed	-	-
UWR-BAK-0-4	On Rt. 3 (No Access)		UWR	167283.981913	279953.193465	2895	Richmond	Nooseneck Hill Road	State	Baker Brook	-	-
MPR-PAW-18-4	On Highway Ramp (No Access)		MPR	108931.092712	244693.020792	1921	Westerly	Route 78	State	Unnamed	-	-
LPR-PAW-12-1-2	On 95 (No Access)		LPR	126734.282726	242116.501650	385	North Stonington	Interstate 95	Highway	Unnamed	-	-
LPR-PAW-12-1-3	On 95 (No Access)		LPR	128311.854485	243390.026574	146	North Stonington	Interstate 95	Highway	Unnamed	-	-
LPR-PAW-12-2-1	On 95 (No Access)		LPR	124965.846695	238265.396779	384	North Stonington	Interstate 95	Highway	Unnamed	-	-
LPR-PAW-12-2-2	On 95 (No Access)		LPR	125118.762870	238129.490199	145	North Stonington	Interstate 95	Highway	Unnamed	-	-
LWR-CAN-0-4	On 95 (No Access)		LWR	144824.851807	261288.881840	2790	Hopkinton	Interstate 95	Highway	Canonchet Brook	-	-
LWR-WOR-8-2	On 95 (No Access)		LWR	148843.832696	267398.299317	2561	Hopkinton	Interstate 95	Highway	Unnamed	-	-
MPR-TOM-0-5	On 95 (No Access)		MPR	136592.129831	252931.106284	2119	Hopkinton	Interstate 95	Highway	Tomaquag Brook	-	-
MPR-TOM-3-3	On 95 (No Access)		MPR	141200.677222	257236.193679	2239	Hopkinton	Interstate 95	Highway	Unnamed	-	-
SNR-SHU-0-2	On 95 (No Access)		SNR	121807.194772	232355.868730	386	North Stonington	Interstate 95	Highway	Shunock River	-	-
SNR-SHU-0-3	On 95 (No Access)		SNR	122008.113291	232305.326534	147	North Stonington	Interstate 95	Highway	Shunock River	-	-
SNR-SHU-0-4	On 95 (No Access)		SNR	122078.033268	232214.441525	52	North Stonington	Interstate 95	Highway	Shunock River	-	-
UWR-BAK-0-3	On 95 (No Access)		UWR	167498.537644	279735.424470	3467	Richmond	Interstate 95	Highway	Baker Brook	-	-
UWR-WOR-11-1	On 95 (No Access)		UWR	152299.572120	271426.987604	9024	Richmond	Green Fall Road	Local	Unnamed	-	-
UWR-WOR-14-3	On 95 (No Access)		UWR	160882.905454	277505.112604	9025	Richmond	Green Fall Road	Local	Unnamed	-	-
CPR-CHP-5-1-1	Not Found		CPR	158600.207935	324271.515416	4327	Exeter	Slocum Road	State	Unnamed	-	-
LPR-PAW-2-1	Not Found		LPR	107830.566273	235324.458328	416	Westerly	Washington Street	Local	Unnamed	-	-
LPR-PAW-2-2	Not Found		LPR	108024.448173	234992.638245	251	Westerly	Morgan Street	Local	Unnamed	-	-
LPR-PAW-4-2-1	Not Found		LPR	112047.423552	236432.201845	1407	Westerly	Canal Street	Local	Unnamed	-	-
MPR-PAW-16-3	Not Found		MPR	115636.444033	243956.914531	1880	Westerly	Langley Street	Local	Unnamed	-	-
MPR-PAW-16-4	Not Found		MPR	115854.664357	242144.320422	1385	Westerly	Berry Drive	Local	Unnamed	-	-
MPR-PAW-16-5	Not Found		MPR	116024.832235	242031.504397	1386	Westerly	Berry Drive	Local	Unnamed	-	-
MPR-PAW-17-1-1	Not Found		MPR	115359.244386	248317.323723	2284	Hopkinton	Naragansett Way	Local	Unnamed	-	-
MPR-PAW-17-2	Not Found		MPR	114844.610468	248543.378959	2283	Hopkinton	Naragansett Way	Local	Unnamed	-	-
MPR-PAW-17-3	Not Found		MPR	115095.719046	247784.682003	1707	Hopkinton	Chase Hill Road	Local	Unnamed	-	-
MPR-TOM-0-6	Not Found		MPR	137598.980493	252483.772644	2144	Hopkinton	Clarks Falls Road	State	Tomaquag Brook	-	-
MPR-TOM-3-2-1	Not Found		MPR	137476.528000	258639.309125	2260	Hopkinton	Chase Hill Road	State	Unnamed	-	-
QUR-QFB-0-4	Not Found		QUR	169387.302123	319042.155973	4758	Exeter	South Road	State	Queens Fort Brook	-	-
SNR-SHU-11-1	Not Found		SNR	136478.458994	216256.313160	120	North Stonington	State Highway 201	State	Unnamed	-	-
SNR-SHU-6-1	Not Found		SNR	131739.613351	220765.582854	235	North Stonington	State Highway 2	State	Unnamed	-	-
UPR-PAW-37-1	Not Found		UPR	132712.968054	289756.946619	4053	Richmond	Shannock Village Road	State	Unnamed	-	-
LWR-MOS-4-2	No Stream Crossing		LWR	164497.550267	247470.175135	284	Voluntonn	Green Fall Road	Local	Unnamed	-	-
LWR-WOR-1-2-1	No Stream Crossing		LWR	132107.804283	264777.253312	2023	Hopkinton	Providence New London Turnpike	State	Unnamed	-	-
LWR-WOR-1-3-1	No Stream Crossing		LWR	132789.227894	265905.725535	9022	Hopkinton	Providence New London Turnpike	State	Unnamed	-	-

List of Bridges and Culverts in the Wood-Pawcatuck Watershed Selected for Assessment

Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
LWR-WOR-9-1	No Stream Crossing		LWR	150705.142179	268718.677067	3307	Hopkinton	Mechanic Street	State	Unnamed	-	-
MPR-POQ-1-1	No Stream Crossing		MPR	118014.117333	270192.754712	3592	Charlestown	Burlingame State Park - Mgmt Area	State	Unnamed	-	-
QUR-QFB-0-3	No Stream Crossing		QUR	169359.813383	317873.886055	9032	Exeter	Veterans Place	Local	Queens Fort Brook	-	-
QUR-QFB-0-8	No Stream Crossing		QUR	176716.857914	320217.138635	4731	Exeter	Bayview Drive	Local	Queens Fort Brook	-	-
SNR-SHU-2-2	No Stream Crossing		SNR	128587.045368	232652.390586	240	North Stonington	Pendleton Hill Road	Local	Unnamed	-	-
SNR-SHU-4-2	No Stream Crossing		SNR	133682.676301	226881.490392	537	North Stonington	Bergius Lane	Local	Unnamed	-	-
SNR-SHU-6-2	No Stream Crossing		SNR	132611.484531	219777.044513	9027	North Stonington	Norwich-Westerly Road	State	Unnamed	-	-
CPR-CHP-2-1-2	No Stream Crossing		CPR	152902.852489	321093.299989	4513	South Kingstown	Plains Road	Local	Unnamed	-	-
CPR-CHP-2-1-3	No Stream Crossing		CPR	153273.294809	321703.692210	4558	Exeter	Tupelo Drive	Local	Unnamed	-	-
CPR-WHB-3-1	No Stream Crossing		CPR	142679.218733	318407.705645	4481	South Kingstown	Springdale Road	Local	Unnamed	-	-
SNR-YAW-0-10	No Road Crossing		SNR	152559.850305	223405.297528	351	North Stonington	Legend Wood Road	Local	Unnamed	-	-
CPR-CHP-3-1	No Road Crossing		CPR	154987.149092	320517.368739	5235	Exeter	Railroad	Railroad	Unnamed	-	-
LPR-PAW-8-1	No Road Crossing		LPR	113958.415267	233360.066599	244	Westerly	Liberty Street	Local	Unnamed	-	-
LWR-WOR-6-1	No Road Crossing		LWR	138697.032407	267430.386300	5266	Hopkinton	Wood River Junction Branch	Local	Unnamed	-	-
SNR-SHU-0-7	No Road Crossing		SNR	130341.073708	225563.528925	58	North Stonington	Old Trolley Lane	Local	Shunock River	-	-
AWR-GRE-3-2	No Access (Railroad)		AWR	132453.467378	240993.950419	70	North Stonington	Railroad	Railroad	Unnamed	-	-
CKR-CHK-0-1	No Access (Railroad)		CKR	138373.500210	301955.260367	5242	South Kingstown	Railroad	Railroad	Chickasheen Brook	-	-
CKR-CHK-0-2	No Access (Railroad)		CKR	138604.439983	302244.484345	5241	South Kingstown	Railroad	Railroad	Chickasheen Brook	-	-
CPR-CHP-0-3	No Access (Railroad)		CPR	149706.422664	315961.301507	5238	Exeter	Railroad	Railroad	Chipuxet River	-	-
CPR-CHP-2-1	No Access (Railroad)		CPR	152869.058848	319524.532100	5237	North Kingstown	Railroad	Railroad	Unnamed	-	-
CPR-CHP-5-1	No Access (Railroad)		CPR	159005.201361	322043.502970	5236	Exeter	Railroad	Railroad	Unnamed	-	-
MPR-PAW-18-1-2	No Access (Railroad)		MPR	110006.042641	247811.873226	5276	Westerly	Railroad	Railroad	Unnamed	-	-
MPR-PAW-26-1-1	No Access (Railroad)		MPR	122541.655730	268581.845143	5270	Hopkinton	Railroad	Railroad	Unnamed	-	-
QUR-USQ-0-1	No Access (Railroad)		QUR	137987.716628	301478.119100	5240	South Kingstown	Railroad	Railroad	Usquepaug River	-	-
UPR-MEA-0-1	No Access (Railroad)		UPR	128934.206575	275557.534904	5264	Richmond	Railroad	Local	Meadow Brook	-	-
UPR-PAW-33-2	No Access (Railroad)		UPR	131801.971325	281845.669366	5263	Charlestown	Railroad	Railroad	Unnamed	-	-
UWR-WOR-14-2	No Access (dense foliage)		UWR	161079.942698	277185.566364	2830	Richmond	Noonseck Hill Road	State	Unnamed	-	-
LPR-PAW-11-2	No Access		LPR	122200.648885	234612.695619	9005	North Stonington	Ella Wheeler Road	Local	Unnamed	-	-
LPR-PAW-12-2-1-1	No Access		LPR	126777.111527	238541.702747	55	North Stonington	Cranberry Bog Road	Local	Unnamed	-	-
LPR-PAW-6-1	No Access		LPR	112751.357850	233464.774527	262	Westerly	State Highway 78	State	Unnamed	-	-
LPR-PAW-6-2	No Access		LPR	112772.060794	233365.075367	10	Westerly	State Highway 2	State	Unnamed	-	-
LWR-MOS-0-4	No Access		LWR	159671.115096	257295.497929	2590	Hopkinton	Spring Street	State	Moscow Brook	-	-
MPR-TOM-1-2	No Access		MPR	120018.937038	258307.612290	2363	Hopkinton	Tomaquag Road	Local	Unnamed	-	-
LWR-CAN-2-1	No Access		LWR	144395.334575	259469.379925	2653	Hopkinton	Nooseneck Hill Road	State	Unnamed	-	-
LWR-CAN-3-2-1-2	No Access		LWR	154280.348911	255542.392709	2613	Hopkinton	Canonchet Road	Local	Unnamed	-	-
UPR-PAW-30-1	No Access		UPR	129209.601828	270051.603114	3881	Richmond	Church Street	State	Unnamed	-	-
UPR-PAW-33-1	No Access		UPR	132849.922689	279766.070270	3908	Charlestown	Alton Carolina Road	State	Unnamed	-	-
UWR-WOR-19-1	No Access		UWR	179467.974898	269535.494549	9026	Exeter	Shore Road	Local	Unnamed	-	-
UWR-WOR-25-1	No Access		UWR	204201.554772	242887.524834	5390	Sterling	Pachaug Forest Trail	Trail	Unnamed	-	-
AWR-GRE-0-1	Gated No Access		AWR	135494.122613	242105.378614	62	North Stonington	Clarks Falls Road	State	Green Fall River	-	-
LPR-PAW-11-1	Gated No Access		LPR	120270.093330	234001.584508	9004	North Stonington	Pendleton Hill Road	Local	Unnamed	-	-
UWR-BRE-0-2	Gated No Access		UWR	186573.846734	272451.072409	5003	Exeter	Austin Farm Road	Local	Breakheart Brook	-	-
UWR-BRE-1-1	Gated No Access		UWR	185391.701915	274034.125154	5002	Exeter	Austin Farm Road	Local	Unnamed	-	-
UWR-BRE-1-2	Gated No Access		UWR	185043.193691	274753.953305	5025	Exeter	Bliven Trail	Local	Unnamed	-	-

List of Bridges and Culverts in the Wood-Pawcatuck Watershed Selected for Assessment

Structure Name	Inspection Complete?	Inspector	Watershed	Northing	Easting	GIS ID #	Town	Road Name	Road Type	Stream Name	Structure Type	Primary Structure Material
UWR-PHI-0-3	Gated No Access		UWR	204815.983192	261313.870176	4833	West Greenwich	Narrow Lane	Local	Phillips Brook	-	-

Appendix B

Culverts/Bridges - Subwatershed Hydraulic Capacity Rating Maps and Summary Tables

Ashaway River Subwatershed Hydraulic Capacity Rating

Legend

Existing Capacity Rating

- < 10-Year
- 10-Year
- 25-Year
- 50-Year
- 100-Year

Future Capacity Rating

- ▲ < 10-Year
- ▲ 10-Year
- ▲ 25-Year
- ▲ 50-Year
- ▲ 100-Year

Documented Flood Locations

- ★ Riverine Related Flooding
- ★ Dam Related Flooding
- ★ Drainage Related Flooding

Roads

Lake

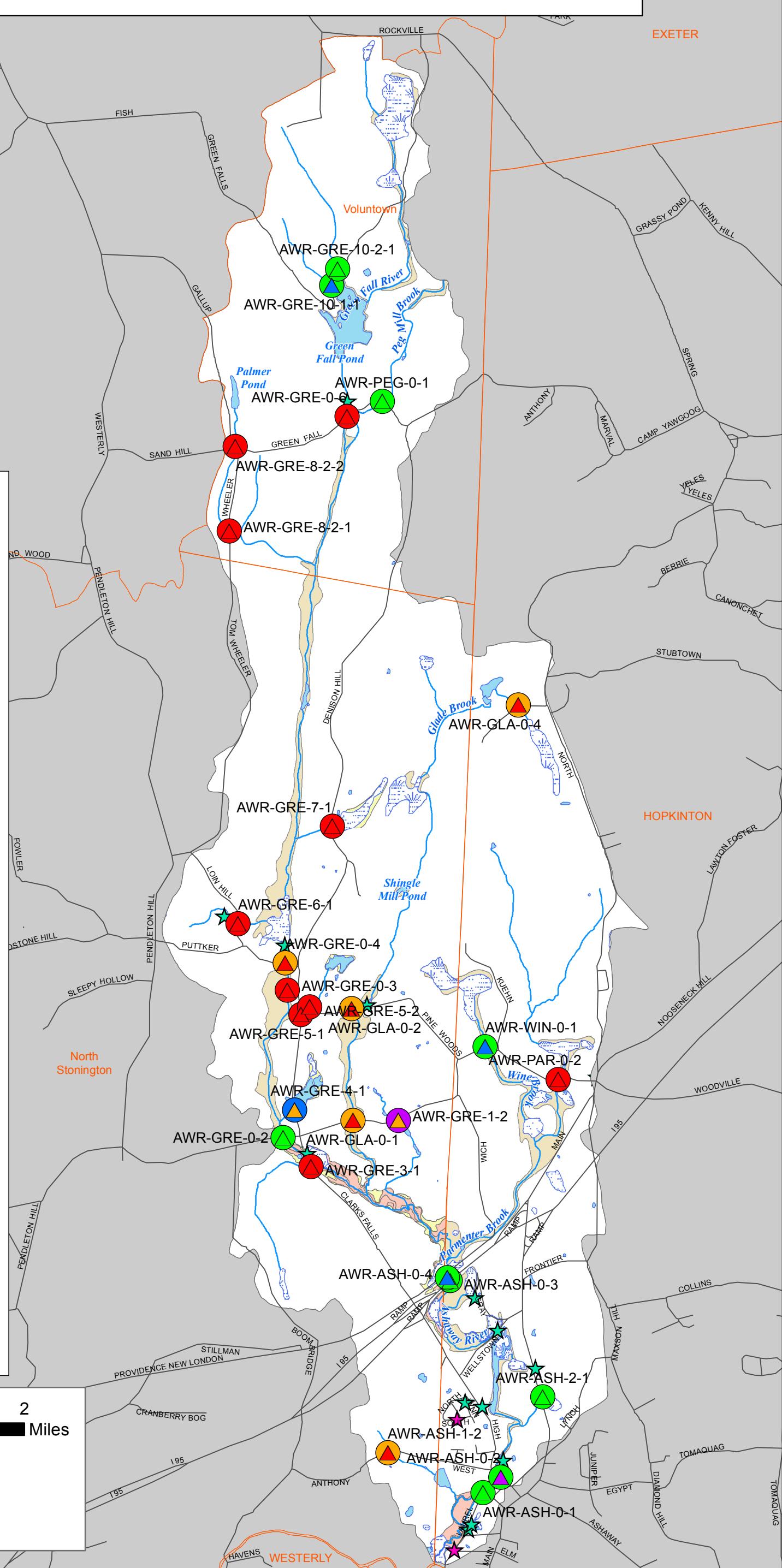
Wetland

Rivers

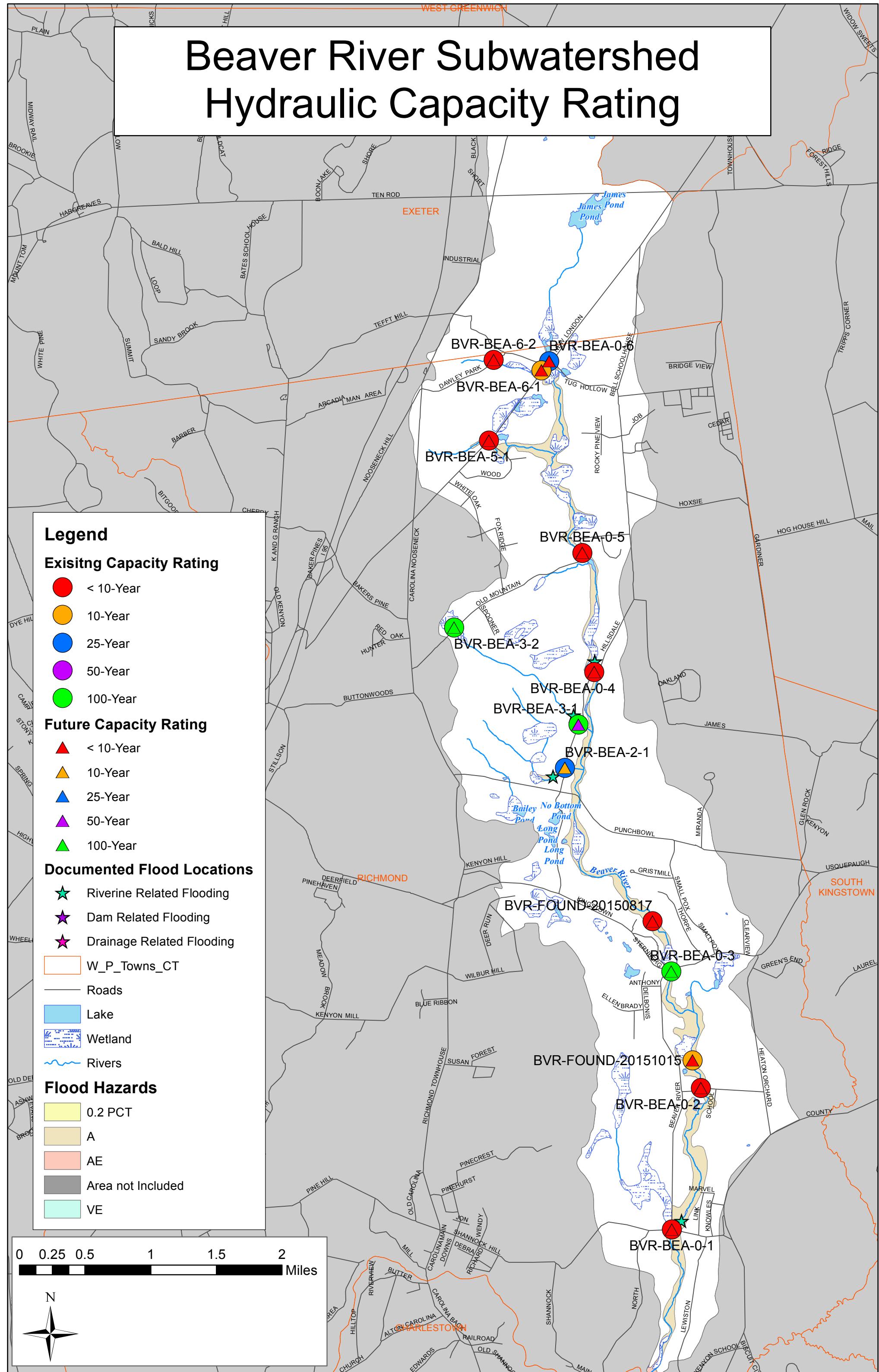
Flood Hazards

- 0.2 PCT
- A
- AE
- Area not Included
- VE

0 0.25 0.5 1 1.5 2 Miles



Beaver River Subwatershed Hydraulic Capacity Rating



Chickasheen River Watershed Hydraulic Capacity Rating

Legend

Existing Capacity Rating

- < 10-Year
- 10-Year
- 25-Year
- 50-Year
- 100-Year

Future Capacity Rating

- ▲ < 10-Year
- ▲ 10-Year
- ▲ 25-Year
- ▲ 50-Year
- ▲ 100-Year

Documented Flood Locations

- ★ Riverine Related Flooding
- ★ Dam Related Flooding
- ★ Drainage Related Flooding

Roads

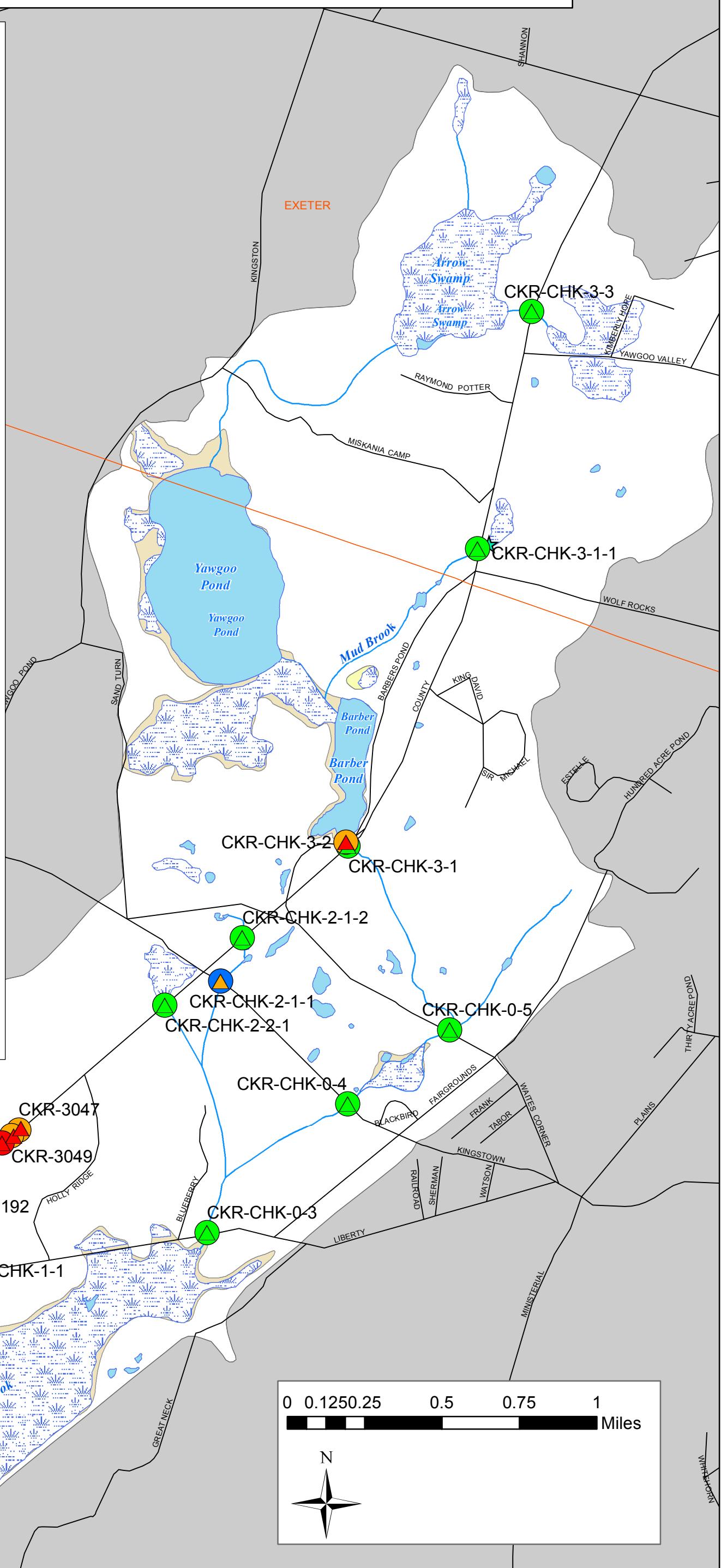
Lake

Wetland

Rivers

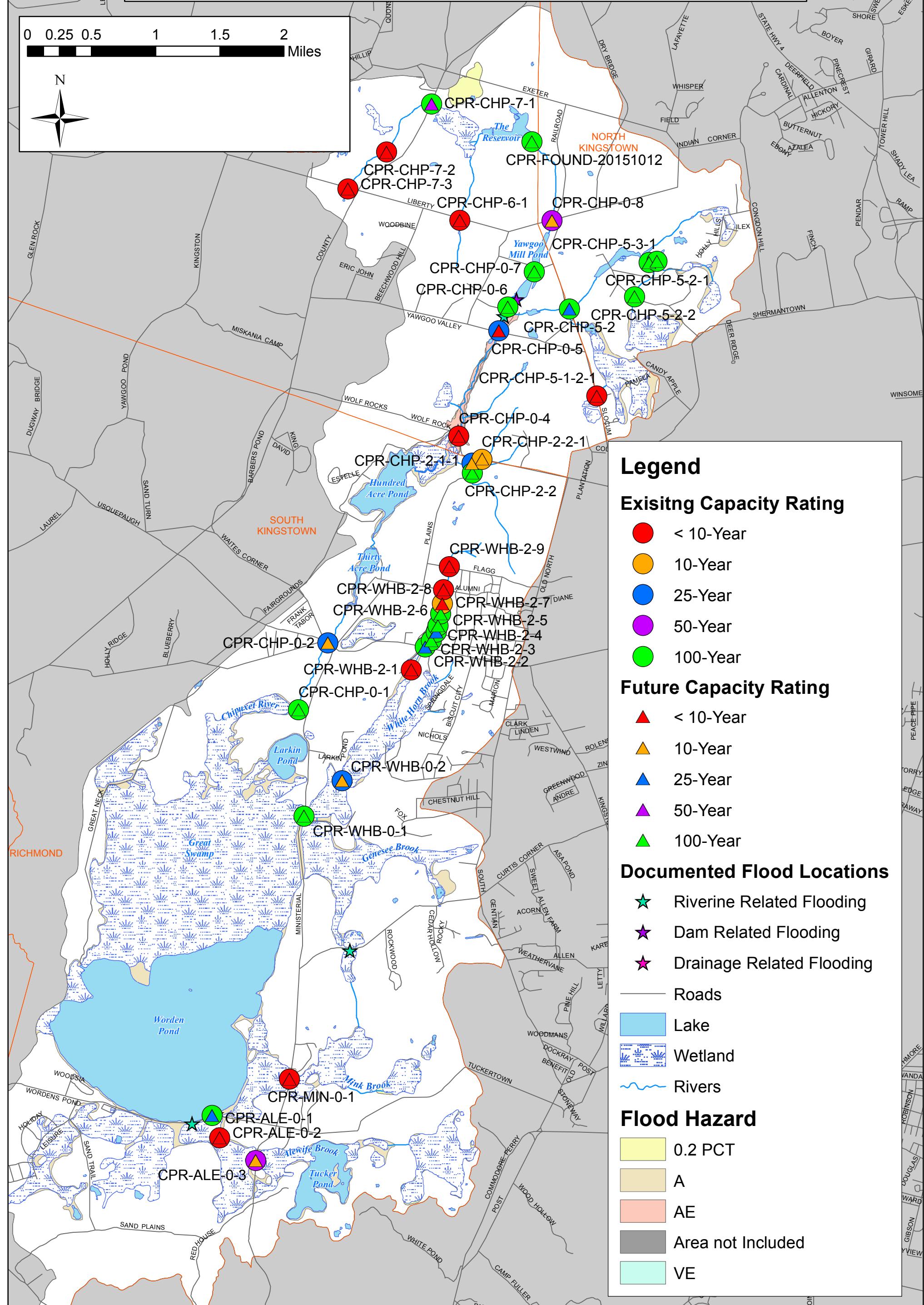
Flood Hazards

- 0.2 PCT
- A
- AE
- Area not Included
- VE



Chipuxet River Watershed Hydraulic Capacity Rating

0 0.25 0.5 1 1.5 2 Miles



Legend

Existing Capacity Rating

- < 10-Year
- 10-Year
- 25-Year
- 50-Year
- 100-Year

Future Capacity Rating

- ▲ < 10-Year
- ▲ 10-Year
- ▲ 25-Year
- ▲ 50-Year
- ▲ 100-Year

Documented Flood Locations

- ★ Riverine Related Flooding
- ★ Dam Related Flooding
- ★ Drainage Related Flooding

— Roads

Lake

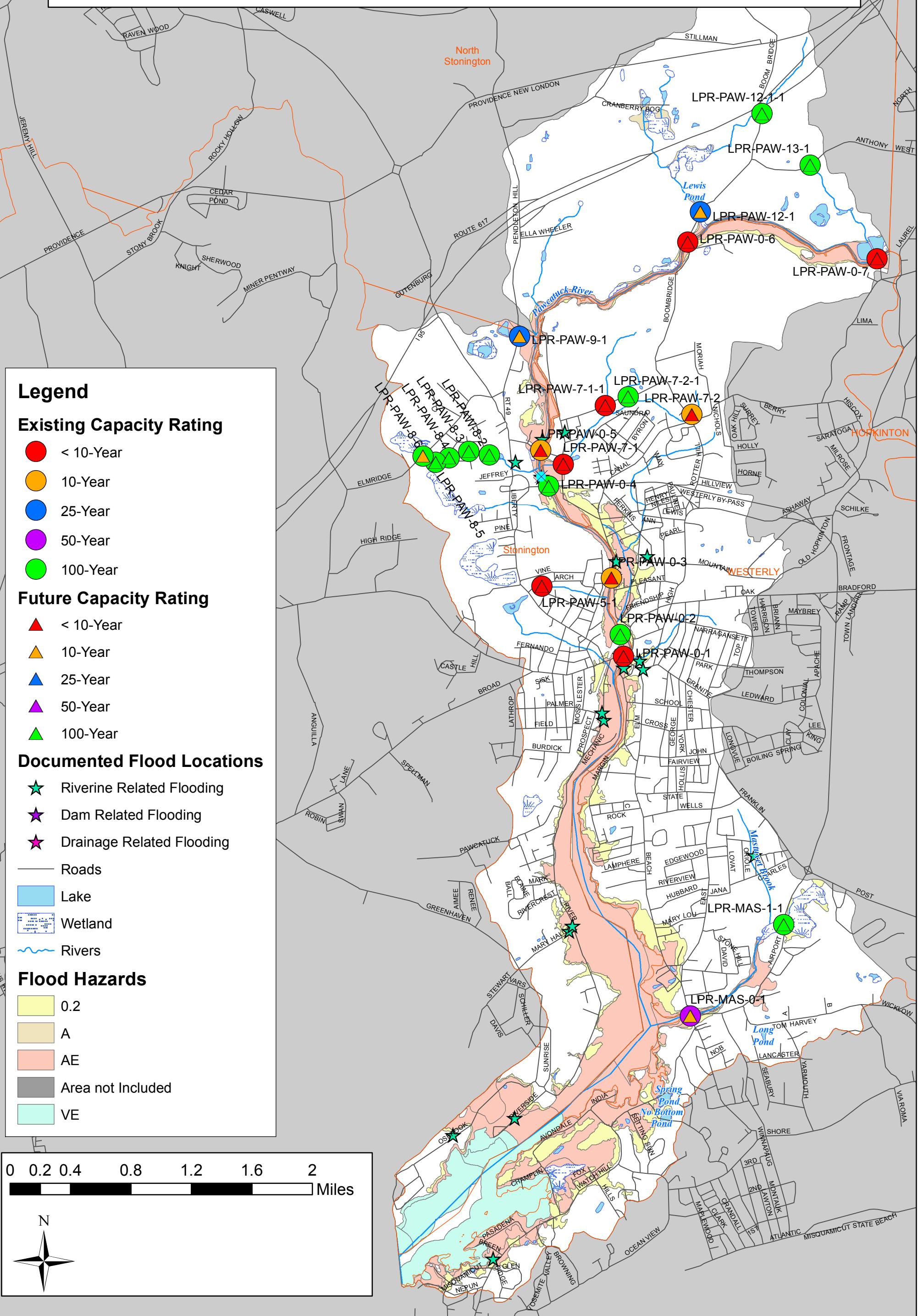
Wetland

Rivers

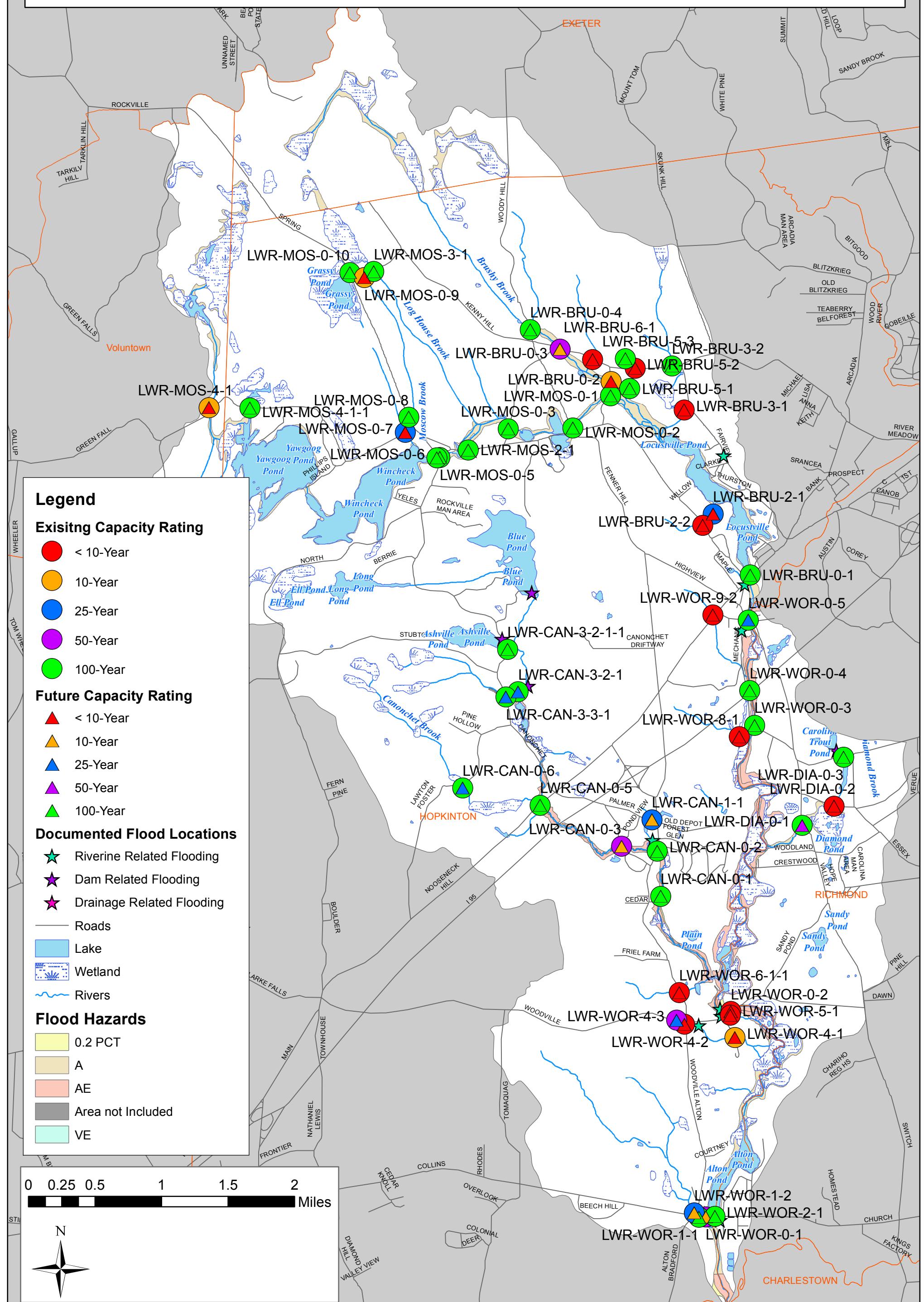
Flood Hazard

- 0.2 PCT
- A
- AE
- Area not Included
- VE

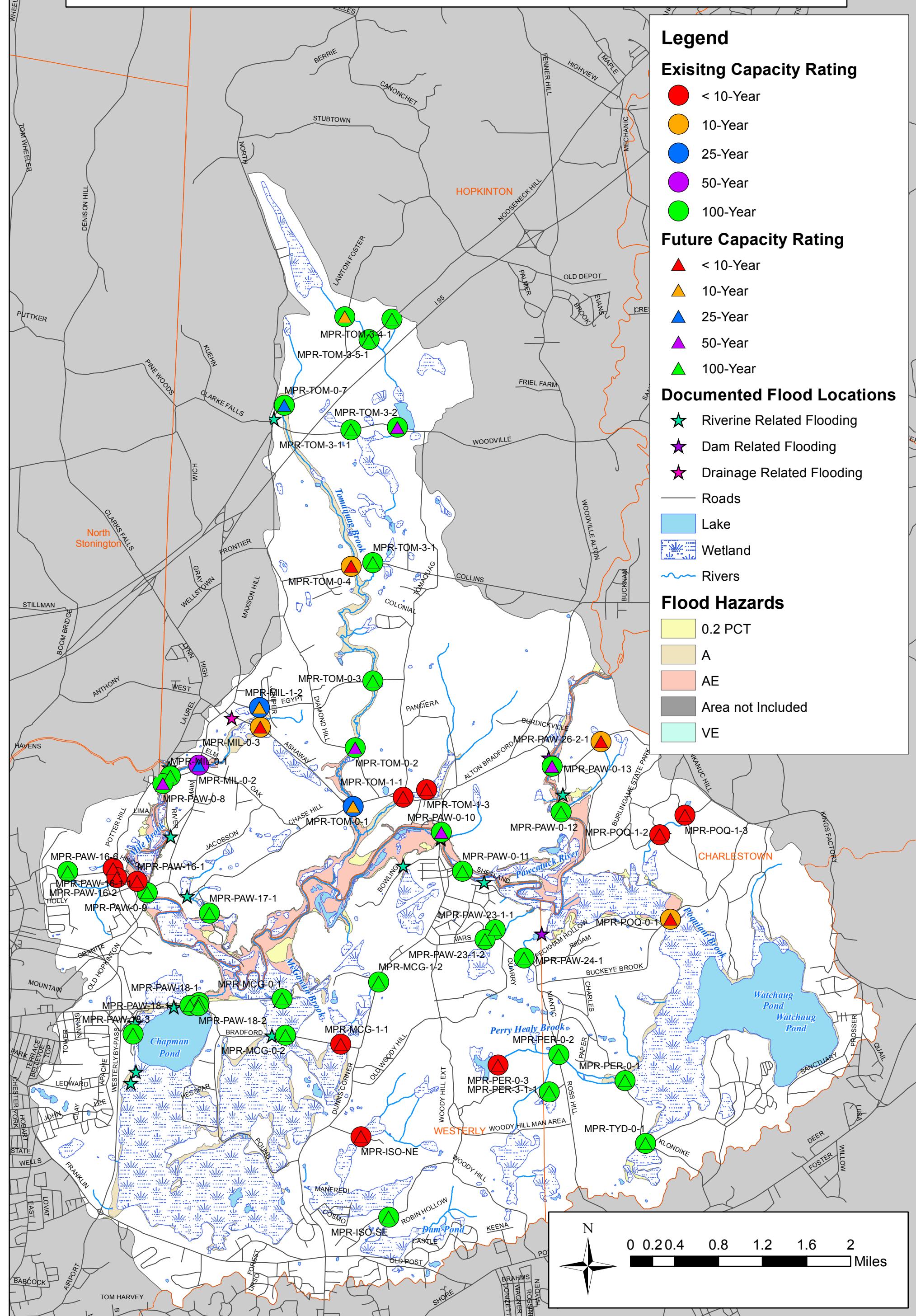
Lower Pawcatuck River Subwatershed Hydraulic Capacity Rating



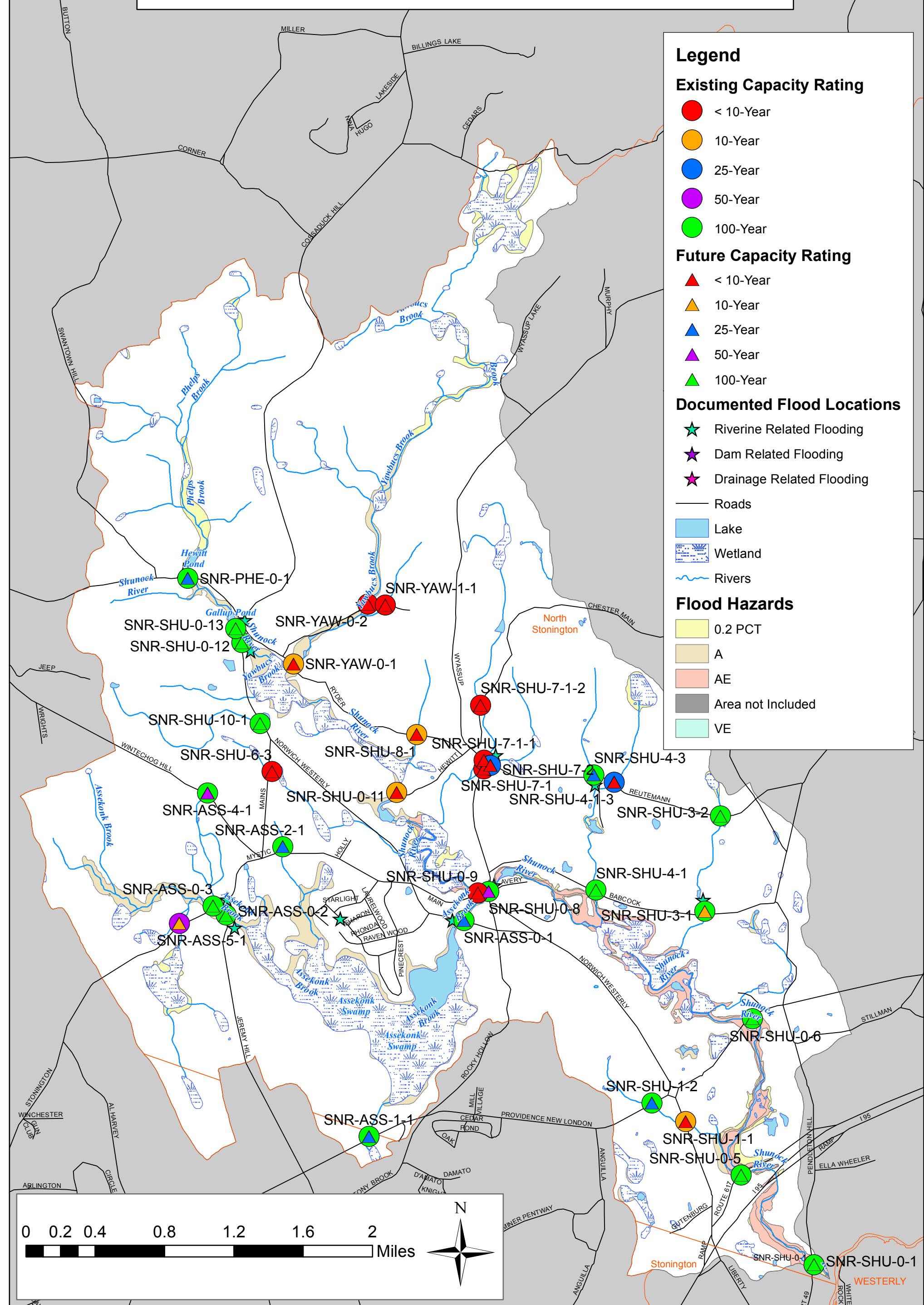
Lower Wood River Subwatershed Hydraulic Capacity Rating



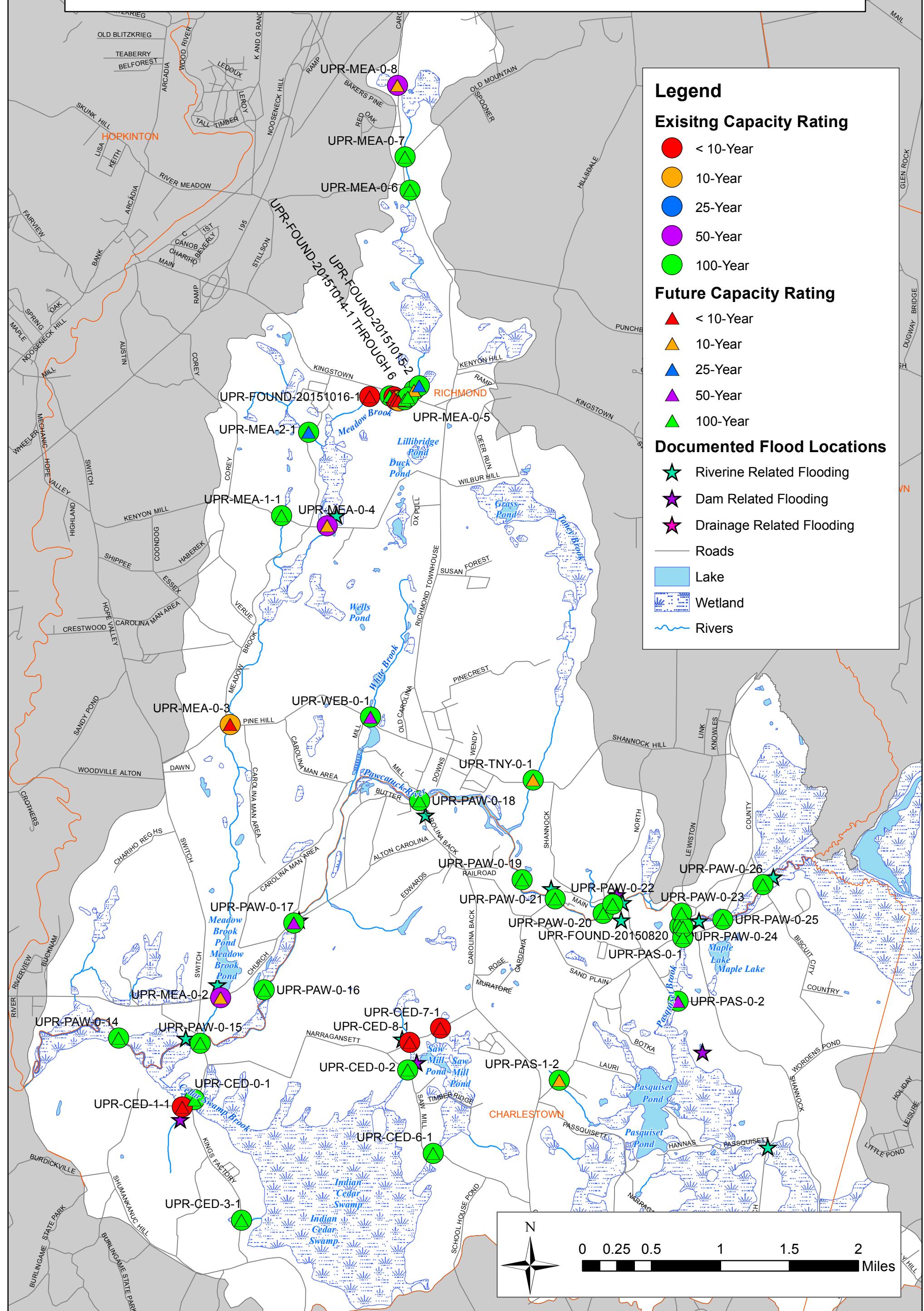
Middle Pawcatuck River Subwatershed Hydraulic Capacity Rating



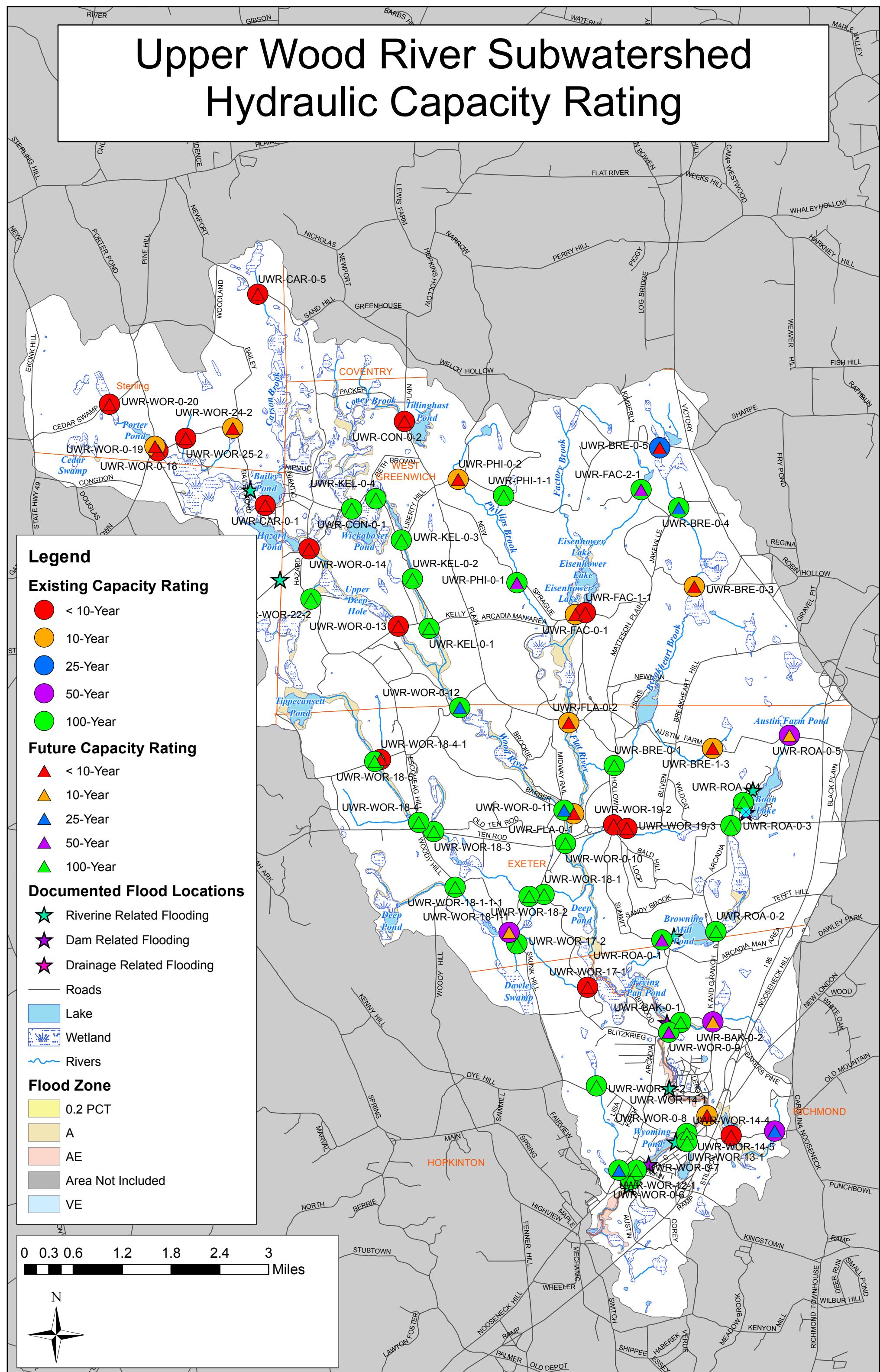
Shunock River Subwatershed Hydraulic Capacity Rating



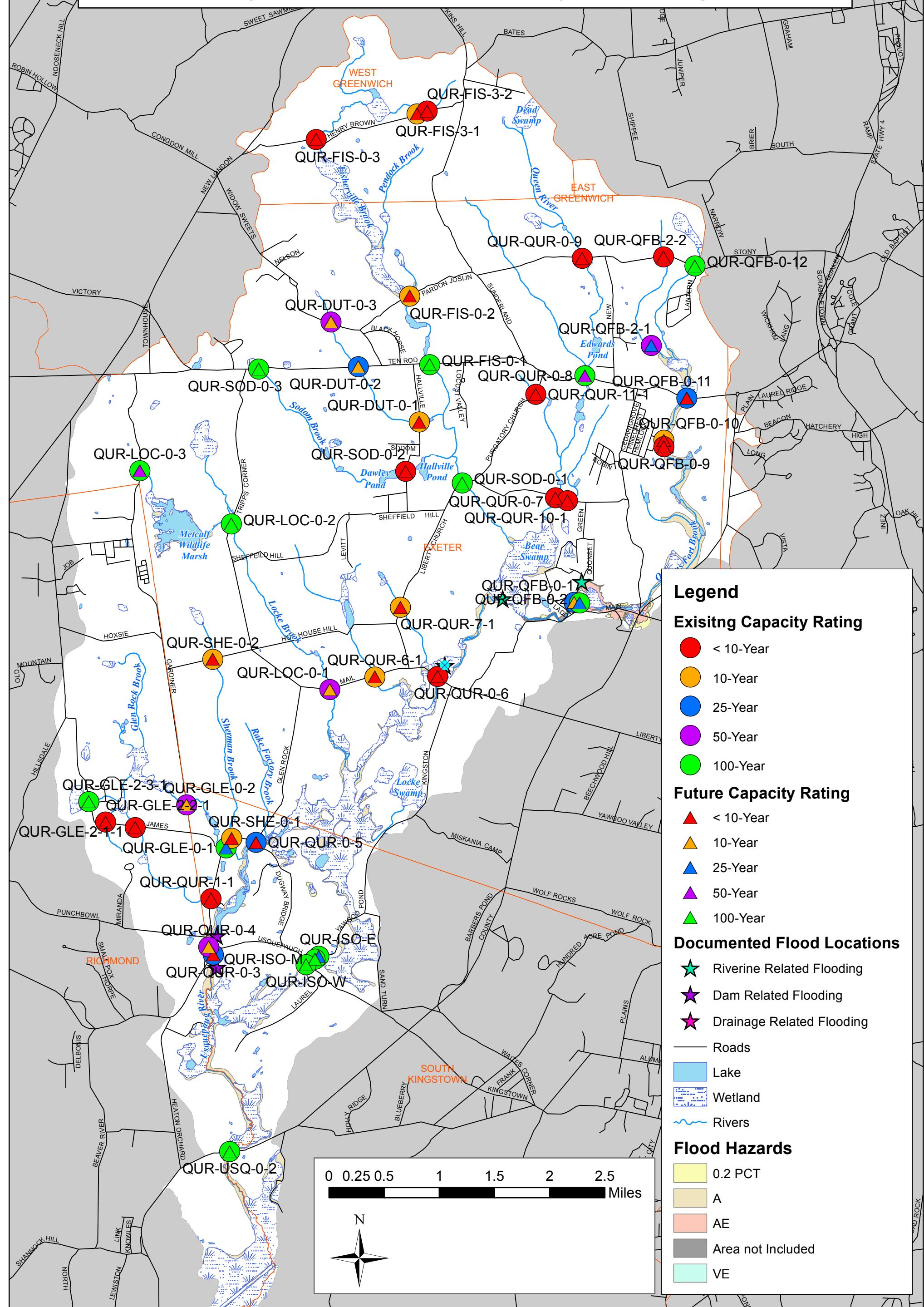
Upper Pawcatuck River Subwatershed Hydraulic Capacity Rating



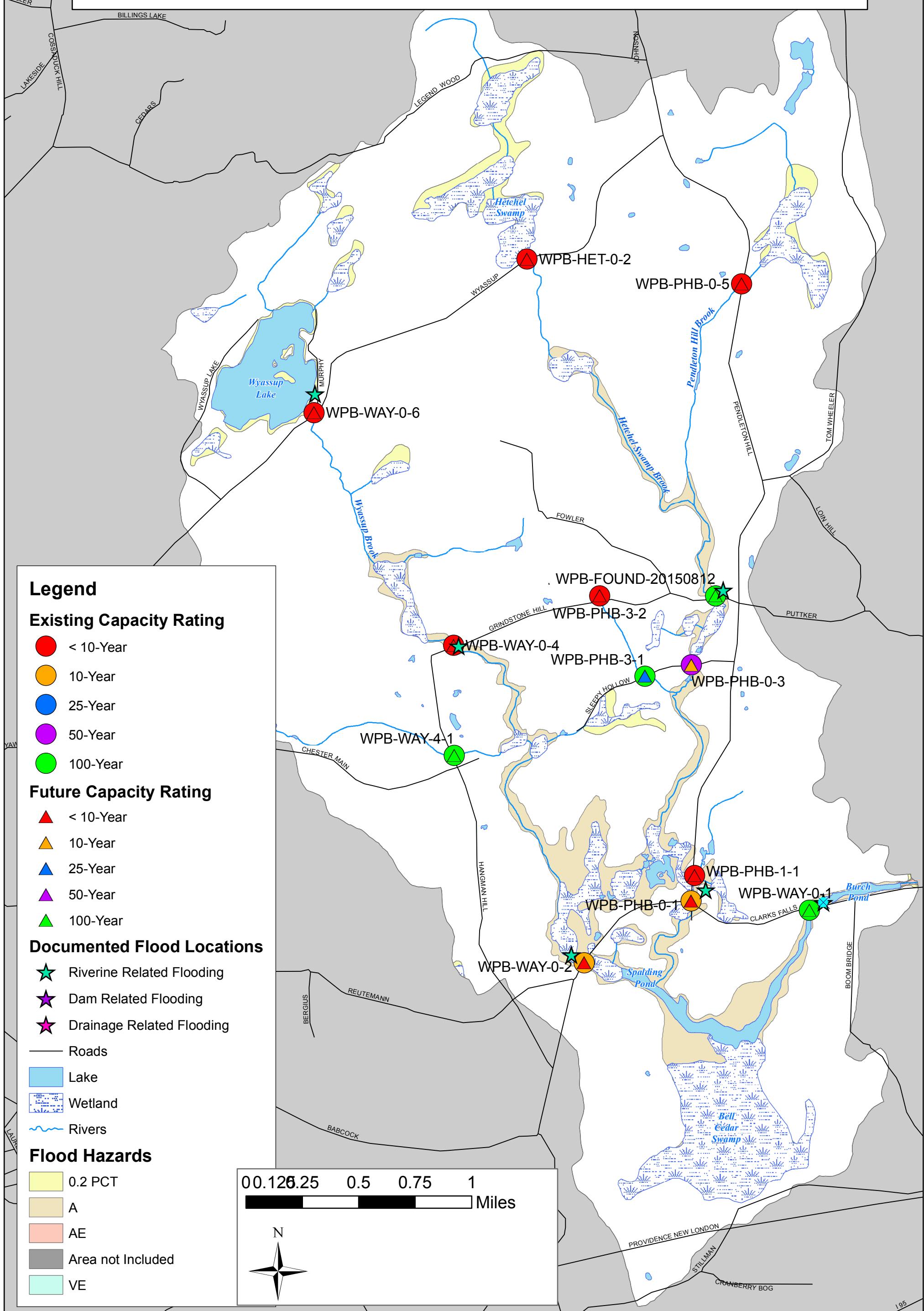
Upper Wood River Subwatershed Hydraulic Capacity Rating



Usquepaug River Subwatershed Hydraulic Capacity Rating



Wayassup Brook Subwatershed Hydraulic Capacity Rating



Bridges and Culverts Hydraulic Capacity Analysis Results by Subwatershed

Structure Name/ Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/ Future Capacity Change?
AWR-ASH-0-1	3330	28.20	1040	1420	1720	2050	SS		2.35	100-Year	1570	2144	2597	3096	1.55	100-Year	FALSE	No
AWR-ASH-0-2	2700	28.30	1050	1430	1730	2060	SS		1.89	100-Year	1586	2159	2612	3111	1.25	50-Year	FALSE	Decrease
AWR-ASH-0-3	3200	26.60	985	1340	1630	1940	SS		2.39	100-Year	1487	2023	2461	2929	1.58	100-Year	FALSE	No
AWR-ASH-0-4	2400	22.60	985	1340	1630	1940	SS		1.79	100-Year	1487	2023	2461	2929	1.19	25-Year	FALSE	Decrease
AWR-ASH-1-2	17	0.08	16.7	22.2	26.5	30.3	SS	DA	0.78	10-Year	25	34	40	46	0.52	< 10-Year	FALSE	Decrease
AWR-ASH-2-1	86	0.22	1.51	2.08	2.62	3.29	SS	DA, SD	41.41	100-Year	2	3	4	5	27.43	100-Year	FALSE	No
AWR-GLA-0-1	254	1.93	222	299	361	425	SS		0.85	10-Year	335	451	545	642	0.56	< 10-Year	FALSE	Decrease
AWR-GLA-0-2	202	1.66	202	271	327	384	SS	DA	0.75	10-Year	305	409	494	580	0.49	< 10-Year	FALSE	Decrease
AWR-GLA-0-4	5	0.17	4.31	5.95	7.26	8.86	SS	DA	0.91	10-Year	7	9	11	13	0.60	< 10-Year	FALSE	Decrease
AWR-GRE-0-2	3700	7.65	655	900	1100	1300	SS		4.11	100-Year	989	1359	1661	1963	2.72	100-Year	FALSE	No
AWR-GRE-0-3	120	6.88	622	838	1020	1210	SS		0.14	< 10-Year	939	1265	1540	1827	0.09	< 10-Year	FALSE	No
AWR-GRE-0-4	760	6.84	619	835	1020	1210	SS		0.91	10-Year	935	1261	1540	1827	0.60	< 10-Year	FALSE	Decrease
AWR-GRE-0-6	260	2.17	267	355	428	502	SS		0.73	< 10-Year	403	536	646	758	0.48	< 10-Year	FALSE	No
AWR-GRE-10-1-1	54	0.11	26.4	34.2	40.5	46.2	SS	DA	1.57	100-Year	40	52	61	70	1.04	25-Year	FALSE	Decrease
AWR-GRE-10-2-1	311	0.54	91.8	121	144	167	SS	DA, MBE	2.57	100-Year	139	183	217	252	1.70	100-Year	FALSE	No
AWR-GRE-1-2	71	0.24	38.1	51	61.2	70.8	SS	DA, MBE	1.38	50-Year	58	77	92	107	0.92	10-Year	TRUE	Decrease
AWR-GRE-3-1	37	0.34	53.3	71.1	85.5	99.1	SS	DA	0.53	< 10-Year	80	107	129	150	0.35	< 10-Year	FALSE	No
AWR-GRE-4-1	34	0.13	21.5	28.7	34.5	39.7	SS	DA	1.19	25-Year	32	43	52	60	0.79	10-Year	TRUE	Decrease
AWR-GRE-5-1	20	0.19	33	43.9	52.5	60.6	SS	DA	0.45	< 10-Year	50	66	79	92	0.30	< 10-Year	FALSE	No
AWR-GRE-5-2	27	0.22	36.7	48.9	58.6	67.7	SS	DA	0.56	< 10-Year	55	74	88	102	0.37	< 10-Year	FALSE	No
AWR-GRE-6-1	5	0.34	52.9	70.4	84.4	97.8	SS	DA	0.07	< 10-Year	80	106	127	148	0.05	< 10-Year	FALSE	No
AWR-GRE-7-1	27	0.30	52.5	69.4	83	96	SS	DA	0.39	< 10-Year	79	105	125	145	0.26	< 10-Year	FALSE	No
AWR-GRE-8-2-1	30	0.25	51.2	66.7	79.3	91.2	SS	DA	0.45	< 10-Year	77	101	120	138	0.30	< 10-Year	FALSE	No
AWR-GRE-8-2-2	7	0.18	39.9	51.9	61.5	70.5	SS	DA	0.13	< 10-Year	60	78	93	106	0.09	< 10-Year	FALSE	No
AWR-PAR-0-2	138	1.27	266	386	490	592	SS	DA	0.36	< 10-Year	402	583	740	894	0.24	< 10-Year	FALSE	No
AWR-PEG-0-1	391	0.48	79.7	105	126	146	SS	DA	3.72	100-Year	120	159	190	220	2.46	100-Year	FALSE	No
AWR-WIN-0-1	16	0.36	6.81	9.33	11.4	13.9	SS	DA, SD	1.74	100-Year	10	14	17	21	1.15	25-Year	FALSE	Decrease
BVR-BEA-0-1	284	11.90	431	592	723	866	SS		0.48	< 10-Year	651	894	1092	1308	0.32	< 10-Year	FALSE	No
BVR-BEA-0-2	260	10.10	404	555	680	814	SS		0.47	< 10-Year	610	838	1027	1229	0.31	< 10-Year	FALSE	No
BVR-BEA-0-3	1430	9.18	364	501	614	736	SS		2.85	100-Year	550	757	927	1111	1.89	100-Year	FALSE	No
BVR-BEA-0-4	156	5.25	244	338	417	502	SS		0.46	< 10-Year	368	510	630	758	0.30	< 10-Year	FALSE	No
BVR-BEA-0-5	173	4.66	206	286	353	426	SS	SD	0.60	< 10-Year	311	432	533	643	0.40	< 10-Year	FALSE	No
BVR-BEA-0-6	125	1.84	85.2	119	149	181	SS	DA, SD	1.05	25-Year	129	180	225	273	0.69	< 10-Year	TRUE	Decrease
BVR-BEA-2-1	72	0.57	47	66.4	82	99	SS	DA	1.08	25-Year	71	100	124	149	0.72	10-Year	TRUE	Decrease
BVR-BEA-3-1	62	0.53	22.5	31.3	38.2	46.2	SS	DA	1.98	100-Year	34	47	58	70	1.31	50-Year	FALSE	Decrease
BVR-BEA-3-2	10	0.07	0.43	0.58	0.71	0.89	SS	DA, SD, PS	16.45	100-Year	1	1	1	1	10.89	100-Year	FALSE	No
BVR-BEA-5-1	35	0.30	61.5	89.4	114	138	SS	DA, PS	0.39	< 10-Year	93	135	172	208	0.26	< 10-Year	FALSE	No
BVR-BEA-6-1	79	0.33	61.9	90	114	139	SS	DA, SD	0.87	10-Year	93	136	172	210	0.58	< 10-Year	FALSE	Decrease
BVR-BEA-6-2	19	0.13	32	55	74	95	TR-20	--	0.35	< 10-Year	48	83	112	143	0.23	< 10-Year	FALSE	No
BVR-FOUND-20150630	410	8.86	356	490	600	719	SS		0.84	10-Year	506	701	862	1034	0.59	< 10-Year	FALSE	Decrease
BVR-FOUND-20150817	315	6.89	335	464	571	685	SS		0.68	< 10-Year	599	824	1009	1210	0.38	< 10-Year	FALSE	No

Bridges and Culverts Hydraulic Capacity Analysis Results by Subwatershed

Structure Name/ Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/ Future Capacity Change?
BVR-FOUND-20151015	517	10.00	397	546	668	801	SS		0.95	10-Year	599	824	1009	1210	0.63	< 10-Year	FALSE	Decrease
CKR-3047	4	0.013	3.0	6.0	8.0	10.0	TR-20	--	0.63	10-Year	5	9	12	15	0.42	< 10-Year	FALSE	Decrease
CKR-3049	5	0.015	4.0	6.0	9.0	11.0	TR-20	--	0.81	10-Year	6	9	14	17	0.54	< 10-Year	FALSE	Decrease
CKR-3071	1	0.016	4.0	6.0	9.0	12.0	TR-20	--	0.18	< 10-Year	6	9	14	18	0.12	< 10-Year	FALSE	No
CKR-3192	5	0.011	3.0	6.0	8.0	10.0	TR-20	--	0.85	10-Year	5	9	12	15	0.56	10-Year	FALSE	No
CKR-3243	4	0.015	8.0	12.0	16.0	19.0	TR-20	--	0.35	< 10-Year	12	18	24	29	0.23	< 10-Year	FALSE	No
CKR-3351	20	0.051	12.0	21.0	29.0	37.0	TR-20	--	0.96	10-Year	18	32	44	56	0.63	10-Year	FALSE	No
CKR-CHK-0-3	575	4.82	103	139	168	201	SS		4.14	100-Year	156	210	254	304	2.74	100-Year	FALSE	No
CKR-CHK-0-4	536	4.02	73.8	99.6	120	144	SS		5.38	100-Year	111	150	181	217	3.56	100-Year	FALSE	No
CKR-CHK-0-5	240	3.86	66	88.9	107	129	SS	DA	2.70	100-Year	100	134	162	195	1.79	100-Year	FALSE	No
CKR-CHK-1-1	45	0.30	41	69	93	120	TR-20	--	0.65	10-Year	62	104	140	181	0.43	< 10-Year	FALSE	Decrease
CKR-CHK-1-2	40	0.27	41	69	94	121	TR-20	--	0.59	< 10-Year	62	104	142	183	0.39	< 10-Year	FALSE	No
CKR-CHK-2-1-1	25	0.16	16	22.9	28.8	35.1	SS	DA	1.07	25-Year	24	35	43	53	0.71	10-Year	TRUE	Decrease
CKR-CHK-2-1-2	39	0.14	8.1	11.6	14.6	17.9	SS	DA, SD	3.32	100-Year	12	18	22	27	2.20	100-Year	FALSE	No
CKR-CHK-2-2-1	283	0.16	7.93	11.2	13.9	17	SS	DA, SD	25.26	100-Year	12	17	21	26	16.73	100-Year	FALSE	No
CKR-CHK-3-1	134	3.28	45.6	61.2	73.4	88.4	SS		2.19	100-Year	69	92	111	133	1.45	100-Year	FALSE	No
CKR-CHK-3-1-1	8	0.81	2.16	2.89	3.57	4.47	SS	DA, SD	2.74	100-Year	3	4	5	7	1.81	100-Year	FALSE	No
CKR-CHK-3-2	59	3.28	45.6	61.2	73.4	88.4	SS	DA, PS	0.96	10-Year	69	92	111	133	0.64	< 10-Year	FALSE	Decrease
CKR-CHK-3-3	12	0.04	3.43	4.87	5.99	7.29	SS	DA, SD, PS	2.52	100-Year	5	7	9	11	1.67	100-Year	FALSE	No
CPR-ALE-0-1	27	2.06	12.5	16.6	19.8	24	SS	DA, SD, PS	1.65	100-Year	19	25	30	36	1.09	25-Year	FALSE	Decrease
CPR-ALE-0-2	6	1.98	10.6	14	16.7	20.3	SS	DA, SD, PS	0.44	< 10-Year	16	21	25	31	0.29	< 10-Year	FALSE	No
CPR-ALE-0-3	12	1.25	6.98	9.22	11	13.4	SS	DA, SD, PS	1.32	50-Year	11	14	17	20	0.88	10-Year	TRUE	Decrease
CPR-CHP-0-1	1560	10.30	318	435	528	633	SS		3.59	100-Year	480	657	797	956	2.37	100-Year	FALSE	No
CPR-CHP-0-2	494	9.98	299	408	496	594	SS		1.21	25-Year	451	616	749	897	0.80	10-Year	TRUE	Decrease
CPR-CHP-0-4	166	7.13	231	317	386	464	SS		0.52	< 10-Year	349	479	583	701	0.35	< 10-Year	FALSE	No
CPR-CHP-0-5	282	6.38	187	256	312	374	SS		1.10	25-Year	282	387	471	565	0.73	< 10-Year	TRUE	Decrease
CPR-CHP-0-6	1114	3.96	200	278	345	416	SS	DA, SD	4.01	100-Year	302	420	521	628	2.65	100-Year	FALSE	No
CPR-CHP-0-7	228208	3.73	202	282	351	424	SS	DA, SD	809.25	100-Year	305	426	530	640	535.93	100-Year	FALSE	No
CPR-CHP-0-8	331	3.83	181	253	315	381	SS	DA, PS	1.31	50-Year	273	382	476	575	0.87	10-Year	TRUE	Decrease
CPR-CHP-2-1-1	224	0.86	103	171	231	296	TR-20	--	1.31	25-Year	156	258	349	447	0.87	10-Year	TRUE	Decrease
CPR-CHP-2-2	627	0.50	48	78	105	134	TR-20	--	8.04	100-Year	72	118	159	202	5.33	100-Year	FALSE	No
CPR-CHP-2-2-1	37	0.18	24	39	53	68	TR-20	--	0.95	10-Year	36	59	80	103	0.63	10-Year	FALSE	No
CPR-CHP-5-1-2-1	0	0.15	1.6	2.2	2.7	3.3	SS		0.00	< 10-Year	2	3	4	5	0.00	< 10-Year	FALSE	No
CPR-CHP-5-2	102	2.21	47.3	64.2	77.5	93.4	SS	DA	1.59	100-Year	71	97	117	141	1.05	25-Year	FALSE	Decrease
CPR-CHP-5-2-1	49	0.34	5.68	7.73	9.33	11.4	SS	DA, PS	6.36	100-Year	9	12	14	17	4.21	100-Year	FALSE	No
CPR-CHP-5-2-2	37	0.27	1.47	1.96	2.37	2.91	SS	DA, SD, PS	18.71	100-Year	2	3	4	4	12.39	100-Year	FALSE	No
CPR-CHP-5-3-1	113	0.20	9.56	13.3	16.3	19.8	SS	DA	8.49	100-Year	14	20	25	30	5.62	100-Year	FALSE	No
CPR-CHP-6-1	18	0.43	75	119	158	199	TR-20	--	0.15	< 10-Year	113	180	239	300	0.10	< 10-Year	FALSE	No
CPR-CHP-7-1	276	0.79	85.5	123	155	188	SS	DA, PS	2.24	100-Year	129	186	234	284	1.48	50-Year	FALSE	Decrease
CPR-CHP-7-2	61	0.42	65	105	138	174	TR-20	--	0.58	< 10-Year	98	159	208	263	0.38	< 10-Year	FALSE	No
CPR-CHP-7-3	9	0.20	66.7	101	136	170	SS	DA, SD, PS	0.09	< 10-Year	101	153	205	257	0.06	< 10-Year	FALSE	No

Bridges and Culverts Hydraulic Capacity Analysis Results by Subwatershed

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CPR-FOUND-20151012	660	2.47	114	158	196	237	SS		4.18	100-Year	172	239	296	358	2.77	100-Year	FALSE	No
CPR-MIN-0-1	3	1.53	30.9	42	50.9	61.5	SS	DA	0.06	< 10-Year	47	63	77	93	0.04	< 10-Year	FALSE	No
CPR-WHB-0-1	1240	3.94	325	475	598	727	TR-20	--	2.61	100-Year	491	717	903	1098	1.73	100-Year	FALSE	No
CPR-WHB-0-2	383	2.06	208	304	384	467	TR-20	--	1.26	25-Year	314	459	580	705	0.83	10-Year	TRUE	Decrease
CPR-WHB-2-1	15	0.75	241	327	396	465	TR-20	--	0.05	< 10-Year	364	494	598	702	0.03	< 10-Year	FALSE	No
CPR-WHB-2-2	545	0.69	241	327	395	465	TR-20	--	1.67	100-Year	364	494	596	702	1.10	25-Year	FALSE	Decrease
CPR-WHB-2-3	759	0.66	241	327	395	464	TR-20	--	2.32	100-Year	364	494	596	701	1.54	100-Year	FALSE	No
CPR-WHB-2-4	533	0.61	238	234	391	459	TR-20	--	2.28	100-Year	359	353	590	693	1.51	25-Year	FALSE	Decrease
CPR-WHB-2-5	668	0.57	230	311	376	442	TR-20	--	2.15	100-Year	347	470	568	667	1.42	100-Year	FALSE	No
CPR-WHB-2-6	849	0.51	220	299	361	424	TR-20	--	2.84	100-Year	332	451	545	640	1.88	100-Year	FALSE	No
CPR-WHB-2-7	233	0.44	200	271	328	385	TR-20	--	0.86	10-Year	302	409	495	581	0.57	< 10-Year	FALSE	Decrease
CPR-WHB-2-8	23	0.15	97	131	158	185	TR-20	--	0.18	< 10-Year	146	198	239	279	0.12	< 10-Year	FALSE	No
CPR-WHB-2-9	20	0.10	21	37	50	64	TR-20	--	0.54	< 10-Year	32	56	76	97	0.36	< 10-Year	FALSE	No
LPR-MAS-0-1	177	1.50	86.6	121	150	182	SS	DA	1.46	50-Year	131	183	227	275	0.97	10-Year	TRUE	Decrease
LPR-MAS-1-1	41	0.23	7.05	9.72	11.8	14.3	SS	DA	4.26	100-Year	11	15	18	22	2.82	100-Year	FALSE	No
LPR-PAW-0-1	8064	296.00	11400	15900	19800	24300	SS	DA	0.51	< 10-Year	17214	24009	29898	36693	0.34	< 10-Year	FALSE	No
LPR-PAW-0-2	43094	296.00	11400	15900	19800	24300	SS	DA	2.71	100-Year	17214	24009	29898	36693	1.79	100-Year	FALSE	No
LPR-PAW-0-3	12550	294.00	11300	15800	19700	24200	SS	DA	0.79	10-Year	17063	23858	29747	36542	0.53	< 10-Year	FALSE	Decrease
LPR-PAW-0-4	38990	294.00	11300	15800	19700	24200	SS	DA	2.47	100-Year	17063	23858	29747	36542	1.63	100-Year	FALSE	No
LPR-PAW-0-5	11400	293.00	11300	15800	19700	24200	SS	DA	0.72	10-Year	17063	23858	29747	36542	0.48	< 10-Year	FALSE	Decrease
LPR-PAW-0-6	7500	274.00	10800	15100	18800	23000	SS	DA	0.50	< 10-Year	16308	22801	28388	34730	0.33	< 10-Year	FALSE	No
LPR-PAW-0-7	2200	271.00	10700	15000	18600	22900	SS	DA	0.15	< 10-Year	16157	22650	28086	34579	0.10	< 10-Year	FALSE	No
LPR-PAW-12-1	253	1.63	163	222	270	318	SS	DE, MBE	1.14	25-Year	246	335	408	480	0.75	10-Year	TRUE	Decrease
LPR-PAW-12-1-1	668	0.27	43.7	58.4	70.2	81.2	SS	DA	11.44	100-Year	66	88	106	123	7.57	100-Year	FALSE	No
LPR-PAW-13-1	33	0.05	10.9	14.4	17.1	19.6	SS	DE, MBE	2.28	100-Year	16	22	26	30	1.51	100-Year	FALSE	No
LPR-PAW-5-1	20	0.29	41.3	55.9	67.6	78.6	SS	DE, MBE	0.35	< 10-Year	62	84	102	119	0.23	< 10-Year	FALSE	No
LPR-PAW-7-1	58	0.97	292	440	562	689	TR-20	--	0.13	< 10-Year	441	664	849	1040	0.09	< 10-Year	FALSE	No
LPR-PAW-7-1-1	47	0.17	47	70	90	110	TR-20	--	0.67	< 10-Year	71	106	136	166	0.44	< 10-Year	FALSE	No
LPR-PAW-7-2	45	0.12	43	64	82	101	TR-20	--	0.71	10-Year	65	97	124	153	0.47	< 10-Year	FALSE	Decrease
LPR-PAW-7-2-1	779	0.06	25	38	48	59	TR-20	--	20.50	100-Year	38	57	72	89	13.58	100-Year	FALSE	No
LPR-PAW-8-2	116	0.24	37.7	50.6	61	70.8	SS	DE, MBE	2.29	100-Year	57	76	92	107	1.51	100-Year	FALSE	No
LPR-PAW-8-3	168	0.23	36.6	49.2	59.2	68.6	SS	DE, MBE	3.42	100-Year	55	74	89	104	2.27	100-Year	FALSE	No
LPR-PAW-8-4	183	0.19	31.6	42.4	51	59	SS	DE, MBE	4.31	100-Year	48	64	77	89	2.86	100-Year	FALSE	No
LPR-PAW-8-5	131	0.14	25	33.5	40.2	46.4	SS	DE, MBE	3.90	100-Year	38	51	61	70	2.59	100-Year	FALSE	No
LPR-PAW-8-6	36	0.10	19.3	25.7	30.8	35.4	SS	DE, MBE	1.39	100-Year	29	39	47	53	0.92	10-Year	TRUE	Decrease
LPR-PAW-9-1	73	0.36	48.4	65.5	79.2	92.3	SS		1.12	25-Year	73	99	120	139	0.74	10-Year	TRUE	Decrease
LWR-BRU-0-1	1884	11.80	333	451	545	651	SS		4.18	100-Year	503	681	823	983	2.77	100-Year	FALSE	No
LWR-BRU-0-2	211	3.64	174	241	297	357	SS		0.87	10-Year	263	364	448	539	0.58	< 10-Year	FALSE	Decrease
LWR-BRU-0-3	212	3.02	118	163	200	242	SS		1.30	50-Year	178	246	302	365	0.86	10-Year	TRUE	Decrease
LWR-BRU-0-4	655	2.33	70	96.2	118	142	SS	DA	6.80	100-Year	106	145	178	214	4.51	100-Year	FALSE	No
LWR-BRU-2-1	107	0.13	75.0	105.0	130.0	155.0	TR-20	--	1.02	25-Year	113	159	196	234	0.67	< 10-Year	TRUE	Decrease

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LWR-BRU-2-2	36	0.12	73.0	102.0	125.0	149.0	TR-20	--	0.35	< 10-Year	110	154	189	225	0.23	< 10-Year	FALSE	No
LWR-BRU-3-1	14	0.49	49.5	70.4	87.6	106	SS	DA, PS	0.19	< 10-Year	75	106	132	160	0.13	< 10-Year	FALSE	No
LWR-BRU-3-2	165	0.36	48.5	69.7	87.6	106	SS	DA	2.37	100-Year	73	105	132	160	1.57	100-Year	FALSE	No
LWR-BRU-5-1	148	0.05	39.4	59.7	77	93.7	SS	DA	2.48	100-Year	59	90	116	141	1.64	100-Year	FALSE	No
LWR-BRU-5-2	13	0.03	18.1	27.1	34.8	42.4	SS	DA, PS	0.49	< 10-Year	27	41	53	64	0.33	< 10-Year	FALSE	No
LWR-BRU-5-3	234	0.02	6.49	9.62	12.3	15.1	SS	DA, PS	24.34	100-Year	10	15	19	23	16.12	100-Year	FALSE	No
LWR-BRU-6-1	16	0.40	58.0	97.0	132.0	169.0	TR-20	--	0.17	< 10-Year	88	146	199	255	0.11	< 10-Year	FALSE	No
LWR-CAN-0-1	860	6.77	222	304	371	445	SS		2.83	100-Year	335	459	560	672	1.87	100-Year	FALSE	No
LWR-CAN-0-2	689	6.61	212	290	353	424	SS		2.37	100-Year	320	438	533	640	1.57	100-Year	FALSE	No
LWR-CAN-0-3	352	5.79	178	243	296	355	SS		1.45	50-Year	269	367	447	536	0.96	10-Year	TRUE	Decrease
LWR-CAN-0-5	870	4.98	139	189	230	276	SS		4.60	100-Year	210	285	347	417	3.05	100-Year	FALSE	No
LWR-CAN-0-6	127	1.18	52.3	73.1	90.9	110	SS	DA, SD	1.74	100-Year	79	110	137	166	1.15	25-Year	FALSE	Decrease
LWR-CAN-1-1	55	0.56	34.7	49.9	64.4	79.7	SS	DA, SD	1.11	25-Year	52	75	97	120	0.74	10-Year	TRUE	Decrease
LWR-CAN-3-2-1	109	2.43	49.2	66.8	80.8	97.6	SS	DA	1.63	100-Year	74	101	122	147	1.08	25-Year	FALSE	Decrease
LWR-CAN-3-2-1-1	42	0.34	6.09	8.34	10.2	12.5	SS	DA, PS	5.06	100-Year	9	13	15	19	3.35	100-Year	FALSE	No
LWR-CAN-3-3-1	61	0.38	27.1	38.1	49.6	56.6	SS	DA	1.60	100-Year	41	58	75	85	1.06	25-Year	FALSE	Decrease
LWR-DIA-0-1	91	0.83	32.1	44.6	54.8	66.5	SS	DA	2.03	100-Year	48	67	83	100	1.35	50-Year	FALSE	Decrease
LWR-DIA-0-2	4	0.25	22.1	31.5	39.1	47.5	SS	DA	0.14	< 10-Year	33	48	59	72	0.09	< 10-Year	FALSE	No
LWR-DIA-0-3	31	0.12	8.56	12.2	15.1	18.5	SS	DA	2.57	100-Year	13	18	23	28	1.70	100-Year	FALSE	No
LWR-FOUND-20150625	434	3.43	88.5	121	146	176	SS	DA	3.59	100-Year	134	183	220	266	2.38	100-Year	FALSE	No
LWR-FOUND-20150722	29	0.00	1.0	2.0	3.0	4.0	TR-20	--	14.41	100-Year	2	3	5	6	9.54	100-Year	FALSE	No
LWR-MOS-0-1	1154	6.21	145	197	237	284	SS		5.86	100-Year	219	297	358	429	3.88	100-Year	FALSE	No
LWR-MOS-0-10	132	0.60	9.4	12.8	15.5	18.8	SS	DA, SD	10.31	100-Year	14	19	23	28	6.82	100-Year	FALSE	No
LWR-MOS-0-2	1075	6.15	141	190	229	274	SS		5.66	100-Year	213	287	346	414	3.75	100-Year	FALSE	No
LWR-MOS-0-3	459	5.52	128	173	208	249	SS		2.65	100-Year	193	261	314	376	1.76	100-Year	FALSE	No
LWR-MOS-0-5	323	3.91	78.5	106	127	152	SS	DA	3.05	100-Year	119	160	192	230	2.02	100-Year	FALSE	No
LWR-MOS-0-6	363	3.91	78.5	106	127	152	SS	DA	3.43	100-Year	119	160	192	230	2.27	100-Year	FALSE	No
LWR-MOS-0-7	70	1.04	46.7	64.7	79	95.2	SS	DA	1.08	25-Year	71	98	119	144	0.71	< 10-Year	TRUE	Decrease
LWR-MOS-0-8	94	0.78	27	37.2	45.3	54.7	SS	DA	2.53	100-Year	41	56	68	83	1.67	100-Year	FALSE	No
LWR-MOS-0-9	11	0.60	9.4	12.8	15.5	18.8	SS	DA, SD	0.82	10-Year	14	19	23	28	0.54	< 10-Year	FALSE	Decrease
LWR-MOS-2-1	275	3.97	81.9	111	133	159	SS		2.48	100-Year	124	168	201	240	1.64	100-Year	FALSE	No
LWR-MOS-3-1	101	0.74	4.73	6.37	7.78	9.59	SS	DA, SD	15.79	100-Year	7	10	12	14	10.46	100-Year	FALSE	No
LWR-MOS-4-1	203	1.10	160	211	254	296	SS	DA	0.96	10-Year	242	319	384	447	0.64	< 10-Year	FALSE	Decrease
LWR-MOS-4-1-1	120	0.13	3.38	4.68	5.72	7.01	SS	DA	25.54	100-Year	5	7	9	11	16.91	100-Year	FALSE	No
LWR-WOR-0-1	3715	86.20	1980	2650	3190	3790	SS		1.40	50-Year	2990	4002	4817	5723	0.93	10-Year	TRUE	Decrease
LWR-WOR-0-2	1930	84.60	1950	2620	3150	3740	SS		0.74	< 10-Year	2945	3956	4757	5647	0.49	< 10-Year	FALSE	No
LWR-WOR-0-3	15100	74.20	1720	2310	2790	3310	SS		6.54	100-Year	2597	3488	4213	4998	4.33	100-Year	FALSE	No
LWR-WOR-0-4	36000	74.10	1720	2310	2780	3300	SS		15.58	100-Year	2597	3488	4198	4983	10.32	100-Year	FALSE	No
LWR-WOR-0-5	3600	73.30	1680	2260	2720	3230	SS		1.59	100-Year	2537	3413	4107	4877	1.05	25-Year	FALSE	Decrease
LWR-WOR-1-1	1733	2.05	308	460	587	721	TR-20	--	3.77	100-Year	465	695	886	1089	2.49	100-Year	FALSE	No
LWR-WOR-1-2	466	2.04	306	458	584	717	TR-20	--	1.02	25-Year	462	692	882	1083	0.67	10-Year	TRUE	Decrease

Bridges and Culverts Hydraulic Capacity Analysis Results by Subwatershed

Structure Name/ Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/ Future Capacity Change?
LWR-WOR-2-1	3083	86.20	1	1	1	1	SS		3082.58	100-Year	2	2	2	2	2041.44	100-Year	FALSE	No
LWR-WOR-4-1	35	0.09	25.0	38.0	50.0	62.0	TR-20	--	0.91	10-Year	38	57	76	94	0.60	< 10-Year	FALSE	Decrease
LWR-WOR-4-2	7	0.03	12.0	19.0	25.0	30.0	TR-20	--	0.36	< 10-Year	18	29	38	45	0.24	< 10-Year	FALSE	No
LWR-WOR-4-3	22	0.02	9.0	14.0	18.0	23.0	TR-20	--	1.59	50-Year	14	21	27	35	1.05	25-Year	FALSE	Decrease
LWR-WOR-5-1	746	84.60	1950	2620	3150	3740	SS		0.28	< 10-Year	2945	3956	4757	5647	0.19	< 10-Year	FALSE	No
LWR-WOR-6-1-1	31	0.19	106.0	149.0	184.0	219.0	TR-20	--	0.21	< 10-Year	160	225	278	331	0.14	< 10-Year	FALSE	No
LWR-WOR-8-1	12	0.33	82.3	121	155	189	SS	DA, SD	0.10	< 10-Year	124	183	234	285	0.07	< 10-Year	FALSE	No
LWR-WOR-9-2	24	0.14	54.0	79.0	98.0	118.0	TR-20	--	0.31	< 10-Year	82	119	148	178	0.20	< 10-Year	FALSE	No
MPR-ISO-NE	14	0.75	54.1	76	93.8	113	SS	DA	0.19	< 10-Year	82	115	142	171	0.12	< 10-Year	FALSE	No
MPR-ISO-SE	160	1.13	37.4	51.6	63.3	76.7	SS	DA	3.11	100-Year	56	78	96	116	2.06	100-Year	FALSE	No
MPR-MCG-0-1	517	0.40	6.09	8.17	9.68	11.7	SS	DA, SD, PS	63.30	100-Year	9	12	15	18	41.92	100-Year	FALSE	No
MPR-MCG-0-2	1374	0.32	5.01	6.75	8.02	9.69	SS	DA, PS	203.54	100-Year	8	10	12	15	134.80	100-Year	FALSE	No
MPR-MCG-1-1	24	0.61	26.5	37.1	46.2	56.4	SS	DA, SD	0.65	< 10-Year	40	56	70	85	0.43	< 10-Year	FALSE	No
MPR-MCG-1-2	37	0.27	5.91	8.43	11	13.9	SS	DA, SD, PS	4.40	100-Year	9	13	17	21	2.92	100-Year	FALSE	No
MPR-MIL-0-1	644	1.20	87.7	124	154	187	SS	DA	5.19	100-Year	132	187	233	282	3.44	100-Year	FALSE	No
MPR-MIL-0-2	150	1.09	70.4	99.2	123	150	SS	DA	1.51	50-Year	106	150	186	227	1.00	25-Year	FALSE	Decrease
MPR-MIL-0-3	71	0.37	66.6	96.7	122	149	SS	DA, PS	0.74	10-Year	101	146	184	225	0.49	< 10-Year	FALSE	Decrease
MPR-MIL-1-2	67	0.16	41.6	61.4	79.1	96.8	SS	DA, PS	1.10	25-Year	63	93	119	146	0.73	10-Year	TRUE	Decrease
MPR-PAW-0-10	7100	217.00	2850	3750	4450	5240	SS		1.89	100-Year	4304	5663	6720	7912	1.25	50-Year	FALSE	Decrease
MPR-PAW-0-11	22540	217.00	2830	3730	4420	5220	SS		6.04	100-Year	4273	5632	6674	7882	4.00	100-Year	FALSE	No
MPR-PAW-0-12	17700	205.00	2830	3730	4440	5230	SS		4.75	100-Year	4273	5632	6704	7897	3.14	100-Year	FALSE	No
MPR-PAW-0-13	6700	204.00	2800	3690	4380	5170	SS		1.82	100-Year	4228	5572	6614	7807	1.20	50-Year	FALSE	Decrease
MPR-PAW-0-8	8200	241.00	3010	3950	4680	5510	SS		2.08	100-Year	4545	5965	7067	8320	1.37	50-Year	FALSE	Decrease
MPR-PAW-0-9	12250	239.00	2970	3890	4610	5440	SS		3.15	100-Year	4485	5874	6961	8214	2.09	100-Year	FALSE	No
MPR-PAW-16-1	30	0.85	400	596	773	938	SS	DA, PS	0.05	< 10-Year	604	900	1167	1416	0.03	< 10-Year	FALSE	No
MPR-PAW-16-1-1	1	0.08	20.4	30.1	38.5	47.2	SS	DA, PS	0.02	< 10-Year	31	45	58	71	0.01	< 10-Year	FALSE	No
MPR-PAW-16-2	44	0.67	260	365	450	538	TR-20	--	0.12	< 10-Year	393	551	680	812	0.08	< 10-Year	FALSE	No
MPR-PAW-16-6	108	0.07	27.0	42.0	54.0	67.0	TR-20	--	2.58	100-Year	41	63	82	101	1.71	100-Year	FALSE	No
MPR-PAW-17-1	228	0.58	29.70	41.60	51.2	62.1	SS	DA	5.48	100-Year	45	63	77	94	3.63	100-Year	FALSE	No
MPR-PAW-18-1	251	9.17	59.5	78	92.2	111	SS	SD, PS	3.22	100-Year	90	118	139	168	2.13	100-Year	FALSE	No
MPR-PAW-18-1-1	86	0.26	1.29	1.71	2.06	2.53	SS	DA, SD, PS	50.38	100-Year	2	3	3	4	33.36	100-Year	FALSE	No
MPR-PAW-18-2	908	9.17	59.5	78	92.2	111	SS	SD, PS	11.64	100-Year	90	118	139	168	7.71	100-Year	FALSE	No
MPR-PAW-18-3	85	0.33	17.7	25.3	32.2	39.8	SS	DA, SD, PS	3.36	100-Year	27	38	49	60	2.22	100-Year	FALSE	No
MPR-PAW-23-1-1	202	0.46	4.82	6.56	8.06	9.93	SS	DA, SD	30.76	100-Year	7	10	12	15	20.37	100-Year	FALSE	No
MPR-PAW-23-1-2	113	0.42	0.7	0.93	1.15	1.44	SS	DA, SD	121.17	100-Year	1	1	2	2	80.25	100-Year	FALSE	No
MPR-PAW-24-1	42	0.16	4.02	5.59	6.91	8.5	SS	DA, SD	7.46	100-Year	6	8	10	13	4.94	100-Year	FALSE	No
MPR-PAW-26-2-1	16	0.04	11.0	19.0	26.0	34.0	TR-20	--	0.86	10-Year	17	29	39	51	0.57	< 10-Year	FALSE	Decrease
MPR-PAW-FOUND-20150624	18	0.02	8.0	14.0	18.0	23.0	TR-20	--	1.30	50-Year	12	21	27	35	0.86	10-Year	TRUE	Decrease
MPR-PER-0-1	242	2.36	73.4	101	123	148	SS	DA	2.39	100-Year	111	153	186	223	1.59	100-Year	FALSE	No
MPR-PER-0-2	133	1.78	42.4	57.9	70.3	85	SS	DA	2.30	100-Year	64	87	106	128	1.53	100-Year	FALSE	No
MPR-PER-0-3	6	0.45	7.29	10	12.4	15.2	SS	DA, SD	0.60	< 10-Year	11	15	19	23	0.40	< 10-Year	FALSE	No

Bridges and Culverts Hydraulic Capacity Analysis Results by Subwatershed

Structure Name/ Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/ Future Capacity Change?
MPR-PER-3-1-1	9	0.04	0.53	0.72	0.88	1.1	SS	DA, SD, PS	12.31	100-Year	1	1	1	2	8.15	100-Year	FALSE	No
MPR-POQ-0-1	72	8.04	65.6	86.6	103	124	SS	SD, PS	0.83	10-Year	99	131	156	187	0.55	< 10-Year	FALSE	Decrease
MPR-POQ-1-2	53	0.48	60	101	136	174	TR-20	--	0.52	< 10-Year	91	153	205	263	0.34	< 10-Year	FALSE	No
MPR-POQ-1-3	6	0.10	18	31	42	54	TR-20	--	0.20	< 10-Year	27	47	63	82	0.13	< 10-Year	FALSE	No
MPR-TOM-0-1	383	6.71	244	336	410	492	SS		1.14	25-Year	368	507	619	743	0.75	10-Year	TRUE	Decrease
MPR-TOM-0-2	696	5.99	230	316	387	464	SS		2.20	100-Year	347	477	584	701	1.46	50-Year	FALSE	Decrease
MPR-TOM-0-3	1045	5.49	199	273	333	400	SS		3.83	100-Year	300	412	503	604	2.53	100-Year	FALSE	No
MPR-TOM-0-4	135	1.23	133	189	236	286	SS	DA, PS	0.71	10-Year	201	285	356	432	0.47	< 10-Year	FALSE	Decrease
MPR-TOM-0-7	62	0.29	24.1	34.1	42.4	51.5	SS	DA	1.81	100-Year	36	51	64	78	1.20	25-Year	FALSE	Decrease
MPR-TOM-1-1	144	5.99	230	316	387	464	SS	DA, PS	0.45	< 10-Year	347	477	584	701	0.30	< 10-Year	FALSE	No
MPR-TOM-1-3	56	1.41	178	254	320	387	SS	DA, PS	0.22	< 10-Year	269	384	483	584	0.15	< 10-Year	FALSE	No
MPR-TOM-3-1	673	2.93	67.9	92.5	112	135	SS	DA	7.27	100-Year	103	140	169	204	4.82	100-Year	FALSE	No
MPR-TOM-3-1-1	29	0.30	1.22	1.65	2.07	2.61	SS	DA, SD	17.87	100-Year	2	2	3	4	11.84	100-Year	FALSE	No
MPR-TOM-3-2	89	1.41	34.7	47.4	57.6	69.6	SS	DA	1.88	100-Year	52	72	87	105	1.25	50-Year	FALSE	Decrease
MPR-TOM-3-4-1	180	0.07	3.3	4.74	6.03	7.5	SS	DA, SD, PS	37.99	100-Year	5	7	9	11	25.16	100-Year	FALSE	No
MPR-TOM-3-5-1	124	0.58	9.24	12.6	15.2	18.5	SS	DA, SD, PS	9.84	100-Year	14	19	23	28	6.52	100-Year	FALSE	No
MPR-TOM-3-5-2	8	0.43	4.08	5.49	6.61	8.08	SS	DA, SD, PS	1.49	100-Year	6	8	10	12	0.99	10-Year	TRUE	Decrease
MPR-TOM-FOUND-20150610	875	6.71	244	336	410	492	SS		2.61	100-Year	368	507	619	743	1.73	100-Year	FALSE	No
MPR-TYD-0-1	25	0.53	5.63	7.65	9.36	11.5	SS	DA, SD	3.27	100-Year	9	12	14	17	2.16	100-Year	FALSE	No
QUR-DUT-0-1	114	0.89	86	140	188	240	TR-20	--	0.81	10-Year	130	211	284	362	0.54	< 10-Year	FALSE	Decrease
QUR-DUT-0-2	135	0.53	70	117	159	204	TR-20	--	1.16	25-Year	106	177	240	308	0.77	10-Year	TRUE	Decrease
QUR-DUT-0-3	60	0.14	24	41	55	71	TR-20	--	1.47	50-Year	36	62	83	107	0.97	10-Year	TRUE	Decrease
QUR-FIS-0-1	954	4.42	183	253	310	373	SS		3.77	100-Year	276	382	468	563	2.50	100-Year	FALSE	No
QUR-FIS-0-2	174	3.74	148	204	250	301	SS	DA	0.85	10-Year	223	308	378	455	0.57	< 10-Year	FALSE	Decrease
QUR-FIS-0-3	126	1.45	173	247	311	375	SS	DA, PS	0.51	< 10-Year	261	373	470	566	0.34	< 10-Year	FALSE	No
QUR-FIS-3-1	53	0.32	50.0	85.0	115.0	147.0	TR-20	--	0.62	10-Year	76	128	174	222	0.41	< 10-Year	FALSE	Decrease
QUR-FIS-3-2	5	0.31	51.0	86.0	117.0	150.0	TR-20	--	0.06	< 10-Year	77	130	177	227	0.04	< 10-Year	FALSE	No
QUR-FOUND-20150810	1	0.08	23.0	40.0	54.0	69.0	TR-20	--	0.02	< 10-Year	35	60	82	104	0.01	< 10-Year	FALSE	No
QUR-GLE-0-1	464	2.83	197	277	343	413	SS	DA	1.67	100-Year	297	418	518	624	1.11	25-Year	FALSE	Decrease
QUR-GLE-0-2	322	2.53	169	237	294	354	SS	DA	1.36	50-Year	255	358	444	535	0.90	10-Year	TRUE	Decrease
QUR-GLE-2-1-1	8	0.07	34.6	51.7	66.5	81.1	SS	DA, SD, PS	0.16	< 10-Year	52	78	100	122	0.11	< 10-Year	FALSE	No
QUR-GLE-2-2-1	6	0.22	34.0	58.0	79.0	101.0	TR-20	--	0.10	< 10-Year	51	88	119	153	0.07	< 10-Year	FALSE	No
QUR-GLE-2-3-1	11	0.19	1.35	1.83	2.24	2.78	SS	DA, SD	6.03	100-Year	2	3	3	4	3.99	100-Year	FALSE	No
QUR-ISO-E	3	0.63	1.38	1.82	2.2	2.73	SS	DA, SD, PS	1.62	100-Year	2	3	3	4	1.07	25-Year	FALSE	Decrease
QUR-ISO-M	9	0.63	2.1	2.77	3.35	4.14	SS	DA, SD, PS	3.08	100-Year	3	4	5	6	2.04	100-Year	FALSE	No
QUR-ISO-W	67	0.63	2.43	3.22	3.89	4.8	SS	DA, SD, PS	20.82	100-Year	4	5	6	7	13.79	100-Year	FALSE	No
QUR-LOC-0-1	278	4.20	154	213	263	318	SS	SD	1.30	50-Year	233	322	397	480	0.86	10-Year	TRUE	Decrease
QUR-LOC-0-2	740	2.80	63.4	86.9	107	129	SS	DA, SD	8.52	100-Year	96	131	162	195	5.64	100-Year	FALSE	No
QUR-LOC-0-3	106	0.29	30.4	45	59.9	75.1	SS	DA, SD, PS	2.35	100-Year	46	68	90	113	1.55	50-Year	FALSE	Decrease
QUR-QFB-0-1	498	3.65	294	414	513	617	SS	DA	1.20	25-Year	444	625	775	932	0.80	10-Year	TRUE	Decrease
QUR-QFB-0-10	213	1.80	173	245	305	368	SS	DA	0.87	10-Year	261	370	461	556	0.58	< 10-Year	FALSE	Decrease

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QUR-QFB-0-11	203	1.57	142	201	250	302	SS	DA	1.01	25-Year	214	304	378	456	0.67	< 10-Year	TRUE	Decrease
QUR-QFB-0-12	20	0.17	2.99	4.1	5	6.13	SS	DA, SD	4.96	100-Year	5	6	8	9	3.29	100-Year	FALSE	No
QUR-QFB-0-2	764	3.64	293	411	510	613	SS	DA, SD, PS	1.86	100-Year	442	621	770	926	1.23	25-Year	FALSE	Decrease
QUR-QFB-0-9	88	1.84	179	254	316	382	SS	DA	0.34	< 10-Year	270	384	477	577	0.23	< 10-Year	FALSE	No
QUR-QFB-2-1	148	0.64	56	91	122	155	TR-20	--	1.62	50-Year	85	137	184	234	1.07	25-Year	FALSE	Decrease
QUR-QFB-2-2	13	0.20	27	46	62	79	TR-20	--	0.29	< 10-Year	41	69	94	119	0.19	< 10-Year	FALSE	No
QUR-QUR-0-3	1680	33.10	1210	1660	2020	2410	SS		1.01	25-Year	1827	2507	3050	3639	0.67	< 10-Year	TRUE	Decrease
QUR-QUR-0-4	2100	32.80	1210	1660	2010	2400	SS	DA, SD, PS	1.27	50-Year	1827	2507	3035	3624	0.84	10-Year	TRUE	Decrease
QUR-QUR-0-5	1470	28.00	988	1350	1640	1950	SS		1.09	25-Year	1492	2039	2476	2945	0.72	< 10-Year	TRUE	Decrease
QUR-QUR-0-6	389	19.30	983	1360	1660	1980	SS		0.29	< 10-Year	1484	2054	2507	2990	0.19	< 10-Year	FALSE	No
QUR-QUR-0-7	400	3.74	487	684	870	1050	SS	DA, PS	0.58	< 10-Year	735	1033	1314	1586	0.39	< 10-Year	FALSE	No
QUR-QUR-0-8	1042	2.77	345	493	618	744	SS	DA, PS	2.11	100-Year	521	744	933	1123	1.40	50-Year	FALSE	Decrease
QUR-QUR-0-9	7	1.39	103	145	181	219	SS	DA	0.05	< 10-Year	156	219	273	331	0.03	< 10-Year	FALSE	No
QUR-QUR-10-1	7	0.30	79	114	142	172	TR-20	--	0.06	< 10-Year	119	172	214	260	0.04	< 10-Year	FALSE	No
QUR-QUR-1-1	33	0.38	121	182	232	285	TR-20	--	0.18	< 10-Year	183	275	350	430	0.12	< 10-Year	FALSE	No
QUR-QUR-11-1	20	0.19	29.0	50.0	67.0	86.0	TR-20	--	0.39	< 10-Year	44	76	101	130	0.26	< 10-Year	FALSE	No
QUR-QUR-6-1	95	0.77	80.8	115	143	173	SS	DA	0.83	10-Year	122	174	216	261	0.55	< 10-Year	FALSE	Decrease
QUR-QUR-7-1	60	0.60	57.8	83.7	108	160	SS	DA, SD, PS	0.71	10-Year	87	126	163	242	0.47	< 10-Year	FALSE	Decrease
QUR-SHE-0-1	146	1.03	140	208	266	326	TR-20	--	0.70	10-Year	211	314	402	492	0.46	< 10-Year	FALSE	Decrease
QUR-SHE-0-2	26	0.27	21.8	31.1	39.1	47.7	SS	DA	0.83	10-Year	33	47	59	72	0.55	< 10-Year	FALSE	Decrease
QUR-SOD-0-1	3200	8.21	452	628	775	930	SS		5.09	100-Year	683	948	1170	1404	3.37	100-Year	FALSE	No
QUR-SOD-0-2	63	1.60	131	187	234	284	SS	DA, PS	0.34	< 10-Year	198	282	353	429	0.22	< 10-Year	FALSE	No
QUR-SOD-0-3	28	0.25	3.44	4.81	6.12	7.68	SS	DA, SD, PS	5.81	100-Year	5	7	9	12	3.85	100-Year	FALSE	No
QUR-USQ-0-2	4400	36.10	1140	1540	1870	2220	SS		2.86	100-Year	1721	2325	2824	3352	1.89	100-Year	FALSE	No
SNR-ASS-0-1	841	3.75	361	488	594	702	SS		1.72	100-Year	545	737	897	1060	1.14	25-Year	FALSE	Decrease
SNR-ASS-0-2	1157	1.52	190	253	306	358	SS	DA	4.57	100-Year	287	382	462	541	3.03	100-Year	FALSE	No
SNR-ASS-0-3	514	1.30	169	225	272	318	SS	DA	2.28	100-Year	255	340	411	480	1.51	100-Year	FALSE	No
SNR-ASS-1-1	30	0.05	14	18.3	21.7	24.7	SS	DA	1.65	100-Year	21	28	33	37	1.09	25-Year	FALSE	Decrease
SNR-ASS-2-1	29	0.06	14	18.3	21.8	24.8	SS	DA	1.61	100-Year	21	28	33	37	1.07	25-Year	FALSE	Decrease
SNR-ASS-4-1	26	0.03	10	13	15.3	17.3	SS	DA	2.00	100-Year	15	20	23	26	1.33	50-Year	FALSE	Decrease
SNR-ASS-5-1	138	0.54	84.6	112	135	157	SS	DA	1.23	50-Year	128	169	204	237	0.82	10-Year	TRUE	Decrease
SNR-PHE-0-1	444	1.82	221	292	351	411	SS		1.52	100-Year	334	441	530	621	1.01	25-Year	FALSE	Decrease
SNR-SHU-0-1	4341	16.40	1150	1560	1920	2300	SS		2.78	100-Year	1737	2356	2899	3473	1.84	100-Year	FALSE	No
SNR-SHU-0-11	745	6.36	580	778	945	1120	SS		0.96	10-Year	876	1175	1427	1691	0.63	< 10-Year	FALSE	Decrease
SNR-SHU-0-12	1204	2.28	263	349	420	493	SS		3.45	100-Year	397	527	634	744	2.28	100-Year	FALSE	No
SNR-SHU-0-13	1486	2.27	262	348	419	491	SS		4.27	100-Year	396	525	633	741	2.83	100-Year	FALSE	No
SNR-SHU-0-5	4742	15.90	1130	1530	1880	2250	SS		3.10	100-Year	1706	2310	2839	3398	2.05	100-Year	FALSE	No
SNR-SHU-0-6	6046	14.80	1070	1460	1790	2140	SS		4.14	100-Year	1616	2205	2703	3231	2.74	100-Year	FALSE	No
SNR-SHU-0-8	2684	11.70	908	1230	1500	1790	SS		2.18	100-Year	1371	1857	2265	2703	1.45	50-Year	FALSE	Decrease
SNR-SHU-0-9	357	7.91	681	917	1120	1320	SS		0.39	< 10-Year	1028	1385	1691	1993	0.26	< 10-Year	FALSE	No
SNR-SHU-10-1	314	0.25	48.1	63	75.1	86.4	SS	DA	4.98	100-Year	73	95	113	130	3.30	100-Year	FALSE	No

Bridges and Culverts Hydraulic Capacity Analysis Results by Subwatershed

Structure Name/ Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/ Future Capacity Change?
SNR-SHU-1-1	37	0.15	27.7	36.7	44	50.7	SS	DA	1.00	10-Year	42	55	66	77	0.66	< 10-Year	FALSE	Decrease
SNR-SHU-1-2	43	0.10	20.3	26.8	32	36.7	SS	DA	1.61	100-Year	31	40	48	55	1.07	25-Year	FALSE	Decrease
SNR-SHU-3-1	131	0.42	65.8	87.5	105	122	SS	DA	1.50	100-Year	99	132	159	184	0.99	10-Year	TRUE	Decrease
SNR-SHU-3-2	89	0.11	24.1	31.6	37.6	43.1	SS	DA	2.81	100-Year	36	48	57	65	1.86	100-Year	FALSE	No
SNR-SHU-4-1	518	1.03	136	182	219	256	SS	DA	2.85	100-Year	205	275	331	387	1.89	100-Year	FALSE	No
SNR-SHU-4-1-3	84	0.33	58.9	77.6	92.8	107	SS	DA	1.08	25-Year	89	117	140	162	0.72	< 10-Year	TRUE	Decrease
SNR-SHU-4-3	108	0.24	46.1	60.6	72.2	83.2	SS	DA	1.79	100-Year	70	92	109	126	1.19	25-Year	FALSE	Decrease
SNR-SHU-6-3	13	0.17	34.2	44.8	53.4	61.3	SS	DA	0.28	< 10-Year	52	68	81	93	0.18	< 10-Year	FALSE	No
SNR-SHU-7-1	34	0.17	34.9	45.8	54.5	62.6	SS	DA	0.74	< 10-Year	53	69	82	95	0.49	< 10-Year	FALSE	No
SNR-SHU-7-1-1	44	0.40	71.7	94.1	112	130	SS	DA	0.47	< 10-Year	108	142	169	196	0.31	< 10-Year	FALSE	No
SNR-SHU-7-1-2	54	0.33	62.7	81.9	97.6	113	SS	DA	0.66	< 10-Year	95	124	147	171	0.44	< 10-Year	FALSE	No
SNR-SHU-7-2	49	0.16	33.4	43.8	52.1	59.8	SS	DA	1.12	25-Year	50	66	79	90	0.74	< 10-Year	TRUE	Decrease
SNR-SHU-8-1	61	0.27	49.1	64.6	77.1	88.9	SS	DA	0.95	10-Year	74	98	116	134	0.63	< 10-Year	FALSE	Decrease
SNR-YAW-0-1	294	2.53	291	386	466	547	SS		0.76	10-Year	439	583	704	826	0.50	< 10-Year	FALSE	Decrease
SNR-YAW-0-2	158	1.96	240	318	383	448	SS		0.50	< 10-Year	362	480	578	676	0.33	< 10-Year	FALSE	No
SNR-YAW-1-1	37	0.28	53.2	69.5	82.8	95.4	SS	DA	0.54	< 10-Year	80	105	125	144	0.36	< 10-Year	FALSE	No
UPR-CED-0-1	251	4.81	35	46.1	54.6	65.7	SS	SD, PS	5.44	100-Year	53	70	82	99	3.60	100-Year	FALSE	No
UPR-CED-0-2	455	1.36	20	27.2	33.1	40.2	SS	SD, PS	16.72	100-Year	30	41	50	61	11.07	100-Year	FALSE	No
UPR-CED-1-1	67	0.59	133	201	257	316	TR-20	--	0.34	< 10-Year	201	304	388	477	0.22	< 10-Year	FALSE	No
UPR-CED-3-1	27	0.05	0.89	1.24	1.55	1.93	SS	SD, PS	22.02	100-Year	1	2	2	3	14.59	100-Year	FALSE	No
UPR-CED-6-1	11	0.03	2.35	3.31	4.04	4.92	SS	DA, SD, PS	3.24	100-Year	4	5	6	7	2.15	100-Year	FALSE	No
UPR-CED-7-1	6	0.05	12	21	29	37	TR-20	--	0.29	< 10-Year	18	32	44	56	0.19	< 10-Year	FALSE	No
UPR-CED-8-1	5	0.13	6.66	9.38	11.6	14.2	SS	DA	0.57	< 10-Year	10	14	18	21	0.38	< 10-Year	FALSE	No
UPR-FOUND-20150820	2910	78.60	856	1130	1330	1580	SS		2.58	100-Year	1293	1706	2008	2386	1.71	100-Year	FALSE	No
UPR-FOUND-20151014-1	432	1.87	59.9	73.9	90.2	109	SS		5.84	100-Year	90	112	136	165	3.87	100-Year	FALSE	No
UPR-FOUND-20151014-2	38	1.87	59.9	73.9	90.2	109	SS		0.51	< 10-Year	90	112	136	165	0.34	< 10-Year	FALSE	No
UPR-FOUND-20151014-3	42	1.87	59.9	73.9	90.2	109	SS		0.57	< 10-Year	90	112	136	165	0.38	< 10-Year	FALSE	No
UPR-FOUND-20151014-4	69	1.87	59.9	73.9	90.2	109	SS		0.94	10-Year	90	112	136	165	0.62	< 10-Year	FALSE	Decrease
UPR-FOUND-20151014-5	426	1.87	59.9	73.9	90.2	109	SS		5.77	100-Year	90	112	136	165	3.82	100-Year	FALSE	No
UPR-FOUND-20151014-6	99	1.78	48.6	66.6	81.2	98.1	SS		1.49	100-Year	73	101	123	148	0.99	10-Year	TRUE	Decrease
UPR-FOUND-20151015-1	17	1.91	57.3	78.7	96	116	SS		0.21	< 10-Year	87	119	145	175	0.14	< 10-Year	FALSE	No
UPR-FOUND-20151015-2	111	1.78	48.6	66.6	81.2	98.1	SS		1.66	100-Year	73	101	123	148	1.10	25-Year	FALSE	Decrease
UPR-MEA-0-2	398	6.43	202	276	336	403	SS		1.44	50-Year	305	417	507	609	0.95	10-Year	TRUE	Decrease
UPR-MEA-0-3	168	5.09	151	206	251	301	SS		0.81	10-Year	228	311	379	455	0.54	< 10-Year	FALSE	Decrease
UPR-MEA-0-4	183	3.45	95.3	130	158	190	SS	DA	1.41	50-Year	144	196	239	287	0.93	10-Year	TRUE	Decrease
UPR-MEA-0-5	289	1.79	49.1	67.3	82	99.1	SS	DA	4.29	100-Year	74	102	124	150	2.84	100-Year	FALSE	No
UPR-MEA-0-6	134	0.77	24.5	34	41.9	51	SS	DA, SD	3.95	100-Year	37	51	63	77	2.62	100-Year	FALSE	No
UPR-MEA-0-7	66	0.68	16.4	22.6	27.7	33.8	SS	DA, SD	2.92	100-Year	25	34	42	51	1.94	100-Year	FALSE	No
UPR-MEA-0-8	20	0.23	9.8	13.9	17.7	22	SS	DA, SD, PS	1.46	50-Year	15	21	27	33	0.97	10-Year	TRUE	Decrease
UPR-MEA-1-1	82	0.18	17.2	25	32	39.5	SS	DA, SD, PS	3.28	100-Year	26	38	48	60	2.17	100-Year	FALSE	No
UPR-MEA-2-1	75	0.86	30.8	42.7	52.6	63.9	SS	DA	1.75	100-Year	47	64	79	96	1.16	25-Year	FALSE	Decrease

Bridges and Culverts Hydraulic Capacity Analysis Results by Subwatershed

Structure Name/ Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/ Future Capacity Change?
UPR-PAS-0-1	332	6.02	34.2	45	53.7	65	SS	DA, PS	7.37	100-Year	52	68	81	98	4.88	100-Year	FALSE	No
UPR-PAS-0-2	70	5.20	27	35.5	42.3	51.3	SS	DA, PS	1.98	100-Year	41	54	64	77	1.31	50-Year	FALSE	Decrease
UPR-PAS-1-2	146	0.12	69.0	97.0	120.0	143.0	TR-20	--	1.51	100-Year	104	146	181	216	1.00	10-Year	TRUE	Decrease
UPR-PAW-0-14	8680	113.00	1310	1720	2040	2410	SS		5.05	100-Year	1978	2597	3080	3639	3.34	100-Year	FALSE	No
UPR-PAW-0-15	3700	107.00	1320	1740	2060	2440	SS		2.13	100-Year	1993	2627	3111	3684	1.41	100-Year	FALSE	No
UPR-PAW-0-16	8990	99.70	1200	1570	1870	2210	SS		5.73	100-Year	1812	2371	2824	3337	3.79	100-Year	FALSE	No
UPR-PAW-0-17	2840	99.30	1190	1570	1860	2200	SS		1.81	100-Year	1797	2371	2809	3322	1.20	50-Year	FALSE	Decrease
UPR-PAW-0-18	3665	95.10	1130	1480	1760	2080	SS		2.48	100-Year	1706	2235	2658	3141	1.64	100-Year	FALSE	No
UPR-PAW-0-19	38320	92.50	1090	1440	1710	2020	SS		26.61	100-Year	1646	2174	2582	3050	17.62	100-Year	FALSE	No
UPR-PAW-0-20	16070	91.60	1080	1420	1680	1990	SS		11.32	100-Year	1631	2144	2537	3005	7.49	100-Year	FALSE	No
UPR-PAW-0-21	3300	92.10	1080	1430	1690	2000	SS		2.31	100-Year	1631	2159	2552	3020	1.53	100-Year	FALSE	No
UPR-PAW-0-22	6270	91.50	1070	1410	1670	1980	SS		4.45	100-Year	1616	2129	2522	2990	2.94	100-Year	FALSE	No
UPR-PAW-0-23	11392	78.60	856	1130	1330	1580	SS		10.08	100-Year	1293	1706	2008	2386	6.68	100-Year	FALSE	No
UPR-PAW-0-24	2910	78.60	856	1130	1330	1580	SS		2.58	100-Year	1293	1706	2008	2386	1.71	100-Year	FALSE	No
UPR-PAW-0-25	13695	72.40	849	1120	1330	1570	SS		12.23	100-Year	1282	1691	2008	2371	8.10	100-Year	FALSE	No
UPR-PAW-0-26	3030	72.30	848	1120	1320	1570	SS		2.71	100-Year	1280	1691	1993	2371	1.79	100-Year	FALSE	No
UPR-TNY-0-1	56	1.61	27.9	37.8	45.8	55.4	SS	DA	1.48	100-Year	42	57	69	84	0.98	10-Year	TRUE	Decrease
UPR-WEB-0-1	183	2.00	69.6	96.9	121	147	SS	DA, SD	1.89	100-Year	105	146	183	222	1.25	50-Year	FALSE	Decrease
UWR-BAK-0-1	325	1.58	49.3	68.4	84.7	103	SS	DA, SD	4.75	100-Year	74	103	128	156	3.15	100-Year	FALSE	No
UWR-BAK-0-2	43	0.53	21.2	29.6	36.5	44.5	SS	DA	1.45	50-Year	32	45	55	67	0.96	10-Year	TRUE	Decrease
UWR-BRE-0-1	1334	6.56	249	343	421	506	SS		3.89	100-Year	376	518	636	764	2.58	100-Year	FALSE	No
UWR-BRE-0-3	133	2.45	96.1	133	163	197	SS	DA	1.00	10-Year	145	201	246	297	0.66	< 10-Year	FALSE	Decrease
UWR-BRE-0-4	121	1.09	49.7	69	84.7	102	SS	DA	1.75	100-Year	75	104	128	154	1.16	25-Year	FALSE	Decrease
UWR-BRE-0-5	66	0.71	45.3	63.7	79	95.7	SS	DA	1.04	25-Year	68	96	119	145	0.69	< 10-Year	TRUE	Decrease
UWR-BRE-1-3	33	0.37	24.6	34.9	43.6	53.2	SS	DA	0.93	10-Year	37	53	66	80	0.62	< 10-Year	FALSE	Decrease
UWR-CAR-0-1	195	3.80	412	556	677	801	SS		0.35	< 10-Year	622	840	1022	1210	0.23	< 10-Year	FALSE	No
UWR-CAR-0-5	57	0.49	84.9	113	136	158	SS	DA	0.50	< 10-Year	128	171	205	239	0.33	< 10-Year	FALSE	No
UWR-CON-0-1	322	2.47	61.4	83.7	101	122	SS	DA	3.85	100-Year	93	126	153	184	2.55	100-Year	FALSE	No
UWR-CON-0-2	8	0.45	9.75	13.4	16.3	19.8	SS	DA	0.60	< 10-Year	15	20	25	30	0.40	< 10-Year	FALSE	No
UWR-FAC-0-1	310	3.76	246	345	427	514	SS	DA	0.90	10-Year	371	521	645	776	0.60	< 10-Year	FALSE	Decrease
UWR-FAC-1-1	10	0.43	20.7	29.3	36.6	44.9	SS	DA, SD	0.35	< 10-Year	31	44	55	68	0.23	< 10-Year	FALSE	No
UWR-FAC-2-1	93	0.28	30.7	44	55.1	67	SS	DA	2.11	100-Year	46	66	83	101	1.39	50-Year	FALSE	Decrease
UWR-FLA-0-1	952	15.90	737	1020	1250	1490	SS		0.93	10-Year	1113	1540	1888	2250	0.62	< 10-Year	FALSE	Decrease
UWR-FLA-0-2	642	8.22	486	677	837	1000	SS		0.95	10-Year	734	1022	1264	1510	0.63	< 10-Year	FALSE	Decrease
UWR-FOUND-20150603	36	0.18	31.0	53.0	72.0	92.0	TR-20	--	0.68	10-Year	47	80	109	139	0.45	< 10-Year	FALSE	Decrease
UWR-KEL-0-1	517	4.40	97.7	132	160	192	SS		3.92	100-Year	148	199	242	290	2.60	100-Year	FALSE	No
UWR-KEL-0-2	337	3.71	80	108	131	157	SS	DA	3.12	100-Year	121	163	198	237	2.06	100-Year	FALSE	No
UWR-KEL-0-3	415	3.43	69.8	94.5	114	137	SS	DA	4.39	100-Year	105	143	172	207	2.91	100-Year	FALSE	No
UWR-KEL-0-4	619	2.82	57.6	77.9	93.7	113	SS	DA	7.94	100-Year	87	118	141	171	5.26	100-Year	FALSE	No
UWR-PHI-0-1	551	2.11	138	221	293	371	TR-20	--	2.49	100-Year	208	334	442	560	1.65	50-Year	FALSE	Decrease
UWR-PHI-0-2	73	0.71	71.1	101	127	154	SS	DA	0.72	10-Year	107	153	192	233	0.48	< 10-Year	FALSE	Decrease

Bridges and Culverts Hydraulic Capacity Analysis Results by Subwatershed

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UWR-PHI-1-1	45	0.28	4.95	6.87	8.58	10.6	SS	DA, SD	6.55	100-Year	7	10	13	16	4.34	100-Year	FALSE	No
UWR-ROA-0-1	388	5.84	131	179	219	264	SS	SD	2.17	100-Year	198	270	331	399	1.44	50-Year	FALSE	Decrease
UWR-ROA-0-2	2443	5.02	113	155	190	230	SS	SD	15.76	100-Year	171	234	287	347	10.44	100-Year	FALSE	No
UWR-ROA-0-3	1900	3.05	83.3	115	142	172	SS	DA, SD	16.52	100-Year	126	174	214	260	10.94	100-Year	FALSE	No
UWR-ROA-0-4	207	2.74	66.7	91.7	113	137	SS	DA, SD	2.26	100-Year	101	138	171	207	1.49	100-Year	FALSE	No
UWR-ROA-0-5	56	1.41	31.9	44.1	54.7	67	SS	DA, SD	1.28	50-Year	48	67	83	101	0.85	10-Year	TRUE	Decrease
UWR-WOR-0-10	4996	35.20	821	1110	1340	1600	SS		4.50	100-Year	1240	1676	2023	2416	2.98	100-Year	FALSE	No
UWR-WOR-0-11	1249	19.10	473	738	966	1211	TR-20	--	1.69	100-Year	714	1114	1459	1829	1.12	25-Year	FALSE	Decrease
UWR-WOR-0-12	1606	17.30	530	829	1085	1362	TR-20	--	1.94	100-Year	800	1252	1638	2057	1.28	25-Year	FALSE	Decrease
UWR-WOR-0-13	486	11.30	678	990	1249	1521	TR-20	--	0.49	< 10-Year	1024	1495	1886	2297	0.33	< 10-Year	FALSE	No
UWR-WOR-0-14	283	9.29	716	1050	1329	1622	TR-20	--	0.27	< 10-Year	1081	1586	2007	2449	0.18	< 10-Year	FALSE	No
UWR-WOR-0-18	124	2.97	352	469	566	666	SS		0.26	< 10-Year	532	708	855	1006	0.18	< 10-Year	FALSE	No
UWR-WOR-0-19	409	2.97	352	469	566	666	SS		0.87	10-Year	532	708	855	1006	0.58	< 10-Year	FALSE	Decrease
UWR-WOR-0-20	83	1.60	220	292	351	411	SS	DA	0.28	< 10-Year	332	441	530	621	0.19	< 10-Year	FALSE	No
UWR-WOR-0-6	4650	59.30	1410	1890	2290	2720	SS		2.46	100-Year	2129	2854	3458	4107	1.63	100-Year	FALSE	No
UWR-WOR-0-7	11700	57.80	1350	1820	2190	2610	SS		6.43	100-Year	2039	2748	3307	3941	4.26	100-Year	FALSE	No
UWR-WOR-0-8	4610	57.10	1340	1810	2180	2590	SS		2.55	100-Year	2023	2733	3292	3911	1.69	100-Year	FALSE	No
UWR-WOR-0-9	3560	54.60	1260	1690	2050	2430	SS		2.11	100-Year	1903	2552	3096	3669	1.40	50-Year	FALSE	Decrease
UWR-WOR-12-1	441	1.40	161	231	294	357	SS	DA, SD, PS	1.91	100-Year	243	349	444	539	1.26	25-Year	FALSE	Decrease
UWR-WOR-12-2	27	0.20	7.82	11	13.6	16.6	SS	DA, SD	2.46	100-Year	12	17	21	25	1.63	100-Year	FALSE	No
UWR-WOR-13-1	139	0.43	26	36.8	46.1	56.2	SS	DA, SD	3.77	100-Year	39	56	70	85	2.49	100-Year	FALSE	No
UWR-WOR-14-1	83	1.28	75.9	107	134	162	SS	DA, SD	0.77	10-Year	115	162	202	245	0.51	< 10-Year	FALSE	Decrease
UWR-WOR-14-4	39	0.62	55.3	78.5	98	119	SS	DA	0.50	< 10-Year	84	119	148	180	0.33	< 10-Year	FALSE	No
UWR-WOR-14-5	55	0.12	20	35	48	61	TR-20	--	1.58	50-Year	30	53	72	92	1.05	25-Year	FALSE	Decrease
UWR-WOR-17-1	30	0.95	32.1	44.3	54.2	65.7	SS	DA	0.68	< 10-Year	48	67	82	99	0.45	< 10-Year	FALSE	No
UWR-WOR-17-2	15	0.38	4	5.39	5.39	7.95	SS	DA, SD, PS	2.86	100-Year	6	8	8	12	1.89	100-Year	FALSE	No
UWR-WOR-18-1	1353	6.68	272	375	460	552	SS		3.61	100-Year	411	566	695	834	2.39	100-Year	FALSE	No
UWR-WOR-18-1-1	94	1.59	48.8	67.1	81.9	98.9	SS	DA	1.40	50-Year	74	101	124	149	0.93	10-Year	TRUE	Decrease
UWR-WOR-18-1-1-1	127	0.92	23.3	32	39.1	47.4	SS	DA	3.98	100-Year	35	48	59	72	2.63	100-Year	FALSE	No
UWR-WOR-18-2	811	4.77	236	327	403	485	SS		2.48	100-Year	356	494	609	732	1.64	100-Year	FALSE	No
UWR-WOR-18-3	1234	3.55	189	263	325	391	SS	DA	4.69	100-Year	285	397	491	590	3.11	100-Year	FALSE	No
UWR-WOR-18-4	493	2.82	155	216	267	322	SS	DA	2.28	100-Year	234	326	403	486	1.51	100-Year	FALSE	No
UWR-WOR-18-4-1	50	0.33	77	116	148	182	TR-20	--	0.43	< 10-Year	116	175	223	275	0.29	< 10-Year	FALSE	No
UWR-WOR-18-5	142	1.62	41.2	56.6	69.3	84.1	SS	DA, SD	2.51	100-Year	62	85	105	127	1.66	100-Year	FALSE	No
UWR-WOR-19-2	7	0.66	78.3	112	142	173	SS	DA, PS	0.07	< 10-Year	118	169	214	261	0.04	< 10-Year	FALSE	No
UWR-WOR-19-3	33	0.54	53.5	76.6	96.6	118	SS	DA, PS	0.44	< 10-Year	81	116	146	178	0.29	< 10-Year	FALSE	No
UWR-WOR-22-2	113	0.90	16.1	22	26.8	32.6	SS	DA, SD	5.13	100-Year	24	33	40	49	3.40	100-Year	FALSE	No
UWR-WOR-24-2	23	0.07	19.1	24.9	29.5	33.7	SS	DA	0.93	10-Year	29	38	45	51	0.61	< 10-Year	FALSE	Decrease
UWR-WOR-25-2	4	0.07	18.4	23.9	28.3	32.2	SS	DA	0.18	< 10-Year	28	36	43	49	0.12	< 10-Year	FALSE	No
WPB-FOUND-20150812	1211	4.02	410	550	666	786	SS		2.20	100-Year	619	831	1006	1187	1.46	100-Year	FALSE	No
WPB-HET-0-2	94	1.00	144	190	228	265	SS	DA	0.49	< 10-Year	217	287	344	400	0.33	< 10-Year	FALSE	No

Bridges and Culverts Hydraulic Capacity Analysis Results by Subwatershed

Structure Name/ Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/ Future Capacity Change?
WPB-PHB-0-1	644	5.15	484	652	792	937	SS		0.99	10-Year	731	985	1196	1415	0.65	< 10-Year	FALSE	Decrease
WPB-PHB-0-3	791	4.20	422	567	686	811	SS		1.40	50-Year	637	856	1036	1225	0.92	10-Year	TRUE	Decrease
WPB-PHB-0-5	101	0.79	119	157	188	219	SS	DA	0.65	< 10-Year	180	237	284	331	0.43	< 10-Year	FALSE	No
WPB-PHB-1-1	23	0.32	49.6	66.1	79.3	91.9	SS	DA	0.35	< 10-Year	75	100	120	139	0.23	< 10-Year	FALSE	No
WPB-PHB-3-1	40	0.09	19.7	25.8	30.7	35.1	SS	DA	1.55	100-Year	30	39	46	53	1.02	25-Year	FALSE	Decrease
WPB-PHB-3-2	0	0.03	8.81	11.4	13.5	15.2	SS	DA	0.00	< 10-Year	13	17	20	23	0.00	< 10-Year	FALSE	No
WPB-WAY-0-1	4526	11.30	866	1180	1440	1720	SS		3.84	100-Year	1308	1782	2174	2597	2.54	100-Year	FALSE	No
WPB-WAY-0-2	496	4.44	425	572	694	821	SS		0.87	10-Year	642	864	1048	1240	0.57	< 10-Year	FALSE	Decrease
WPB-WAY-0-4	127	2.51	284	378	457	537	SS		0.34	< 10-Year	429	571	690	811	0.22	< 10-Year	FALSE	No
WPB-WAY-0-6	95	0.09	130	171	204	238	SS	DA	0.56	< 10-Year	196	258	308	359	0.37	< 10-Year	FALSE	No
WPB-WAY-4-1	255	0.37	64.4	84.8	101	117	SS	DA	3.01	100-Year	97	128	153	177	1.99	100-Year	FALSE	No

Bridges and Culverts Hydraulic Capacity Analysis Results by Town

Town	Structure Name/Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/Future Capacity Rating Change?
Charlestown	MPR-PAW-26-2-1	16	0.04	11.0	19.0	26.0	34.0	TR-20	--	0.86	10-Year	17	29	39	51	0.57	< 10-Year	FALSE	Decrease
Charlestown	MPR-PER-0-1	242	2.36	73.4	101	123	148	SS	DA	2.39	100-Year	111	153	186	223	1.59	100-Year	FALSE	No
Charlestown	MPR-PER-0-2	133	1.78	42.4	57.9	70.3	85	SS	DA	2.30	100-Year	64	87	106	128	1.53	100-Year	FALSE	No
Charlestown	MPR-PER-3-1-1	9	0.04	0.53	0.72	0.88	1.1	SS	DA, SD, PS	12.31	100-Year	1	1	1	2	8.15	100-Year	FALSE	No
Charlestown	MPR-POQ-0-1	72	8.04	65.6	86.6	103	124	SS	SD, PS	0.83	10-Year	99	131	156	187	0.55	< 10-Year	FALSE	Decrease
Charlestown	MPR-POQ-1-2	53	0.48	60	101	136	174	TR-20	--	0.52	< 10-Year	91	153	205	263	0.34	< 10-Year	FALSE	No
Charlestown	MPR-POQ-1-3	6	0.10	18	31	42	54	TR-20	--	0.20	< 10-Year	27	47	63	82	0.13	< 10-Year	FALSE	No
Charlestown	MPR-TYD-0-1	25	0.53	5.63	7.65	9.36	11.5	SS	DA, SD	3.27	100-Year	9	12	14	17	2.16	100-Year	FALSE	No
Charlestown	UPR-CED-0-1	251	4.81	35	46.1	54.6	65.7	SS	SD, PS	5.44	100-Year	53	70	82	99	3.60	100-Year	FALSE	No
Charlestown	UPR-CED-0-2	455	1.36	20	27.2	33.1	40.2	SS	SD, PS	16.72	100-Year	30	41	50	61	11.07	100-Year	FALSE	No
Charlestown	UPR-CED-1-1	67	0.59	133	201	257	316	TR-20	--	0.34	< 10-Year	201	304	388	477	0.22	< 10-Year	FALSE	No
Charlestown	UPR-CED-3-1	27	0.05	0.89	1.24	1.55	1.93	SS	SD, PS	22.02	100-Year	1	2	2	3	14.59	100-Year	FALSE	No
Charlestown	UPR-CED-6-1	11	0.03	2.35	3.31	4.04	4.92	SS	DA, SD, PS	3.24	100-Year	4	5	6	7	2.15	100-Year	FALSE	No
Charlestown	UPR-CED-7-1	6	0.05	12	21	29	37	TR-20	--	0.29	< 10-Year	18	32	44	56	0.19	< 10-Year	FALSE	No
Charlestown	UPR-CED-8-1	5	0.13	6.66	9.38	11.6	14.2	SS	DA	0.57	< 10-Year	10	14	18	21	0.38	< 10-Year	FALSE	No
Charlestown	UPR-PAS-0-1	332	6.02	34.2	45	53.7	65	SS	DA, PS	7.37	100-Year	52	68	81	98	4.88	100-Year	FALSE	No
Charlestown	UPR-PAS-0-2	70	5.20	27	35.5	42.3	51.3	SS	DA, PS	1.98	100-Year	41	54	64	77	1.31	50-Year	FALSE	Decrease
Charlestown	UPR-PAS-1-2	146	0.12	69.0	97.0	120.0	143.0	TR-20	--	1.51	100-Year	104	146	181	216	1.00	10-Year	TRUE	Decrease
Charlestown	UPR-PAW-0-14	8680	113.00	1310	1720	2040	2410	SS		5.05	100-Year	1978	2597	3080	3639	3.34	100-Year	FALSE	No
Charlestown	UPR-PAW-0-15	3700	107.00	1320	1740	2060	2440	SS		2.13	100-Year	1993	2627	3111	3684	1.41	100-Year	FALSE	No
Charlestown	UPR-PAW-0-16	8990	99.70	1200	1570	1870	2210	SS		5.73	100-Year	1812	2371	2824	3337	3.79	100-Year	FALSE	No
Charlestown	UPR-PAW-0-18	3665	95.10	1130	1480	1760	2080	SS		2.48	100-Year	1706	2235	2658	3141	1.64	100-Year	FALSE	No
Charlestown	UPR-PAW-0-19	38320	92.50	1090	1440	1710	2020	SS		26.61	100-Year	1646	2174	2582	3050	17.62	100-Year	FALSE	No
Charlestown	UPR-PAW-0-20	16070	91.60	1080	1420	1680	1990	SS		11.32	100-Year	1631	2144	2537	3005	7.49	100-Year	FALSE	No
Charlestown	UPR-PAW-0-21	3300	92.10	1080	1430	1690	2000	SS		2.31	100-Year	1631	2159	2552	3020	1.53	100-Year	FALSE	No
Charlestown	UPR-PAW-0-22	6270	91.50	1070	1410	1670	1980	SS		4.45	100-Year	1616	2129	2522	2990	2.94	100-Year	FALSE	No
Charlestown	UPR-PAW-0-25	13695	72.40	849	1120	1330	1570	SS		12.23	100-Year	1282	1691	2008	2371	8.10	100-Year	FALSE	No
Exeter	CKR-CHK-3-1-1	8	0.81	2.16	2.89	3.57	4.47	SS	DA, SD	2.74	100-Year	3	4	5	7	1.81	100-Year	FALSE	No
Exeter	CKR-CHK-3-3	12	0.04	3.43	4.87	5.99	7.29	SS	DA, SD, PS	2.52	100-Year	5	7	9	11	1.67	100-Year	FALSE	No
Exeter	CPR-CHP-0-2	494	9.98	299	408	496	594	SS		1.21	25-Year	451	616	749	897	0.80	10-Year	TRUE	Decrease
Exeter	CPR-CHP-0-4	166	7.13	231	317	386	464	SS		0.52	< 10-Year	349	479	583	701	0.35	< 10-Year	FALSE	No
Exeter	CPR-CHP-0-5	282	6.38	187	256	312	374	SS		1.10	25-Year	282	387	471	565	0.73	< 10-Year	TRUE	Decrease
Exeter	CPR-CHP-0-6	1114	3.96	200	278	345	416	SS	DA, SD	4.01	100-Year	302	420	521	628	2.65	100-Year	FALSE	No
Exeter	CPR-CHP-0-7	228208	3.73	202	282	351	424	SS	DA, SD	809.25	100-Year	305	426	530	640	535.93	100-Year	FALSE	No
Exeter	CPR-CHP-6-1	18	0.43	75	119	158	199	TR-20	--	0.15	< 10-Year	113	180	239	300	0.10	< 10-Year	FALSE	No
Exeter	CPR-CHP-7-1	276	0.79	85.5	123	155	188	SS	DA, PS	2.24	100-Year	129	186	234	284	1.48	50-Year	FALSE	Decrease
Exeter	CPR-CHP-7-2	61	0.42	65	105	138	174	TR-20	--	0.58	< 10-Year	98	159	208	263	0.38	< 10-Year	FALSE	No
Exeter	CPR-CHP-7-3	9	0.20	66.7	101	136	170	SS	DA, SD, PS	0.09	< 10-Year	101	153	205	257	0.06	< 10-Year	FALSE	No
Exeter	QUR-DUT-0-1	114	0.89	86	140	188	240	TR-20	--	0.81	10-Year	130	211	284	362	0.54	< 10-Year	FALSE	Decrease
Exeter	QUR-DUT-0-2	135	0.53	70	117	159	204	TR-20	--	1.16	25-Year	106	177	240	308	0.77	10-Year	TRUE	Decrease
Exeter	QUR-DUT-0-3	60	0.14	24	41	55	71	TR-20	--	1.47	50-Year	36	62	83	107	0.97	10-Year	TRUE	Decrease
Exeter	QUR-FIS-0-1	954	4.42	183	253</td														

Bridges and Culverts Hydraulic Capacity Analysis Results by Town

Town	Structure Name/Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/Future Capacity Rating Change?
Exeter	OUR-LOC-0-2	740	2.80	63.4	86.9	107	129	SS	DA, SD	8.52	100-Year	96	131	162	195	5.64	100-Year	FALSE	No
Exeter	OUR-LOC-0-3	106	0.29	30.4	45	59.9	75.1	SS	DA, SD, PS	2.35	100-Year	46	68	90	113	1.55	50-Year	FALSE	Decrease
Exeter	OUR-QFB-0-1	498	3.65	294	414	513	617	SS	DA	1.20	25-Year	444	625	775	932	0.80	10-Year	TRUE	Decrease
Exeter	OUR-QFB-0-10	213	1.80	173	245	305	368	SS	DA	0.87	10-Year	261	370	461	556	0.58	< 10-Year	FALSE	Decrease
Exeter	OUR-QFB-0-11	203	1.57	142	201	250	302	SS	DA	1.01	25-Year	214	304	378	456	0.67	< 10-Year	TRUE	Decrease
Exeter	OUR-QFB-0-12	20	0.17	2.99	4.1	5	6.13	SS	DA, SD	4.96	100-Year	5	6	8	9	3.29	100-Year	FALSE	No
Exeter	OUR-QFB-0-2	764	3.64	293	411	510	613	SS	DA, SD, PS	1.86	100-Year	442	621	770	926	1.23	25-Year	FALSE	Decrease
Exeter	OUR-QFB-0-9	88	1.84	179	254	316	382	SS	DA	0.34	< 10-Year	270	384	477	577	0.23	< 10-Year	FALSE	No
Exeter	OUR-QFB-2-1	148	0.64	56	91	122	155	TR-20	--	1.62	50-Year	85	137	184	234	1.07	25-Year	FALSE	Decrease
Exeter	OUR-QFB-2-2	13	0.20	27	46	62	79	TR-20	--	0.29	< 10-Year	41	69	94	119	0.19	< 10-Year	FALSE	No
Exeter	OUR-QUR-0-6	389	19.30	983	1360	1660	1980	SS		0.29	< 10-Year	1484	2054	2507	2990	0.19	< 10-Year	FALSE	No
Exeter	OUR-QUR-0-7	400	3.74	487	684	870	1050	SS	DA, PS	0.58	< 10-Year	735	1033	1314	1586	0.39	< 10-Year	FALSE	No
Exeter	OUR-QUR-0-8	1042	2.77	345	493	618	744	SS	DA, PS	2.11	100-Year	521	744	933	1123	1.40	50-Year	FALSE	Decrease
Exeter	OUR-QUR-0-9	7	1.39	103	145	181	219	SS	DA	0.05	< 10-Year	156	219	273	331	0.03	< 10-Year	FALSE	No
Exeter	OUR-QUR-10-1	7	0.30	79	114	142	172	TR-20	--	0.06	< 10-Year	119	172	214	260	0.04	< 10-Year	FALSE	No
Exeter	OUR-QUR-11-1	20	0.19	29.0	50.0	67.0	86.0	TR-20	--	0.39	< 10-Year	44	76	101	130	0.26	< 10-Year	FALSE	No
Exeter	OUR-QUR-6-1	95	0.77	80.8	115	143	173	SS	DA	0.83	10-Year	122	174	216	261	0.55	< 10-Year	FALSE	Decrease
Exeter	OUR-QUR-7-1	60	0.60	57.8	83.7	108	160	SS	DA, SD, PS	0.71	10-Year	87	126	163	242	0.47	< 10-Year	FALSE	Decrease
Exeter	OUR-SHE-0-2	26	0.27	21.8	31.1	39.1	47.7	SS	DA	0.83	10-Year	33	47	59	72	0.55	< 10-Year	FALSE	Decrease
Exeter	OUR-SOD-0-1	3200	8.21	452	628	775	930	SS		5.09	100-Year	683	948	1170	1404	3.37	100-Year	FALSE	No
Exeter	OUR-SOD-0-2	63	1.60	131	187	234	284	SS	DA, PS	0.34	< 10-Year	198	282	353	429	0.22	< 10-Year	FALSE	No
Exeter	OUR-SOD-0-3	28	0.25	3.44	4.81	6.12	7.68	SS	DA, SD, PS	5.81	100-Year	5	7	9	12	3.85	100-Year	FALSE	No
Exeter	UWR-BRE-0-1	1334	6.56	249	343	421	506	SS		3.89	100-Year	376	518	636	764	2.58	100-Year	FALSE	No
Exeter	UWR-BRE-1-3	33	0.37	24.6	34.9	43.6	53.2	SS	DA	0.93	10-Year	37	53	66	80	0.62	< 10-Year	FALSE	Decrease
Exeter	UWR-FLA-0-1	952	15.90	737	1020	1250	1490	SS		0.93	10-Year	1113	1540	1888	2250	0.62	< 10-Year	FALSE	Decrease
Exeter	UWR-FLA-0-2	642	8.22	486	677	837	1000	SS		0.95	10-Year	734	1022	1264	1510	0.63	< 10-Year	FALSE	Decrease
Exeter	UWR-ROA-0-1	388	5.84	131	179	219	264	SS	SD	2.17	100-Year	198	270	331	399	1.44	50-Year	FALSE	Decrease
Exeter	UWR-ROA-0-2	2443	5.02	113	155	190	230	SS	SD	15.76	100-Year	171	234	287	347	10.44	100-Year	FALSE	No
Exeter	UWR-ROA-0-3	1900	3.05	83.3	115	142	172	SS	DA, SD	16.52	100-Year	126	174	214	260	10.94	100-Year	FALSE	No
Exeter	UWR-ROA-0-4	207	2.74	66.7	91.7	113	137	SS	DA, SD	2.26	100-Year	101	138	171	207	1.49	100-Year	FALSE	No
Exeter	UWR-ROA-0-5	56	1.41	31.9	44.1	54.7	67	SS	DA, SD	1.28	50-Year	48	67	83	101	0.85	10-Year	TRUE	Decrease
Exeter	UWR-WOR-0-10	4996	35.20	821	1110	1340	1600	SS		4.50	100-Year	1240	1676	2023	2416	2.98	100-Year	FALSE	No
Exeter	UWR-WOR-0-11	1249	19.10	473	738	966	1211	TR-20	--	1.69	100-Year	714	1114	1459	1829	1.12	25-Year	FALSE	Decrease
Exeter	UWR-WOR-0-12	1606	17.30	530	829	1085	1362	TR-20	--	1.94	100-Year	800	1252	1638	2057	1.28	25-Year	FALSE	Decrease
Exeter	UWR-WOR-17-2	15	0.38	4	5.39	5.39	7.95	SS	DA, SD, PS	2.86	100-Year	6	8	8	12	1.89	100-Year	FALSE	No
Exeter	UWR-WOR-18-1	1353	6.68	272	375	460	552	SS		3.61	100-Year	411	566	695	834	2.39	100-Year	FALSE	No
Exeter	UWR-WOR-18-1-1	94	1.59	48.8	67.1	81.9	98.9	SS	DA	1.40	50-Year	74	101	124	149	0.93	10-Year	TRUE	Decrease
Exeter	UWR-WOR-18-1-1-1	127	0.92	23.3	32	39.1	47.4	SS	DA	3.98	100-Year	35	48	59	72	2.63	100-Year	FALSE	No
Exeter	UWR-WOR-18-2	811	4.77	236	327	403	485	SS		2.48	100-Year	356	494	609	732	1.64	100-Year	FALSE	No
Exeter	UWR-WOR-18-3	1234	3.55	189	263	325	391	SS	DA	4.69	100-Year	285	397	491	590	3.11	100-Year	FALSE	No
Exeter	UWR-WOR-18-4	493	2.82	155	216	267	322	SS	DA	2.28	100-Year	234	326	403	486	1.51	100-Year	FALSE	No
Exeter	UWR-WOR-18-4-1	50	0.33	77	116	148	182	TR-20	--	0.43	< 10-Year</td								

Bridges and Culverts Hydraulic Capacity Analysis Results by Town

Town	Structure Name/Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/Future Capacity Rating Change?
Hopkinton	AWR-ASH-0-1	3330	28.20	1040	1420	1720	2050	SS		2.35	100-Year	1570	2144	2597	3096	1.55	100-Year	FALSE	No
Hopkinton	AWR-ASH-0-2	2700	28.30	1050	1430	1730	2060	SS		1.89	100-Year	1586	2159	2612	3111	1.25	50-Year	FALSE	Decrease
Hopkinton	AWR-ASH-0-3	3200	26.60	985	1340	1630	1940	SS		2.39	100-Year	1487	2023	2461	2929	1.58	100-Year	FALSE	No
Hopkinton	AWR-ASH-0-4	2400	22.60	985	1340	1630	1940	SS		1.79	100-Year	1487	2023	2461	2929	1.19	25-Year	FALSE	Decrease
Hopkinton	AWR-ASH-2-1	86	0.22	1.51	2.08	2.62	3.29	SS	DA, SD	41.41	100-Year	2	3	4	5	27.43	100-Year	FALSE	No
Hopkinton	AWR-GLA-0-4	5	0.17	4.31	5.95	7.26	8.86	SS	DA	0.91	10-Year	7	9	11	13	0.60	< 10-Year	FALSE	Decrease
Hopkinton	AWR-PAR-0-2	138	1.27	266	386	490	592	SS	DA	0.36	< 10-Year	402	583	740	894	0.24	< 10-Year	FALSE	No
Hopkinton	AWR-WIN-0-1	16	0.36	6.81	9.33	11.4	13.9	SS	DA, SD	1.74	100-Year	10	14	17	21	1.15	25-Year	FALSE	Decrease
Hopkinton	LWR-BRU-0-1	1884	11.80	333	451	545	651	SS		4.18	100-Year	503	681	823	983	2.77	100-Year	FALSE	No
Hopkinton	LWR-BRU-0-2	211	3.64	174	241	297	357	SS		0.87	10-Year	263	364	448	539	0.58	< 10-Year	FALSE	Decrease
Hopkinton	LWR-BRU-0-3	212	3.02	118	163	200	242	SS		1.30	50-Year	178	246	302	365	0.86	10-Year	TRUE	Decrease
Hopkinton	LWR-BRU-0-4	655	2.33	70	96.2	118	142	SS	DA	6.80	100-Year	106	145	178	214	4.51	100-Year	FALSE	No
Hopkinton	LWR-BRU-2-1	107	0.13	75.0	105.0	130.0	155.0	TR-20	--	1.02	25-Year	113	159	196	234	0.67	< 10-Year	TRUE	Decrease
Hopkinton	LWR-BRU-2-2	36	0.12	73.0	102.0	125.0	149.0	TR-20	--	0.35	< 10-Year	110	154	189	225	0.23	< 10-Year	FALSE	No
Hopkinton	LWR-BRU-3-1	14	0.49	49.5	70.4	87.6	106	SS	DA, PS	0.19	< 10-Year	75	106	132	160	0.13	< 10-Year	FALSE	No
Hopkinton	LWR-BRU-3-2	165	0.36	48.5	69.7	87.6	106	SS	DA	2.37	100-Year	73	105	132	160	1.57	100-Year	FALSE	No
Hopkinton	LWR-BRU-5-1	148	0.05	39.4	59.7	77	93.7	SS	DA	2.48	100-Year	59	90	116	141	1.64	100-Year	FALSE	No
Hopkinton	LWR-BRU-5-2	13	0.03	18.1	27.1	34.8	42.4	SS	DA, PS	0.49	< 10-Year	27	41	53	64	0.33	< 10-Year	FALSE	No
Hopkinton	LWR-BRU-5-3	234	0.02	6.49	9.62	12.3	15.1	SS	DA, PS	24.34	100-Year	10	15	19	23	16.12	100-Year	FALSE	No
Hopkinton	LWR-BRU-6-1	16	0.40	58.0	97.0	132.0	169.0	TR-20	--	0.17	< 10-Year	88	146	199	255	0.11	< 10-Year	FALSE	No
Hopkinton	LWR-CAN-0-1	860	6.77	222	304	371	445	SS		2.83	100-Year	335	459	560	672	1.87	100-Year	FALSE	No
Hopkinton	LWR-CAN-0-2	689	6.61	212	290	353	424	SS		2.37	100-Year	320	438	533	640	1.57	100-Year	FALSE	No
Hopkinton	LWR-CAN-0-3	352	5.79	178	243	296	355	SS		1.45	50-Year	269	367	447	536	0.96	10-Year	TRUE	Decrease
Hopkinton	LWR-CAN-0-5	870	4.98	139	189	230	276	SS		4.60	100-Year	210	285	347	417	3.05	100-Year	FALSE	No
Hopkinton	LWR-CAN-0-6	127	1.18	52.3	73.1	90.9	110	SS	DA, SD	1.74	100-Year	79	110	137	166	1.15	25-Year	FALSE	Decrease
Hopkinton	LWR-CAN-1-1	55	0.56	34.7	49.9	64.4	79.7	SS	DA, SD	1.11	25-Year	52	75	97	120	0.74	10-Year	TRUE	Decrease
Hopkinton	LWR-CAN-3-2-1	109	2.43	49.2	66.8	80.8	97.6	SS	DA	1.63	100-Year	74	101	122	147	1.08	25-Year	FALSE	Decrease
Hopkinton	LWR-CAN-3-2-1-1	42	0.34	6.09	8.34	10.2	12.5	SS	DA, PS	5.06	100-Year	9	13	15	19	3.35	100-Year	FALSE	No
Hopkinton	LWR-CAN-3-3-1	61	0.38	27.1	38.1	49.6	56.6	SS	DA	1.60	100-Year	41	58	75	85	1.06	25-Year	FALSE	Decrease
Hopkinton	LWR-FOUND-20150625	434	3.43	88.5	121	146	176	SS	DA	3.59	100-Year	134	183	220	266	2.38	100-Year	FALSE	No
Hopkinton	LWR-FOUND-20150722	29	0.00	1.0	2.0	3.0	4.0	TR-20	--	14.41	100-Year	2	3	5	6	9.54	100-Year	FALSE	No
Hopkinton	LWR-MOS-0-1	1154	6.21	145	197	237	284	SS		5.86	100-Year	219	297	358	429	3.88	100-Year	FALSE	No
Hopkinton	LWR-MOS-0-10	132	0.60	9.4	12.8	15.5	18.8	SS	DA, SD	10.31	100-Year	14	19	23	28	6.82	100-Year	FALSE	No
Hopkinton	LWR-MOS-0-2	1075	6.15	141	190	229	274	SS		5.66	100-Year	213	287	346	414	3.75	100-Year	FALSE	No
Hopkinton	LWR-MOS-0-3	459	5.52	128	173	208	249	SS		2.65	100-Year	193	261	314	376	1.76	100-Year	FALSE	No
Hopkinton	LWR-MOS-0-5	323	3.91	78.5	106	127	152	SS	DA	3.05	100-Year	119	160	192	230	2.02	100-Year	FALSE	No
Hopkinton	LWR-MOS-0-6	363	3.91	78.5	106	127	152	SS	DA	3.43	100-Year	119	160	192	230	2.27	100-Year	FALSE	No
Hopkinton	LWR-MOS-0-7	70	1.04	46.7	64.7	79	95.2	SS	DA	1.08	25-Year	71	98	119	144	0.71	< 10-Year	TRUE	Decrease
Hopkinton	LWR-MOS-0-8	94	0.78	27	37.2	45.3	54.7	SS	DA	2.53	100-Year	41	56	68	83	1.67	100-Year	FALSE	No
Hopkinton	LWR-MOS-0-9	11	0.60	9.4	12.8	15.5	18.8	SS	DA, SD	0.82	10-Year	14	19	23	28	0.54	< 10-Year	FALSE	Decrease
Hopkinton	LWR-MOS-2-1	275	3.97	81.9	111	133	159	SS		2.48	100-Year	124	168	201	240	1.64	100-Year	FALSE	No
Hopkinton	LWR-MOS-3-1	101	0.74	4.73	6.37	7.78	9.59	SS	DA, SD	15.79	100-Year	7	10</td						

Bridges and Culverts Hydraulic Capacity Analysis Results by Town

Town	Structure Name/Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/Future Capacity Rating Change?
Hopkinton	LWR-WOR-0-2	1930	84.60	1950	2620	3150	3740	SS		0.74	< 10-Year	2945	3956	4757	5647	0.49	< 10-Year	FALSE	No
Hopkinton	LWR-WOR-1-1	1733	2.05	308	460	587	721	TR-20	--	3.77	100-Year	465	695	886	1089	2.49	100-Year	FALSE	No
Hopkinton	LWR-WOR-4-1	35	0.09	25.0	38.0	50.0	62.0	TR-20	--	0.91	10-Year	38	57	76	94	0.60	< 10-Year	FALSE	Decrease
Hopkinton	LWR-WOR-4-2	7	0.03	12.0	19.0	25.0	30.0	TR-20	--	0.36	< 10-Year	18	29	38	45	0.24	< 10-Year	FALSE	No
Hopkinton	LWR-WOR-4-3	22	0.02	9.0	14.0	18.0	23.0	TR-20	--	1.59	50-Year	14	21	27	35	1.05	25-Year	FALSE	Decrease
Hopkinton	LWR-WOR-5-1	746	84.60	1950	2620	3150	3740	SS		0.28	< 10-Year	2945	3956	4757	5647	0.19	< 10-Year	FALSE	No
Hopkinton	LWR-WOR-6-1-1	31	0.19	106.0	149.0	184.0	219.0	TR-20	--	0.21	< 10-Year	160	225	278	331	0.14	< 10-Year	FALSE	No
Hopkinton	LWR-WOR-8-1	12	0.33	82.3	121	155	189	SS	DA, SD	0.10	< 10-Year	124	183	234	285	0.07	< 10-Year	FALSE	No
Hopkinton	LWR-WOR-9-2	24	0.14	54.0	79.0	98.0	118.0	TR-20	--	0.31	< 10-Year	82	119	148	178	0.20	< 10-Year	FALSE	No
Hopkinton	MPR-MIL-0-1	644	1.20	87.7	124	154	187	SS	DA	5.19	100-Year	132	187	233	282	3.44	100-Year	FALSE	No
Hopkinton	MPR-MIL-0-2	150	1.09	70.4	99.2	123	150	SS	DA	1.51	50-Year	106	150	186	227	1.00	25-Year	FALSE	Decrease
Hopkinton	MPR-MIL-0-3	71	0.37	66.6	96.7	122	149	SS	DA, PS	0.74	10-Year	101	146	184	225	0.49	< 10-Year	FALSE	Decrease
Hopkinton	MPR-MIL-1-2	67	0.16	41.6	61.4	79.1	96.8	SS	DA, PS	1.10	25-Year	63	93	119	146	0.73	10-Year	TRUE	Decrease
Hopkinton	MPR-PAW-0-10	7100	217.00	2850	3750	4450	5240	SS		1.89	100-Year	4304	5663	6720	7912	1.25	50-Year	FALSE	Decrease
Hopkinton	MPR-PAW-0-12	17700	205.00	2830	3730	4440	5230	SS		4.75	100-Year	4273	5632	6704	7897	3.14	100-Year	FALSE	No
Hopkinton	MPR-PAW-0-13	6700	204.00	2800	3690	4380	5170	SS		1.82	100-Year	4228	5572	6614	7807	1.20	50-Year	FALSE	Decrease
Hopkinton	MPR-PAW-0-9	12250	239.00	2970	3890	4610	5440	SS		3.15	100-Year	4485	5874	6961	8214	2.09	100-Year	FALSE	No
Hopkinton	MPR-PAW-17-1	228	0.58	29.70	41.60	51.2	62.1	SS	DA	5.48	100-Year	45	63	77	94	3.63	100-Year	FALSE	No
Hopkinton	MPR-TOM-0-1	383	6.71	244	336	410	492	SS		1.14	25-Year	368	507	619	743	0.75	10-Year	TRUE	Decrease
Hopkinton	MPR-TOM-0-2	696	5.99	230	316	387	464	SS		2.20	100-Year	347	477	584	701	1.46	50-Year	FALSE	Decrease
Hopkinton	MPR-TOM-0-3	1045	5.49	199	273	333	400	SS		3.83	100-Year	300	412	503	604	2.53	100-Year	FALSE	No
Hopkinton	MPR-TOM-0-4	135	1.23	133	189	236	286	SS	DA, PS	0.71	10-Year	201	285	356	432	0.47	< 10-Year	FALSE	Decrease
Hopkinton	MPR-TOM-0-7	62	0.29	24.1	34.1	42.4	51.5	SS	DA	1.81	100-Year	36	51	64	78	1.20	25-Year	FALSE	Decrease
Hopkinton	MPR-TOM-1-1	144	5.99	230	316	387	464	SS	DA, PS	0.45	< 10-Year	347	477	584	701	0.30	< 10-Year	FALSE	No
Hopkinton	MPR-TOM-1-3	56	1.41	178	254	320	387	SS	DA, PS	0.22	< 10-Year	269	384	483	584	0.15	< 10-Year	FALSE	No
Hopkinton	MPR-TOM-3-1	673	2.93	67.9	92.5	112	135	SS	DA	7.27	100-Year	103	140	169	204	4.82	100-Year	FALSE	No
Hopkinton	MPR-TOM-3-1-1	29	0.30	1.22	1.65	2.07	2.61	SS	DA, SD	17.87	100-Year	2	2	3	4	11.84	100-Year	FALSE	No
Hopkinton	MPR-TOM-3-2	89	1.41	34.7	47.4	57.6	69.6	SS	DA	1.88	100-Year	52	72	87	105	1.25	50-Year	FALSE	Decrease
Hopkinton	MPR-TOM-3-4-1	180	0.07	3.3	4.74	6.03	7.5	SS	DA, SD, PS	37.99	100-Year	5	7	9	11	25.16	100-Year	FALSE	No
Hopkinton	MPR-TOM-3-5-1	124	0.58	9.24	12.6	15.2	18.5	SS	DA, SD, PS	9.84	100-Year	14	19	23	28	6.52	100-Year	FALSE	No
Hopkinton	MPR-TOM-3-5-2	8	0.43	4.08	5.49	6.61	8.08	SS	DA, SD, PS	1.49	100-Year	6	8	10	12	0.99	10-Year	TRUE	Decrease
Hopkinton	MPR-TOM-FOUND-20150610	875	6.71	244	336	410	492	SS		2.61	100-Year	368	507	619	743	1.73	100-Year	FALSE	No
Hopkinton	UWR-WOR-0-7	11700	57.80	1350	1820	2190	2610	SS		6.43	100-Year	2039	2748	3307	3941	4.26	100-Year	FALSE	No
Hopkinton	UWR-WOR-0-8	4610	57.10	1340	1810	2180	2590	SS		2.55	100-Year	2023	2733	3292	3911	1.69	100-Year	FALSE	No
Hopkinton	UWR-WOR-0-9	3560	54.60	1260	1690	2050	2430	SS		2.11	100-Year	1903	2552	3096	3669	1.40	50-Year	FALSE	Decrease
Hopkinton	UWR-WOR-12-1	441	1.40	161	231	294	357	SS	DA, SD, PS	1.91	100-Year	243	349	444	539	1.26	25-Year	FALSE	Decrease
Hopkinton	UWR-WOR-12-2	27	0.20	7.82	11	13.6	16.6	SS	DA, SD	2.46	100-Year	12	17	21	25	1.63	100-Year	FALSE	No
Hopkinton	UWR-WOR-17-1	30	0.95	32.1	44.3	54.2	65.7	SS	DA	0.68	< 10-Year	48	67	82	99	0.45	< 10-Year	FALSE	No
North Kingstown	CPR-CHP-0-8	331	3.83	181	253	315	381	SS	DA, PS	1.31	50-Year	273	382	476	575	0.87	10-Year	TRUE	Decrease
North Kingstown	CPR-CHP-5-1-2-1	0	0.15	1.6	2.2	2.7	3.3	SS		0.00	< 10-Year	2	3	4	5	0.00	< 10-Year	FALSE	No
North Kingstown	CPR-CHP-5-2	102	2.21	47.3	64.2	77.5	93.4	SS	DA	1.59	100-Year	71	97	117	141	1.05	25-Year	FALSE	Decrease

Bridges and Culverts Hydraulic Capacity Analysis Results by Town

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North Stonington	AWR-GLA-0-1	254	1.93	222	299	361	425	SS		0.85	10-Year	335	451	545	642	0.56	< 10-Year	FALSE	Decrease
North Stonington	AWR-GLA-0-2	202	1.66	202	271	327	384	SS	DA	0.75	10-Year	305	409	494	580	0.49	< 10-Year	FALSE	Decrease
North Stonington	AWR-GRE-0-2	3700	7.65	655	900	1100	1300	SS		4.11	100-Year	989	1359	1661	1963	2.72	100-Year	FALSE	No
North Stonington	AWR-GRE-0-3	120	6.88	622	838	1020	1210	SS		0.14	< 10-Year	939	1265	1540	1827	0.09	< 10-Year	FALSE	No
North Stonington	AWR-GRE-0-4	760	6.84	619	835	1020	1210	SS		0.91	10-Year	935	1261	1540	1827	0.60	< 10-Year	FALSE	Decrease
North Stonington	AWR-GRE-1-2	71	0.24	38.1	51	61.2	70.8	SS	DA, MBE	1.38	50-Year	58	77	92	107	0.92	10-Year	TRUE	Decrease
North Stonington	AWR-GRE-3-1	37	0.34	53.3	71.1	85.5	99.1	SS	DA	0.53	< 10-Year	80	107	129	150	0.35	< 10-Year	FALSE	No
North Stonington	AWR-GRE-4-1	34	0.13	21.5	28.7	34.5	39.7	SS	DA	1.19	25-Year	32	43	52	60	0.79	10-Year	TRUE	Decrease
North Stonington	AWR-GRE-5-1	20	0.19	33	43.9	52.5	60.6	SS	DA	0.45	< 10-Year	50	66	79	92	0.30	< 10-Year	FALSE	No
North Stonington	AWR-GRE-5-2	27	0.22	36.7	48.9	58.6	67.7	SS	DA	0.56	< 10-Year	55	74	88	102	0.37	< 10-Year	FALSE	No
North Stonington	AWR-GRE-6-1	5	0.34	52.9	70.4	84.4	97.8	SS	DA	0.07	< 10-Year	80	106	127	148	0.05	< 10-Year	FALSE	No
North Stonington	AWR-GRE-7-1	27	0.30	52.5	69.4	83	96	SS	DA	0.39	< 10-Year	79	105	125	145	0.26	< 10-Year	FALSE	No
North Stonington	LPR-PAW-12-1	253	1.63	163	222	270	318	SS	DE, MBE	1.14	25-Year	246	335	408	480	0.75	10-Year	TRUE	Decrease
North Stonington	LPR-PAW-12-1-1	668	0.27	43.7	58.4	70.2	81.2	SS	DA	11.44	100-Year	66	88	106	123	7.57	100-Year	FALSE	No
North Stonington	LPR-PAW-13-1	33	0.05	10.9	14.4	17.1	19.6	SS	DE, MBE	2.28	100-Year	16	22	26	30	1.51	100-Year	FALSE	No
North Stonington	LPR-PAW-9-1	73	0.36	48.4	65.5	79.2	92.3	SS		1.12	25-Year	73	99	120	139	0.74	10-Year	TRUE	Decrease
North Stonington	SNR-ASS-0-1	841	3.75	361	488	594	702	SS		1.72	100-Year	545	737	897	1060	1.14	25-Year	FALSE	Decrease
North Stonington	SNR-ASS-0-2	1157	1.52	190	253	306	358	SS	DA	4.57	100-Year	287	382	462	541	3.03	100-Year	FALSE	No
North Stonington	SNR-ASS-0-3	514	1.30	169	225	272	318	SS	DA	2.28	100-Year	255	340	411	480	1.51	100-Year	FALSE	No
North Stonington	SNR-ASS-1-1	30	0.05	14	18.3	21.7	24.7	SS	DA	1.65	100-Year	21	28	33	37	1.09	25-Year	FALSE	Decrease
North Stonington	SNR-ASS-2-1	29	0.06	14	18.3	21.8	24.8	SS	DA	1.61	100-Year	21	28	33	37	1.07	25-Year	FALSE	Decrease
North Stonington	SNR-ASS-4-1	26	0.03	10	13	15.3	17.3	SS	DA	2.00	100-Year	15	20	23	26	1.33	50-Year	FALSE	Decrease
North Stonington	SNR-ASS-5-1	138	0.54	84.6	112	135	157	SS	DA	1.23	50-Year	128	169	204	237	0.82	10-Year	TRUE	Decrease
North Stonington	SNR-PHE-0-1	444	1.82	221	292	351	411	SS		1.52	100-Year	334	441	530	621	1.01	25-Year	FALSE	Decrease
North Stonington	SNR-SHU-0-1	4341	16.40	1150	1560	1920	2300	SS		2.78	100-Year	1737	2356	2899	3473	1.84	100-Year	FALSE	No
North Stonington	SNR-SHU-0-11	745	6.36	580	778	945	1120	SS		0.96	10-Year	876	1175	1427	1691	0.63	< 10-Year	FALSE	Decrease
North Stonington	SNR-SHU-0-12	1204	2.28	263	349	420	493	SS		3.45	100-Year	397	527	634	744	2.28	100-Year	FALSE	No
North Stonington	SNR-SHU-0-13	1486	2.27	262	348	419	491	SS		4.27	100-Year	396	525	633	741	2.83	100-Year	FALSE	No
North Stonington	SNR-SHU-0-5	4742	15.90	1130	1530	1880	2250	SS		3.10	100-Year	1706	2310	2839	3398	2.05	100-Year	FALSE	No
North Stonington	SNR-SHU-0-6	6046	14.80	1070	1460	1790	2140	SS		4.14	100-Year	1616	2205	2703	3231	2.74	100-Year	FALSE	No
North Stonington	SNR-SHU-0-8	2684	11.70	908	1230	1500	1790	SS		2.18	100-Year	1371	1857	2265	2703	1.45	50-Year	FALSE	Decrease
North Stonington	SNR-SHU-0-9	357	7.91	681	917	1120	1320	SS		0.39	< 10-Year	1028	1385	1691	1993	0.26	< 10-Year	FALSE	No
North Stonington	SNR-SHU-10-1	314	0.25	48.1	63	75.1	86.4	SS	DA	4.98	100-Year	73	95	113	130	3.30	100-Year	FALSE	No
North Stonington	SNR-SHU-1-1	37	0.15	27.7	36.7	44	50.7	SS	DA	1.00	10-Year	42	55	66	77	0.66	< 10-Year	FALSE	Decrease
North Stonington	SNR-SHU-1-2	43	0.10	20.3	26.8	32	36.7	SS	DA	1.61	100-Year	31	40	48	55	1.07	25-Year	FALSE	Decrease
North Stonington	SNR-SHU-3-1	131	0.42	65.8	87.5	105	122	SS	DA	1.50	100-Year	99	132	159	184	0.99	10-Year	TRUE	Decrease
North Stonington	SNR-SHU-3-2	89	0.11	24.1	31.6	37.6	43.1	SS	DA	2.81	100-Year	36	48	57	65	1.86	100-Year	FALSE	No
North Stonington	SNR-SHU-4-1	518	1.03	136	182	219	256	SS	DA	2.85	100-Year	205	275	331	387	1.89	100-Year	FALSE	No
North Stonington	SNR-SHU-4-1-3	84	0.33	58.9	77.6	92.8	107	SS	DA	1.08	25-Year	89	117	140	162	0.72	< 10-Year	TRUE	Decrease
North Stonington	SNR-SHU-4-3	108	0.24	46.1	60.6	72.2	83.2	SS	DA	1.79	100-Year	70	92	109	126	1.19	25-Year	FALSE	Decrease
North Stonington	SNR-SHU-6-3	13	0.17	34.2	44.8	53.4	61.3	SS	DA	0.28	< 10-Year	52	68	81	93	0.18	< 10-Year	FALSE	No
North Stonington	SNR-SHU-7-1	34	0.17	34.9	45.8	54.5	62.6	SS											

Bridges and Culverts Hydraulic Capacity Analysis Results by Town

Town	Structure Name/Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/Future Capacity Rating Change?
North Stonington	SNR-SHU-8-1	61	0.27	49.1	64.6	77.1	88.9	SS	DA	0.95	10-Year	74	98	116	134	0.63	< 10-Year	FALSE	Decrease
North Stonington	SNR-YAW-0-1	294	2.53	291	386	466	547	SS		0.76	10-Year	439	583	704	826	0.50	< 10-Year	FALSE	Decrease
North Stonington	SNR-YAW-0-2	158	1.96	240	318	383	448	SS		0.50	< 10-Year	362	480	578	676	0.33	< 10-Year	FALSE	No
North Stonington	SNR-YAW-1-1	37	0.28	53.2	69.5	82.8	95.4	SS	DA	0.54	< 10-Year	80	105	125	144	0.36	< 10-Year	FALSE	No
North Stonington	WPB-FOUND-20150812	1211	4.02	410	550	666	786	SS		2.20	100-Year	619	831	1006	1187	1.46	100-Year	FALSE	No
North Stonington	WPB-HET-0-2	94	1.00	144	190	228	265	SS	DA	0.49	< 10-Year	217	287	344	400	0.33	< 10-Year	FALSE	No
North Stonington	WPB-PHB-0-1	644	5.15	484	652	792	937	SS		0.99	10-Year	731	985	1196	1415	0.65	< 10-Year	FALSE	Decrease
North Stonington	WPB-PHB-0-3	791	4.20	422	567	686	811	SS		1.40	50-Year	637	856	1036	1225	0.92	10-Year	TRUE	Decrease
North Stonington	WPB-PHB-0-5	101	0.79	119	157	188	219	SS	DA	0.65	< 10-Year	180	237	284	331	0.43	< 10-Year	FALSE	No
North Stonington	WPB-PHB-1-1	23	0.32	49.6	66.1	79.3	91.9	SS	DA	0.35	< 10-Year	75	100	120	139	0.23	< 10-Year	FALSE	No
North Stonington	WPB-PHB-3-1	40	0.09	19.7	25.8	30.7	35.1	SS	DA	1.55	100-Year	30	39	46	53	1.02	25-Year	FALSE	Decrease
North Stonington	WPB-PHB-3-2	0	0.03	8.81	11.4	13.5	15.2	SS	DA	0.00	< 10-Year	13	17	20	23	0.00	< 10-Year	FALSE	No
North Stonington	WPB-WAY-0-1	4526	11.30	866	1180	1440	1720	SS		3.84	100-Year	1308	1782	2174	2597	2.54	100-Year	FALSE	No
North Stonington	WPB-WAY-0-2	496	4.44	425	572	694	821	SS		0.87	10-Year	642	864	1048	1240	0.57	< 10-Year	FALSE	Decrease
North Stonington	WPB-WAY-0-4	127	2.51	284	378	457	537	SS		0.34	< 10-Year	429	571	690	811	0.22	< 10-Year	FALSE	No
North Stonington	WPB-WAY-0-6	95	0.09	130	171	204	238	SS	DA	0.56	< 10-Year	196	258	308	359	0.37	< 10-Year	FALSE	No
North Stonington	WPB-WAY-4-1	255	0.37	64.4	84.8	101	117	SS	DA	3.01	100-Year	97	128	153	177	1.99	100-Year	FALSE	No
Richmond	BVR-BEA-0-1	284	11.90	431	592	723	866	SS		0.48	< 10-Year	651	894	1092	1308	0.32	< 10-Year	FALSE	No
Richmond	BVR-BEA-0-2	260	10.10	404	555	680	814	SS		0.47	< 10-Year	610	838	1027	1229	0.31	< 10-Year	FALSE	No
Richmond	BVR-BEA-0-3	1430	9.18	364	501	614	736	SS		2.85	100-Year	550	757	927	1111	1.89	100-Year	FALSE	No
Richmond	BVR-BEA-0-4	156	5.25	244	338	417	502	SS		0.46	< 10-Year	368	510	630	758	0.30	< 10-Year	FALSE	No
Richmond	BVR-BEA-0-5	173	4.66	206	286	353	426	SS	SD	0.60	< 10-Year	311	432	533	643	0.40	< 10-Year	FALSE	No
Richmond	BVR-BEA-0-6	125	1.84	85.2	119	149	181	SS	DA, SD	1.05	25-Year	129	180	225	273	0.69	< 10-Year	TRUE	Decrease
Richmond	BVR-BEA-2-1	72	0.57	47	66.4	82	99	SS	DA	1.08	25-Year	71	100	124	149	0.72	10-Year	TRUE	Decrease
Richmond	BVR-BEA-3-1	62	0.53	22.5	31.3	38.2	46.2	SS	DA	1.98	100-Year	34	47	58	70	1.31	50-Year	FALSE	Decrease
Richmond	BVR-BEA-3-2	10	0.07	0.43	0.58	0.71	0.89	SS	DA, SD, PS	16.45	100-Year	1	1	1	1	10.89	100-Year	FALSE	No
Richmond	BVR-BEA-5-1	35	0.30	61.5	89.4	114	138	SS	DA, PS	0.39	< 10-Year	93	135	172	208	0.26	< 10-Year	FALSE	No
Richmond	BVR-BEA-6-1	79	0.33	61.9	90	114	139	SS	DA, SD	0.87	10-Year	93	136	172	210	0.58	< 10-Year	FALSE	Decrease
Richmond	BVR-BEA-6-2	19	0.13	32	55	74	95	TR-20	--	0.35	< 10-Year	48	83	112	143	0.23	< 10-Year	FALSE	No
Richmond	BVR-FOUND-20150630	410	8.86	356	490	600	719	SS		0.84	10-Year	506	701	862	1034	0.59	< 10-Year	FALSE	Decrease
Richmond	BVR-FOUND-20150817	315	6.89	335	464	571	685	SS		0.68	< 10-Year	599	824	1009	1210	0.38	< 10-Year	FALSE	No
Richmond	BVR-FOUND-20151015	517	10.00	397	546	668	801	SS		0.95	10-Year	599	824	1009	1210	0.63	< 10-Year	FALSE	Decrease
Richmond	LWR-DIA-0-1	91	0.83	32.1	44.6	54.8	66.5	SS	DA	2.03	100-Year	48	67	83	100	1.35	50-Year	FALSE	Decrease
Richmond	LWR-DIA-0-2	4	0.25	22.1	31.5	39.1	47.5	SS	DA	0.14	< 10-Year	33	48	59	72	0.09	< 10-Year	FALSE	No
Richmond	LWR-DIA-0-3	31	0.12	8.56	12.2	15.1	18.5	SS	DA	2.57	100-Year	13	18	23	28	1.70	100-Year	FALSE	No
Richmond	LWR-WOR-0-3	15100	74.20	1720	2310	2790	3310	SS		6.54	100-Year	2597	3488	4213	4998	4.33	100-Year	FALSE	No
Richmond	LWR-WOR-0-4	36000	74.10	1720	2310	2780	3300	SS		15.58	100-Year	2597	3488	4198	4983	10.32	100-Year	FALSE	No
Richmond	LWR-WOR-0-5	3600	73.30	1680	2260	2720	3230	SS		1.59	100-Year	2537	3413	4107	4877	1.05	25-Year	FALSE	Decrease
Richmond	LWR-WOR-1-2	466	2.04	306	458	584	717	TR-20	--	1.02	25-Year	462	692	882	1083	0.67	10-Year	TRUE	Decrease
Richmond	LWR-WOR-2-1	3083	86.20	1	1	1	1	SS		3082.58	100-Year	2	2	2	2	2041.44	100-Year	FALSE	No
Richmond	QUR-GLE-0-2	322	2.53	169	237	294	354	SS	DA	1.36	50-Year	255	358	444	535	0.90	10-Year	TRUE	Decrease
Richmond	QUR-GLE-2-1-1	8	0.07	34.6	51.7	66.5	81.1	SS	DA, SD, PS	0.16	< 10-Year								

Bridges and Culverts Hydraulic Capacity Analysis Results by Town

Town	Structure Name/Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/Future Capacity Rating Change?
Richmond	OUR-OUR-0-4	2100	32.80	1210	1660	2010	2400	SS	DA, SD, PS	1.27	50-Year	1827	2507	3035	3624	0.84	10-Year	TRUE	Decrease
Richmond	UPR-FOUND-20150820	2910	78.60	856	1130	1330	1580	SS		2.58	100-Year	1293	1706	2008	2386	1.71	100-Year	FALSE	No
Richmond	UPR-FOUND-20151014-1	432	1.87	59.9	73.9	90.2	109	SS		5.84	100-Year	90	112	136	165	3.87	100-Year	FALSE	No
Richmond	UPR-FOUND-20151014-2	38	1.87	59.9	73.9	90.2	109	SS		0.51	< 10-Year	90	112	136	165	0.34	< 10-Year	FALSE	No
Richmond	UPR-FOUND-20151014-3	42	1.87	59.9	73.9	90.2	109	SS		0.57	< 10-Year	90	112	136	165	0.38	< 10-Year	FALSE	No
Richmond	UPR-FOUND-20151014-4	69	1.87	59.9	73.9	90.2	109	SS		0.94	10-Year	90	112	136	165	0.62	< 10-Year	FALSE	Decrease
Richmond	UPR-FOUND-20151014-5	426	1.87	59.9	73.9	90.2	109	SS		5.77	100-Year	90	112	136	165	3.82	100-Year	FALSE	No
Richmond	UPR-FOUND-20151014-6	99	1.78	48.6	66.6	81.2	98.1	SS		1.49	100-Year	73	101	123	148	0.99	10-Year	TRUE	Decrease
Richmond	UPR-FOUND-20151015-1	17	1.91	57.3	78.7	96	116	SS		0.21	< 10-Year	87	119	145	175	0.14	< 10-Year	FALSE	No
Richmond	UPR-FOUND-20151015-2	111	1.78	48.6	66.6	81.2	98.1	SS		1.66	100-Year	73	101	123	148	1.10	25-Year	FALSE	Decrease
Richmond	UPR-MEA-0-2	398	6.43	202	276	336	403	SS		1.44	50-Year	305	417	507	609	0.95	10-Year	TRUE	Decrease
Richmond	UPR-MEA-0-3	168	5.09	151	206	251	301	SS		0.81	10-Year	228	311	379	455	0.54	< 10-Year	FALSE	Decrease
Richmond	UPR-MEA-0-4	183	3.45	95.3	130	158	190	SS	DA	1.41	50-Year	144	196	239	287	0.93	10-Year	TRUE	Decrease
Richmond	UPR-MEA-0-5	289	1.79	49.1	67.3	82	99.1	SS	DA	4.29	100-Year	74	102	124	150	2.84	100-Year	FALSE	No
Richmond	UPR-MEA-0-6	134	0.77	24.5	34	41.9	51	SS	DA, SD	3.95	100-Year	37	51	63	77	2.62	100-Year	FALSE	No
Richmond	UPR-MEA-0-7	66	0.68	16.4	22.6	27.7	33.8	SS	DA, SD	2.92	100-Year	25	34	42	51	1.94	100-Year	FALSE	No
Richmond	UPR-MEA-0-8	20	0.23	9.8	13.9	17.7	22	SS	DA, SD, PS	1.46	50-Year	15	21	27	33	0.97	10-Year	TRUE	Decrease
Richmond	UPR-MEA-1-1	82	0.18	17.2	25	32	39.5	SS	DA, SD, PS	3.28	100-Year	26	38	48	60	2.17	100-Year	FALSE	No
Richmond	UPR-MEA-2-1	75	0.86	30.8	42.7	52.6	63.9	SS	DA	1.75	100-Year	47	64	79	96	1.16	25-Year	FALSE	Decrease
Richmond	UPR-PAW-0-17	2840	99.30	1190	1570	1860	2200	SS		1.81	100-Year	1797	2371	2809	3322	1.20	50-Year	FALSE	Decrease
Richmond	UPR-PAW-0-23	11392	78.60	856	1130	1330	1580	SS		10.08	100-Year	1293	1706	2008	2386	6.68	100-Year	FALSE	No
Richmond	UPR-PAW-0-24	2910	78.60	856	1130	1330	1580	SS		2.58	100-Year	1293	1706	2008	2386	1.71	100-Year	FALSE	No
Richmond	UPR-PAW-0-26	3030	72.30	848	1120	1320	1570	SS		2.71	100-Year	1280	1691	1993	2371	1.79	100-Year	FALSE	No
Richmond	UPR-TNY-0-1	56	1.61	27.9	37.8	45.8	55.4	SS	DA	1.48	100-Year	42	57	69	84	0.98	10-Year	TRUE	Decrease
Richmond	UPR-WEB-0-1	183	2.00	69.6	96.9	121	147	SS	DA, SD	1.89	100-Year	105	146	183	222	1.25	50-Year	FALSE	Decrease
Richmond	UWR-BAK-0-1	325	1.58	49.3	68.4	84.7	103	SS	DA, SD	4.75	100-Year	74	103	128	156	3.15	100-Year	FALSE	No
Richmond	UWR-BAK-0-2	43	0.53	21.2	29.6	36.5	44.5	SS	DA	1.45	50-Year	32	45	55	67	0.96	10-Year	TRUE	Decrease
Richmond	UWR-FOUND-20150603	36	0.18	31.0	53.0	72.0	92.0	TR-20	--	0.68	10-Year	47	80	109	139	0.45	< 10-Year	FALSE	Decrease
Richmond	UWR-WOR-0-6	4650	59.30	1410	1890	2290	2720	SS		2.46	100-Year	2129	2854	3458	4107	1.63	100-Year	FALSE	No
Richmond	UWR-WOR-13-1	139	0.43	26	36.8	46.1	56.2	SS	DA, SD	3.77	100-Year	39	56	70	85	2.49	100-Year	FALSE	No
Richmond	UWR-WOR-14-1	83	1.28	75.9	107	134	162	SS	DA, SD	0.77	10-Year	115	162	202	245	0.51	< 10-Year	FALSE	Decrease
Richmond	UWR-WOR-14-4	39	0.62	55.3	78.5	98	119	SS	DA	0.50	< 10-Year	84	119	148	180	0.33	< 10-Year	FALSE	No
Richmond	UWR-WOR-14-5	55	0.12	20	35	48	61	TR-20	--	1.58	50-Year	30	53	72	92	1.05	25-Year	FALSE	Decrease
South Kingstown	CKR-3047	4	0.013	3.0	6.0	8.0	10.0	TR-20	--	0.63	10-Year	5	9	12	15	0.42	< 10-Year	FALSE	Decrease
South Kingstown	CKR-3049	5	0.015	4.0	6.0	9.0	11.0	TR-20	--	0.81	10-Year	6	9	14	17	0.54	< 10-Year	FALSE	Decrease
South Kingstown	CKR-3071	1	0.016	4.0	6.0	9.0	12.0	TR-20	--	0.18	< 10-Year	6	9	14	18	0.12	< 10-Year	FALSE	No
South Kingstown	CKR-3192	5	0.011	3.0	6.0	8.0	10.0	TR-20	--	0.85	10-Year	5	9	12	15	0.56	10-Year	FALSE	No
South Kingstown	CKR-3243	4	0.015	8.0	12.0	16.0	19.0	TR-20	--	0.35	< 10-Year	12	18	24	29	0.23	< 10-Year	FALSE	No
South Kingstown	CKR-3351	20	0.051	12.0	21.0	29.0	37.0	TR-20	--	0.96	10-Year	18	32	44	56	0.63	10-Year	FALSE	No
South Kingstown	CKR-CHK-0-3	575	4.82	103	139	168	201	SS		4.14	100-Year	156	210	254	304	2.74	100-Year	FALSE	No
South Kingstown	CKR-CHK-0-4	536	4.02	73.8	99.6	120	144	SS		5.38	100-Year	111	150	181	217	3.56	100-Year	FALSE	No
South Kingstown	CKR-CHK-0-5	240	3.86	66	88.9	107	129												

Bridges and Culverts Hydraulic Capacity Analysis Results by Town

Town	Structure Name/Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/Future Capacity Rating Change?
South Kingstown	CKR-CHK-2-1-2	39	0.14	8.1	11.6	14.6	17.9	SS	DA, SD	3.32	100-Year	12	18	22	27	2.20	100-Year	FALSE	No
South Kingstown	CKR-CHK-2-2-1	283	0.16	7.93	11.2	13.9	17	SS	DA, SD	25.26	100-Year	12	17	21	26	16.73	100-Year	FALSE	No
South Kingstown	CKR-CHK-3-1	134	3.28	45.6	61.2	73.4	88.4	SS		2.19	100-Year	69	92	111	133	1.45	100-Year	FALSE	No
South Kingstown	CKR-CHK-3-2	59	3.28	45.6	61.2	73.4	88.4	SS	DA, PS	0.96	10-Year	69	92	111	133	0.64	< 10-Year	FALSE	Decrease
South Kingstown	CPR-ALE-0-1	27	2.06	12.5	16.6	19.8	24	SS	DA, SD, PS	1.65	100-Year	19	25	30	36	1.09	25-Year	FALSE	Decrease
South Kingstown	CPR-ALE-0-2	6	1.98	10.6	14	16.7	20.3	SS	DA, SD, PS	0.44	< 10-Year	16	21	25	31	0.29	< 10-Year	FALSE	No
South Kingstown	CPR-ALE-0-3	12	1.25	6.98	9.22	11	13.4	SS	DA, SD, PS	1.32	50-Year	11	14	17	20	0.88	10-Year	TRUE	Decrease
South Kingstown	CPR-CHP-0-1	1560	10.30	318	435	528	633	SS		3.59	100-Year	480	657	797	956	2.37	100-Year	FALSE	No
South Kingstown	CPR-CHP-2-1-1	224	0.86	103	171	231	296	TR-20	--	1.31	25-Year	156	258	349	447	0.87	10-Year	TRUE	Decrease
South Kingstown	CPR-CHP-2-2	627	0.50	48	78	105	134	TR-20	--	8.04	100-Year	72	118	159	202	5.33	100-Year	FALSE	No
South Kingstown	CPR-CHP-2-2-1	37	0.18	24	39	53	68	TR-20	--	0.95	10-Year	36	59	80	103	0.63	10-Year	FALSE	No
South Kingstown	CPR-FOUND-20151012	660	2.47	114	158	196	237	SS		4.18	100-Year	172	239	296	358	2.77	100-Year	FALSE	No
South Kingstown	CPR-MIN-0-1	3	1.53	30.9	42	50.9	61.5	SS	DA	0.06	< 10-Year	47	63	77	93	0.04	< 10-Year	FALSE	No
South Kingstown	CPR-WHB-0-1	1240	3.94	325	475	598	727	TR-20	--	2.61	100-Year	491	717	903	1098	1.73	100-Year	FALSE	No
South Kingstown	CPR-WHB-0-2	383	2.06	208	304	384	467	TR-20	--	1.26	25-Year	314	459	580	705	0.83	10-Year	TRUE	Decrease
South Kingstown	CPR-WHB-2-1	15	0.75	241	327	396	465	TR-20	--	0.05	< 10-Year	364	494	598	702	0.03	< 10-Year	FALSE	No
South Kingstown	CPR-WHB-2-2	545	0.69	241	327	395	465	TR-20	--	1.67	100-Year	364	494	596	702	1.10	25-Year	FALSE	Decrease
South Kingstown	CPR-WHB-2-3	759	0.66	241	327	395	464	TR-20	--	2.32	100-Year	364	494	596	701	1.54	100-Year	FALSE	No
South Kingstown	CPR-WHB-2-4	533	0.61	238	234	391	459	TR-20	--	2.28	100-Year	359	353	590	693	1.51	25-Year	FALSE	Decrease
South Kingstown	CPR-WHB-2-5	668	0.57	230	311	376	442	TR-20	--	2.15	100-Year	347	470	568	667	1.42	100-Year	FALSE	No
South Kingstown	CPR-WHB-2-6	849	0.51	220	299	361	424	TR-20	--	2.84	100-Year	332	451	545	640	1.88	100-Year	FALSE	No
South Kingstown	CPR-WHB-2-7	233	0.44	200	271	328	385	TR-20	--	0.86	10-Year	302	409	495	581	0.57	< 10-Year	FALSE	Decrease
South Kingstown	CPR-WHB-2-8	23	0.15	97	131	158	185	TR-20	--	0.18	< 10-Year	146	198	239	279	0.12	< 10-Year	FALSE	No
South Kingstown	CPR-WHB-2-9	20	0.10	21	37	50	64	TR-20	--	0.54	< 10-Year	32	56	76	97	0.36	< 10-Year	FALSE	No
South Kingstown	QUR-GLE-0-1	464	2.83	197	277	343	413	SS	DA	1.67	100-Year	297	418	518	624	1.11	25-Year	FALSE	Decrease
South Kingstown	QUR-ISO-E	3	0.63	1.38	1.82	2.2	2.73	SS	DA, SD, PS	1.62	100-Year	2	3	3	4	1.07	25-Year	FALSE	Decrease
South Kingstown	QUR-ISO-M	9	0.63	2.1	2.77	3.35	4.14	SS	DA, SD, PS	3.08	100-Year	3	4	5	6	2.04	100-Year	FALSE	No
South Kingstown	QUR-ISO-W	67	0.63	2.43	3.22	3.89	4.8	SS	DA, SD, PS	20.82	100-Year	4	5	6	7	13.79	100-Year	FALSE	No
South Kingstown	QUR-QUR-0-5	1470	28.00	988	1350	1640	1950	SS		1.09	25-Year	1492	2039	2476	2945	0.72	< 10-Year	TRUE	Decrease
South Kingstown	QUR-QUR-1-1	33	0.38	121	182	232	285	TR-20	--	0.18	< 10-Year	183	275	350	430	0.12	< 10-Year	FALSE	No
South Kingstown	QUR-SHE-0-1	146	1.03	140	208	266	326	TR-20	--	0.70	10-Year	211	314	402	492	0.46	< 10-Year	FALSE	Decrease
South Kingstown	QUR-USQ-0-2	4400	36.10	1140	1540	1870	2220	SS		2.86	100-Year	1721	2325	2824	3352	1.89	100-Year	FALSE	No
Sterling	UWR-CAR-0-5	57	0.49	84.9	113	136	158	SS	DA	0.50	< 10-Year	128	171	205	239	0.33	< 10-Year	FALSE	No
Sterling	UWR-WOR-0-18	124	2.97	352	469	566	666	SS		0.26	< 10-Year	532	708	855	1006	0.18	< 10-Year	FALSE	No
Sterling	UWR-WOR-0-19	409	2.97	352	469	566	666	SS		0.87	10-Year	532	708	855	1006	0.58	< 10-Year	FALSE	Decrease
Sterling	UWR-WOR-0-20	83	1.60	220	292	351	411	SS	DA	0.28	< 10-Year	332	441	530	621	0.19	< 10-Year	FALSE	No
Sterling	UWR-WOR-24-2	23	0.07	19.1	24.9	29.5	33.7	SS	DA	0.93	10-Year	29	38	45	51	0.61	< 10-Year	FALSE	Decrease
Sterling	UWR-WOR-25-2	4	0.07	18.4	23.9	28.3	32.2	SS	DA	0.18	< 10-Year	28	36	43	49	0.12	< 10-Year	FALSE	No
Voluntown	AWR-GRE-0-6	260	2.17	267	355	428	502	SS		0.73	< 10-Year	403	536	646	758	0.48	< 10-Year	FALSE	No
Voluntown	AWR-GRE-10-1-1	54	0.11	26.4	34.2	40.5	46.2	SS	DA	1.57	100-Year	40	52	61	70	1.04	25-Year	FALSE	Decrease
Voluntown	AWR-GRE-10-2-1	311	0.54	91.8	121	144	167	SS	DA, MBE	2.57	100-Year	139	183	217	252	1.70	100-Year	FALSE	No
Voluntown	AWR-GRE-8-2-1	30	0.25	51.2	66.7	79.3	91.2	SS	DA	0.45	< 10-Year	77	1						

Bridges and Culverts Hydraulic Capacity Analysis Results by Town

Town	Structure Name/Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/Future Capacity Rating Change?
West Greenwich	OUR-FIS-0-3	126	1.45	173	247	311	375	SS	DA, PS	0.51	< 10-Year	261	373	470	566	0.34	< 10-Year	FALSE	No
West Greenwich	OUR-FIS-3-1	53	0.32	50.0	85.0	115.0	147.0	TR-20	--	0.62	10-Year	76	128	174	222	0.41	< 10-Year	FALSE	Decrease
West Greenwich	OUR-FIS-3-2	5	0.31	51.0	86.0	117.0	150.0	TR-20	--	0.06	< 10-Year	77	130	177	227	0.04	< 10-Year	FALSE	No
West Greenwich	UWR-BRE-0-3	133	2.45	96.1	133	163	197	SS	DA	1.00	10-Year	145	201	246	297	0.66	< 10-Year	FALSE	Decrease
West Greenwich	UWR-BRE-0-4	121	1.09	49.7	69	84.7	102	SS	DA	1.75	100-Year	75	104	128	154	1.16	25-Year	FALSE	Decrease
West Greenwich	UWR-BRE-0-5	66	0.71	45.3	63.7	79	95.7	SS	DA	1.04	25-Year	68	96	119	145	0.69	< 10-Year	TRUE	Decrease
West Greenwich	UWR-CON-0-1	322	2.47	61.4	83.7	101	122	SS	DA	3.85	100-Year	93	126	153	184	2.55	100-Year	FALSE	No
West Greenwich	UWR-CON-0-2	8	0.45	9.75	13.4	16.3	19.8	SS	DA	0.60	< 10-Year	15	20	25	30	0.40	< 10-Year	FALSE	No
West Greenwich	UWR-FAC-0-1	310	3.76	246	345	427	514	SS	DA	0.90	10-Year	371	521	645	776	0.60	< 10-Year	FALSE	Decrease
West Greenwich	UWR-FAC-1-1	10	0.43	20.7	29.3	36.6	44.9	SS	DA, SD	0.35	< 10-Year	31	44	55	68	0.23	< 10-Year	FALSE	No
West Greenwich	UWR-FAC-2-1	93	0.28	30.7	44	55.1	67	SS	DA	2.11	100-Year	46	66	83	101	1.39	50-Year	FALSE	Decrease
West Greenwich	UWR-KEL-0-1	517	4.40	97.7	132	160	192	SS		3.92	100-Year	148	199	242	290	2.60	100-Year	FALSE	No
West Greenwich	UWR-KEL-0-2	337	3.71	80	108	131	157	SS	DA	3.12	100-Year	121	163	198	237	2.06	100-Year	FALSE	No
West Greenwich	UWR-KEL-0-3	415	3.43	69.8	94.5	114	137	SS	DA	4.39	100-Year	105	143	172	207	2.91	100-Year	FALSE	No
West Greenwich	UWR-KEL-0-4	619	2.82	57.6	77.9	93.7	113	SS	DA	7.94	100-Year	87	118	141	171	5.26	100-Year	FALSE	No
West Greenwich	UWR-PHI-0-1	551	2.11	138	221	293	371	TR-20	--	2.49	100-Year	208	334	442	560	1.65	50-Year	FALSE	Decrease
West Greenwich	UWR-PHI-0-2	73	0.71	71.1	101	127	154	SS	DA	0.72	10-Year	107	153	192	233	0.48	< 10-Year	FALSE	Decrease
West Greenwich	UWR-PHI-1-1	45	0.28	4.95	6.87	8.58	10.6	SS	DA, SD	6.55	100-Year	7	10	13	16	4.34	100-Year	FALSE	No
West Greenwich	UWR-WOR-0-13	486	11.30	678	990	1249	1521	TR-20	--	0.49	< 10-Year	1024	1495	1886	2297	0.33	< 10-Year	FALSE	No
West Greenwich	UWR-WOR-0-14	283	9.29	716	1050	1329	1622	TR-20	--	0.27	< 10-Year	1081	1586	2007	2449	0.18	< 10-Year	FALSE	No
West Greenwich	UWR-WOR-22-2	113	0.90	16.1	22	26.8	32.6	SS	DA, SD	5.13	100-Year	24	33	40	49	3.40	100-Year	FALSE	No
Westerly	LPR-MAS-0-1	177	1.50	86.6	121	150	182	SS	DA	1.46	50-Year	131	183	227	275	0.97	10-Year	TRUE	Decrease
Westerly	LPR-MAS-1-1	41	0.23	7.05	9.72	11.8	14.3	SS	DA	4.26	100-Year	11	15	18	22	2.82	100-Year	FALSE	No
Westerly	LPR-PAW-0-1	8064	296.00	11400	15900	19800	24300	SS	DA	0.51	< 10-Year	17214	24009	29898	36693	0.34	< 10-Year	FALSE	No
Westerly	LPR-PAW-0-2	43094	296.00	11400	15900	19800	24300	SS	DA	2.71	100-Year	17214	24009	29898	36693	1.79	100-Year	FALSE	No
Westerly	LPR-PAW-0-3	12550	294.00	11300	15800	19700	24200	SS	DA	0.79	10-Year	17063	23858	29747	36542	0.53	< 10-Year	FALSE	Decrease
Westerly	LPR-PAW-0-4	38990	294.00	11300	15800	19700	24200	SS	DA	2.47	100-Year	17063	23858	29747	36542	1.63	100-Year	FALSE	No
Westerly	LPR-PAW-0-5	11400	293.00	11300	15800	19700	24200	SS	DA	0.72	10-Year	17063	23858	29747	36542	0.48	< 10-Year	FALSE	Decrease
Westerly	LPR-PAW-0-6	7500	274.00	10800	15100	18800	23000	SS	DA	0.50	< 10-Year	16308	22801	28388	34730	0.33	< 10-Year	FALSE	No
Westerly	LPR-PAW-0-7	2200	271.00	10700	15000	18600	22900	SS	DA	0.15	< 10-Year	16157	22650	28086	34579	0.10	< 10-Year	FALSE	No
Westerly	LPR-PAW-5-1	20	0.29	41.3	55.9	67.6	78.6	SS	DE, MBE	0.35	< 10-Year	62	84	102	119	0.23	< 10-Year	FALSE	No
Westerly	LPR-PAW-7-1	58	0.97	292	440	562	689	TR-20	--	0.13	< 10-Year	441	664	849	1040	0.09	< 10-Year	FALSE	No
Westerly	LPR-PAW-7-1-1	47	0.17	47	70	90	110	TR-20	--	0.67	< 10-Year	71	106	136	166	0.44	< 10-Year	FALSE	No
Westerly	LPR-PAW-7-2	45	0.12	43	64	82	101	TR-20	--	0.71	10-Year	65	97	124	153	0.47	< 10-Year	FALSE	Decrease
Westerly	LPR-PAW-7-2-1	779	0.06	25	38	48	59	TR-20	--	20.50	100-Year	38	57	72	89	13.58	100-Year	FALSE	No
Westerly	LPR-PAW-8-2	116	0.24	37.7	50.6	61	70.8	SS	DE, MBE	2.29	100-Year	57	76	92	107	1.51	100-Year	FALSE	No
Westerly	LPR-PAW-8-3	168	0.23	36.6	49.2	59.2	68.6	SS	DE, MBE	3.42	100-Year	55	74	89	104	2.27	100-Year	FALSE	No
Westerly	LPR-PAW-8-4	183	0.19	31.6	42.4	51	59	SS	DE, MBE	4.31	100-Year	48	64	77	89	2.86	100-Year	FALSE	No
Westerly	LPR-PAW-8-5	131	0.14	25	33.5	40.2	46.4	SS	DE, MBE	3.90	100-Year	38	51	61	70	2.59	100-Year	FALSE	No
Westerly	LPR-PAW-8-6	36	0.10	19.3	25.7	30.8	35.4	SS	DE, MBE	1.39	100-Year	29	39	47	53	0.92	10-Year	TRUE	Decrease
Westerly	MPR-ISO-NE	14	0.75	54.1	76	93.8	113	SS	DA	0.19	< 10-Year	82	115	142	171				

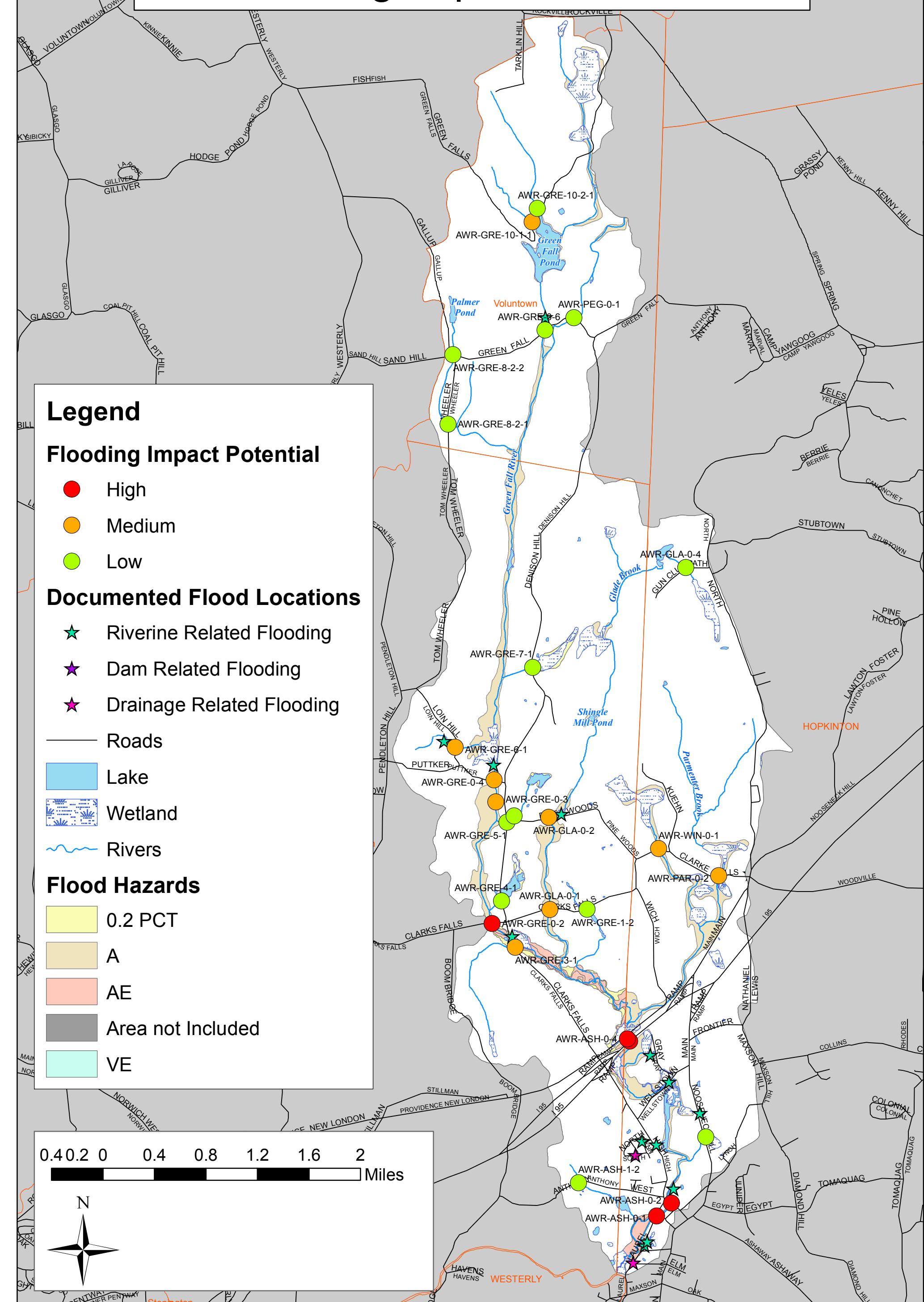
Bridges and Culverts Hydraulic Capacity Analysis Results by Town

Town	Structure Name/Subwatershed	Capacity (cfs)	Watershed Area (mi ²)	Existing 10-Year Peak Discharge (cfs)	Existing 25-Year Peak Discharge (cfs)	Existing 50-Year Peak Discharge (cfs)	Existing 100-Year Peak Discharge (cfs)	Hydrology Source	SS Out of Range	Existing 25-Year Capacity Ratio	Existing Capacity Rating	Future 10-Year Peak Discharge (cfs)	Future 25-Year Peak Discharge (cfs)	Future 50-Year Peak Discharge (cfs)	Future 100-Year Peak Discharge (cfs)	Future 25-Year Capacity Ratio	Future Capacity Rating	Change to Undersized in Future?	Existing/Future Capacity Rating Change?
Westerly	MPR-MCG-1-2	37	0.27	5.91	8.43	11	13.9	SS	DA, SD, PS	4.40	100-Year	9	13	17	21	2.92	100-Year	FALSE	No
Westerly	MPR-PAW-0-11	22540	217.00	2830	3730	4420	5220	SS		6.04	100-Year	4273	5632	6674	7882	4.00	100-Year	FALSE	No
Westerly	MPR-PAW-0-8	8200	241.00	3010	3950	4680	5510	SS		2.08	100-Year	4545	5965	7067	8320	1.37	50-Year	FALSE	Decrease
Westerly	MPR-PAW-16-1	30	0.85	400	596	773	938	SS	DA, PS	0.05	< 10-Year	604	900	1167	1416	0.03	< 10-Year	FALSE	No
Westerly	MPR-PAW-16-1-1	1	0.08	20.4	30.1	38.5	47.2	SS	DA, PS	0.02	< 10-Year	31	45	58	71	0.01	< 10-Year	FALSE	No
Westerly	MPR-PAW-16-2	44	0.67	260	365	450	538	TR-20	--	0.12	< 10-Year	393	551	680	812	0.08	< 10-Year	FALSE	No
Westerly	MPR-PAW-16-6	108	0.07	27.0	42.0	54.0	67.0	TR-20	--	2.58	100-Year	41	63	82	101	1.71	100-Year	FALSE	No
Westerly	MPR-PAW-18-1	251	9.17	59.5	78	92.2	111	SS	SD, PS	3.22	100-Year	90	118	139	168	2.13	100-Year	FALSE	No
Westerly	MPR-PAW-18-1-1	86	0.26	1.29	1.71	2.06	2.53	SS	DA, SD, PS	50.38	100-Year	2	3	3	4	33.36	100-Year	FALSE	No
Westerly	MPR-PAW-18-2	908	9.17	59.5	78	92.2	111	SS	SD, PS	11.64	100-Year	90	118	139	168	7.71	100-Year	FALSE	No
Westerly	MPR-PAW-18-3	85	0.33	17.7	25.3	32.2	39.8	SS	DA, SD, PS	3.36	100-Year	27	38	49	60	2.22	100-Year	FALSE	No
Westerly	MPR-PAW-23-1-1	202	0.46	4.82	6.56	8.06	9.93	SS	DA, SD	30.76	100-Year	7	10	12	15	20.37	100-Year	FALSE	No
Westerly	MPR-PAW-23-1-2	113	0.42	0.7	0.93	1.15	1.44	SS	DA, SD	121.17	100-Year	1	1	2	2	80.25	100-Year	FALSE	No
Westerly	MPR-PAW-24-1	42	0.16	4.02	5.59	6.91	8.5	SS	DA, SD	7.46	100-Year	6	8	10	13	4.94	100-Year	FALSE	No
Westerly	MPR-PAW-FOUND-20150624	18	0.02	8.0	14.0	18.0	23.0	TR-20	--	1.30	50-Year	12	21	27	35	0.86	10-Year	TRUE	Decrease
Westerly	MPR-PER-0-3	6	0.45	7.29	10	12.4	15.2	SS	DA, SD	0.60	< 10-Year	11	15	19	23	0.40	< 10-Year	FALSE	No

Appendix C

Culverts/Bridges - Subwatershed Flooding Impact Potential Rating Maps and Summary Tables

Ashaway River Subwatershed Flooding Impact Potential



Beaver River Subwatershed Flooding Impact Potential

Legend

Flooding Impact Potential

- High
- Medium
- Low

Documented Flood Locations

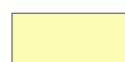
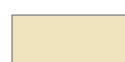
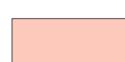
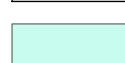
- ★ Riverine Related Flooding
- ★ Dam Related Flooding
- ★ Drainage Related Flooding

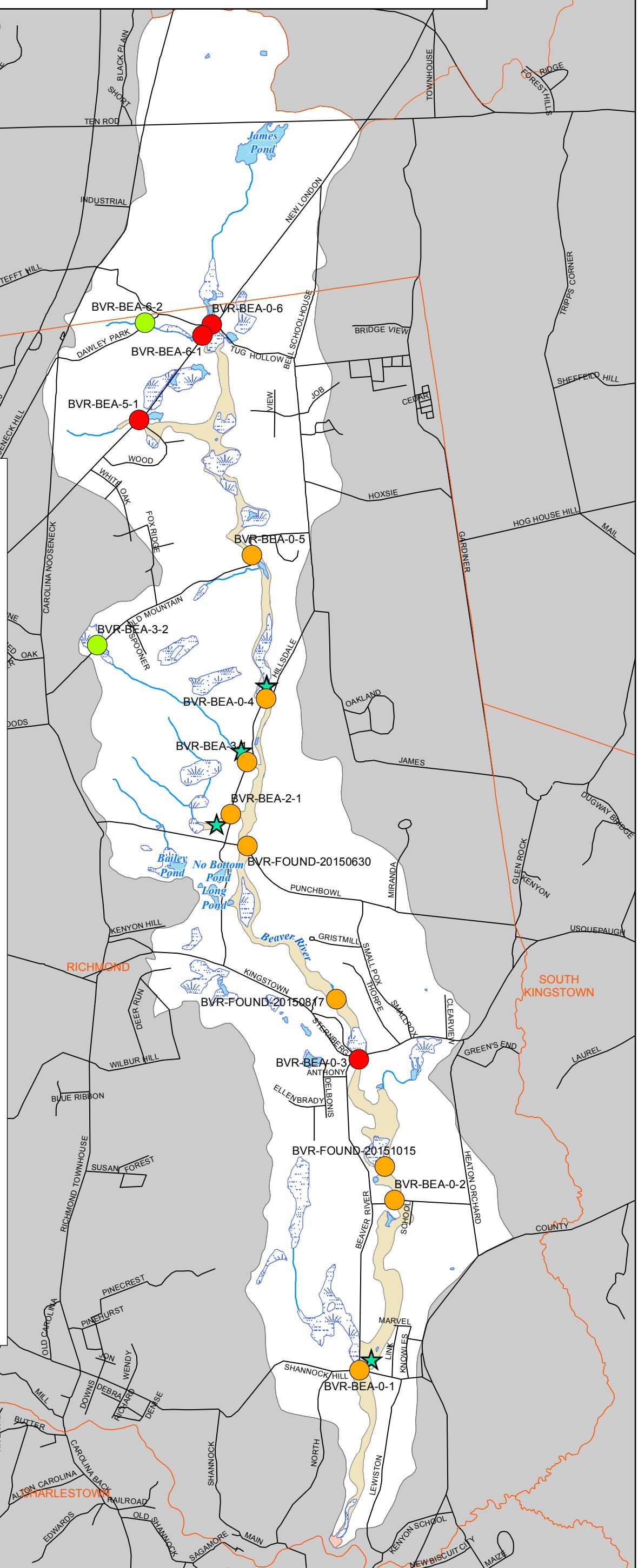
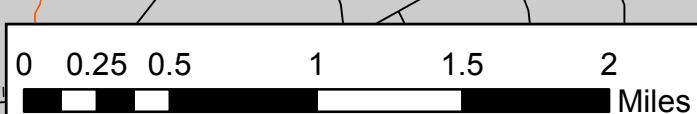
— Roads

 Lake

 Wetland

Flood Hazards

-  0.2 PCT
-  A
-  AE
-  Area not Included
-  VE
-  Rivers



Chickasheen River Subwatershed Flooding Impact Potential

Legend

Flooding Impact Potential

-  High
 -  Medium
 -  Low

Documented Flood Locations

- ★ Riverine Related Flooding
 - ★ Dam Related Flooding
 - ★ Drainage Related Flooding

— Roads

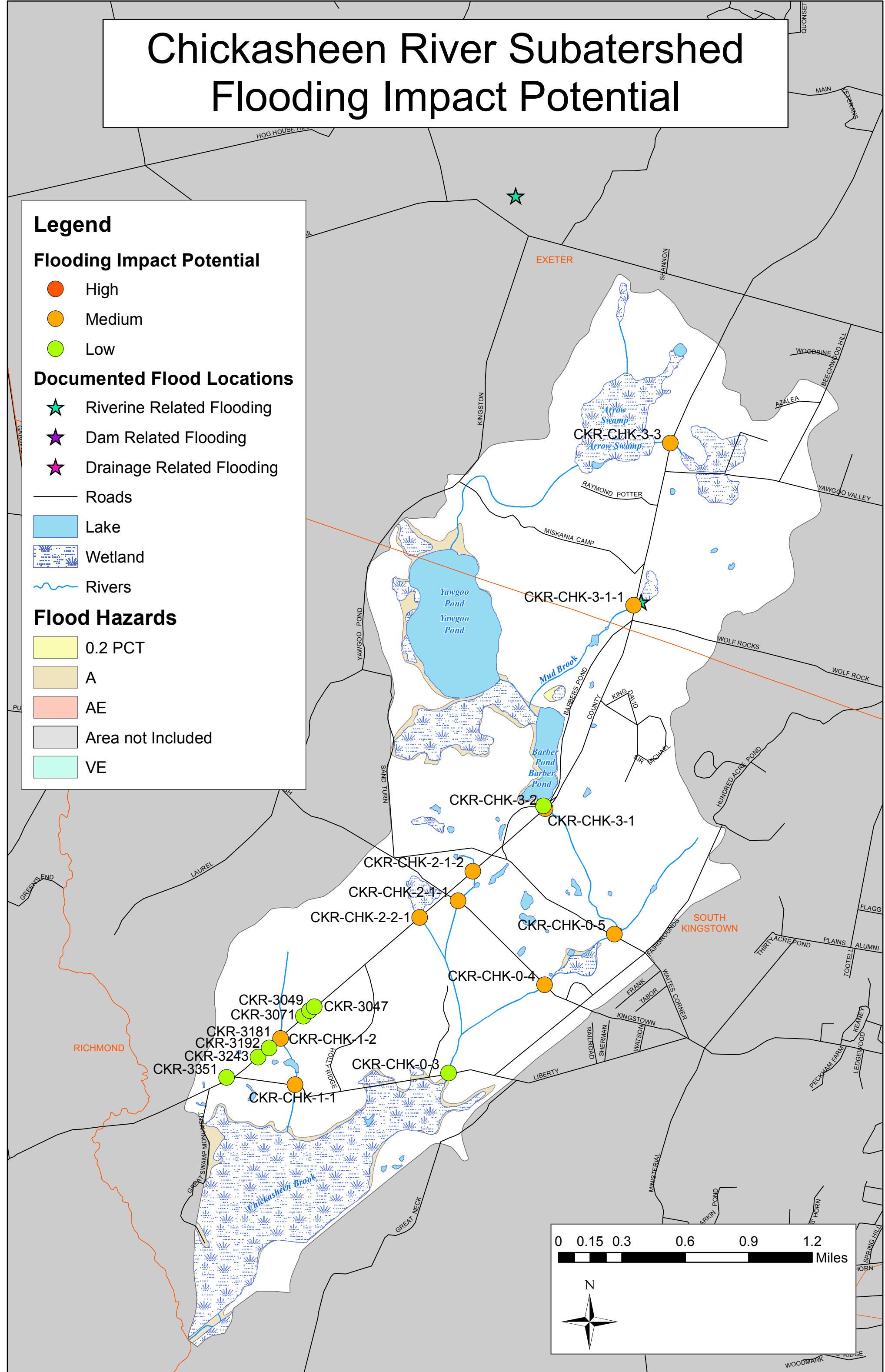
Lake

Wetland

Rivers

Flood Hazards

- 0.2 PCT
 - A
 - AE
 - Area not Included
 - VE



Chipuxet River Subwatershed Flooding Impact Potential

Legend

Flooding Impact Potential

- High
 - Medium
 - Low

Documented Flood Locations

- ★ Riverine Related Flooding
 - ★ Dam Related Flooding
 - ★ Drainage Related Flooding

Roads

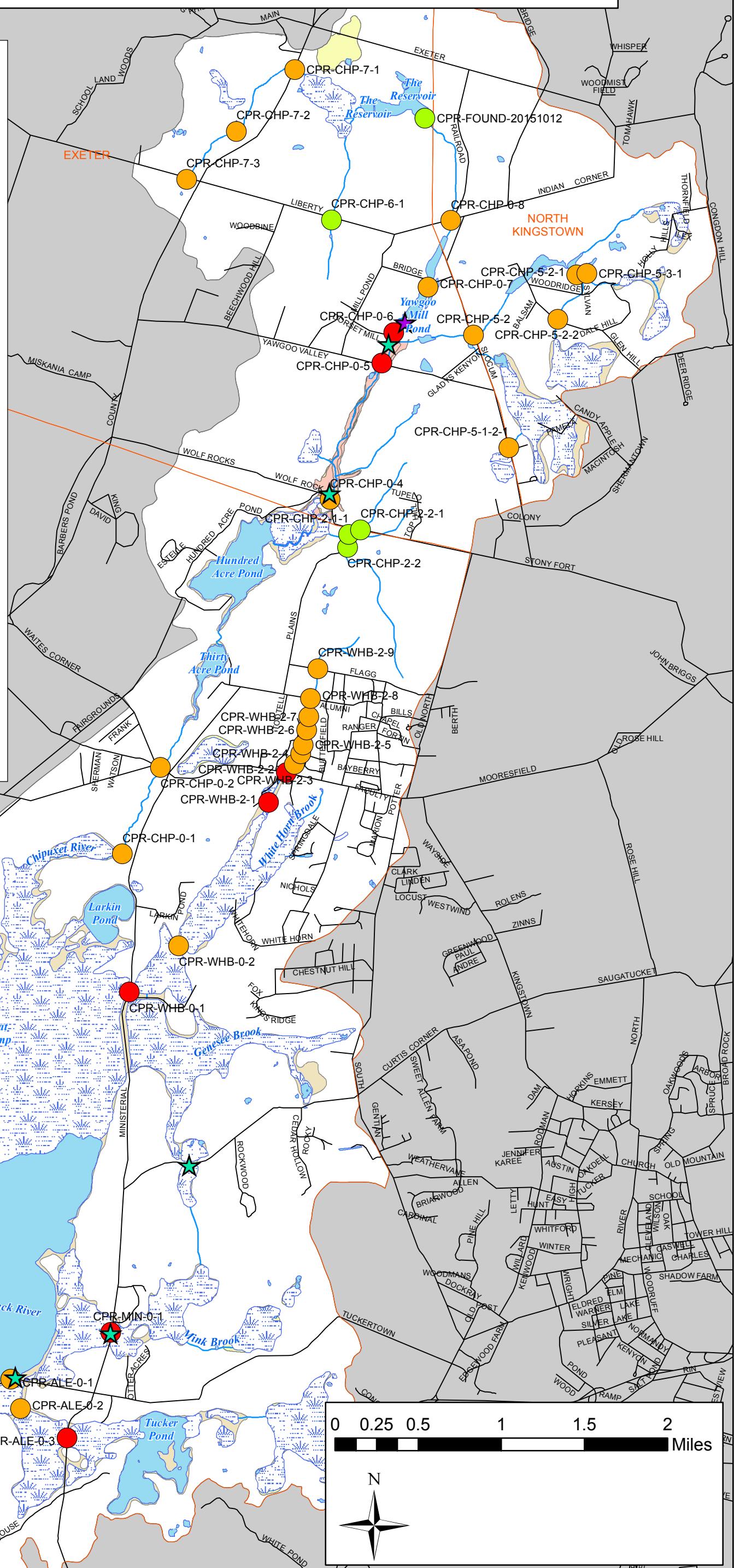
Lake

Wetland

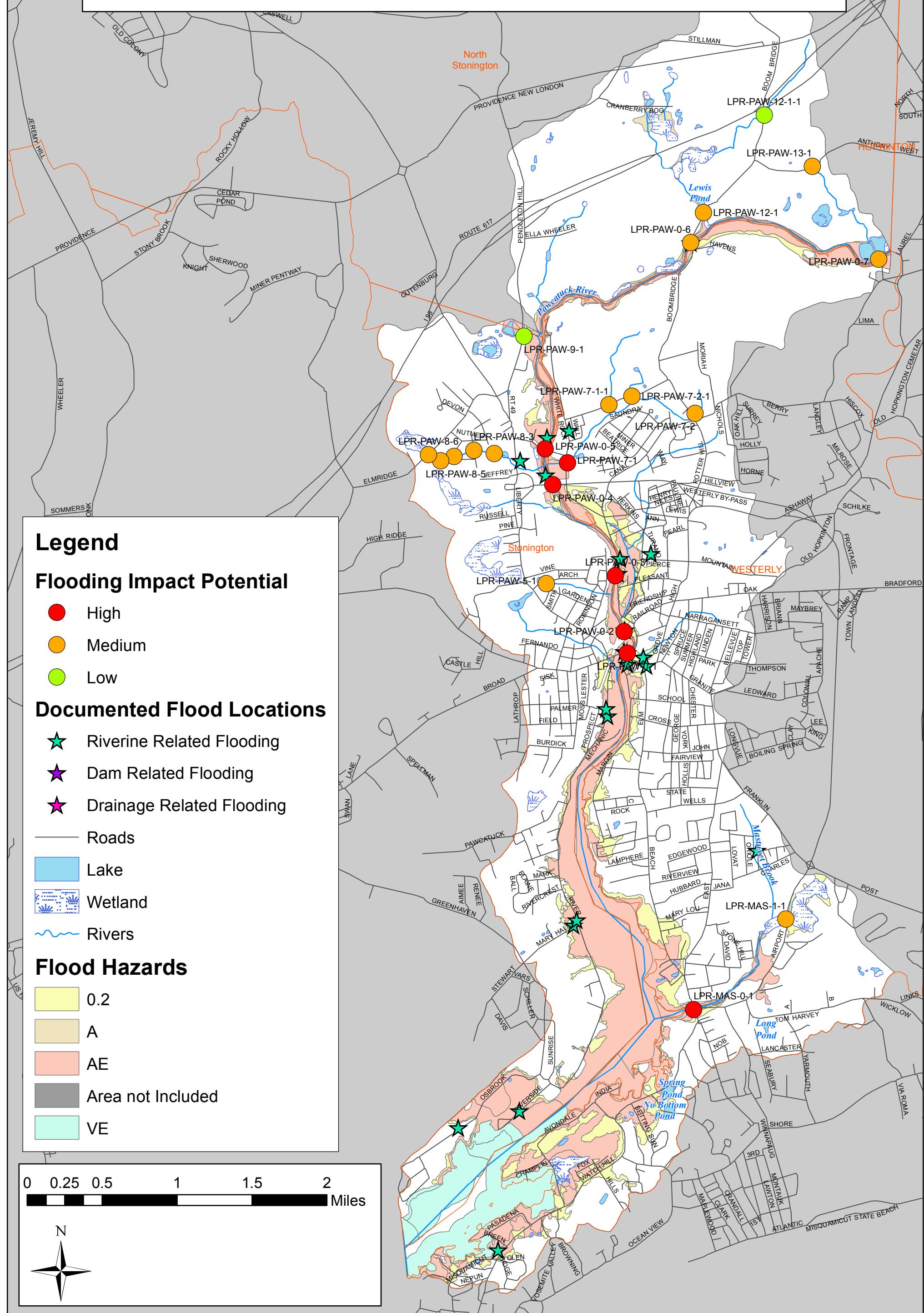
Rivers

- A legend showing five categories: 0.2 PCT (yellow), A (light yellow), AE (pink), Area not Included (grey), and VE (teal).

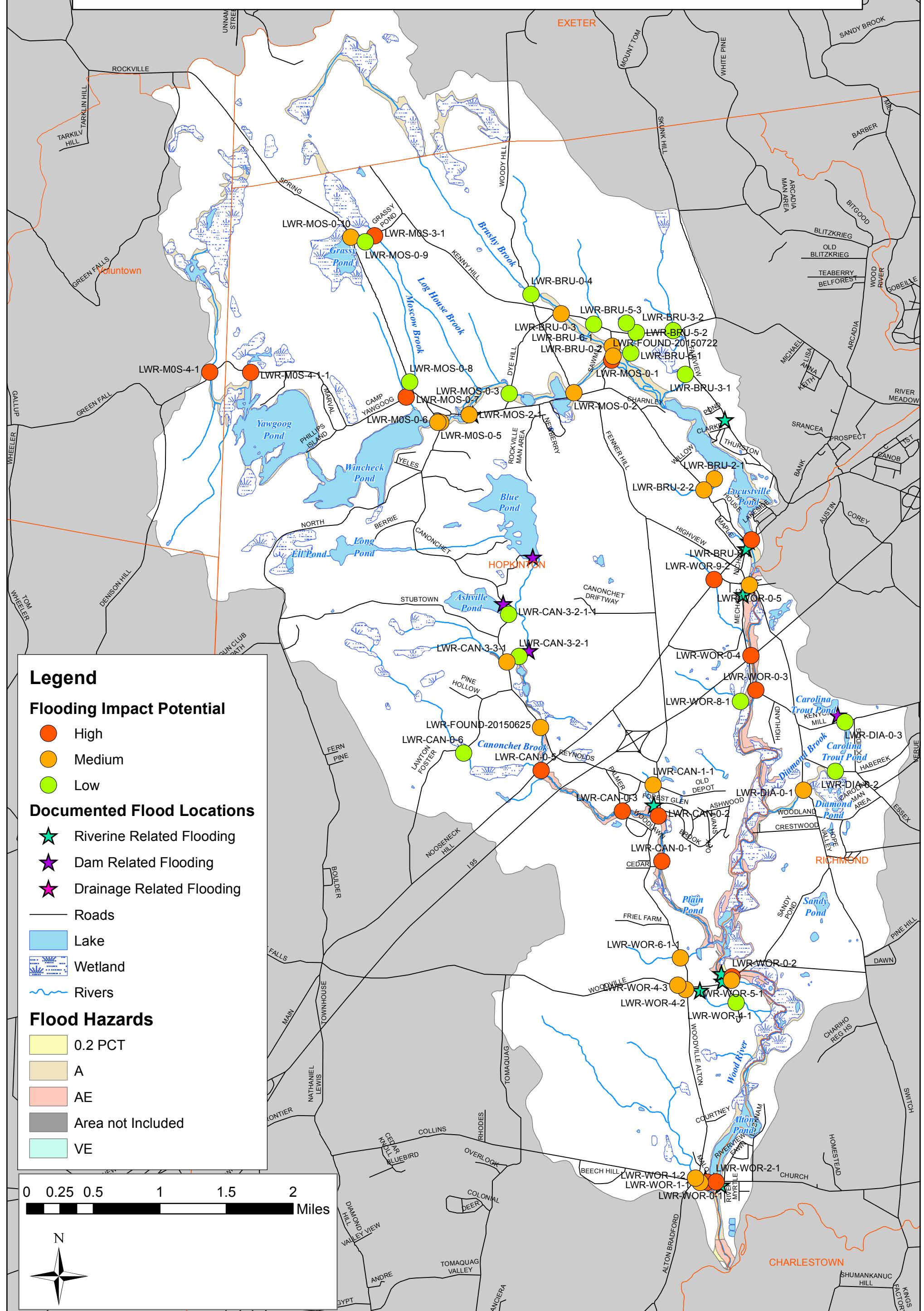
0.2 PCT
A
AE
Area not Included
VE



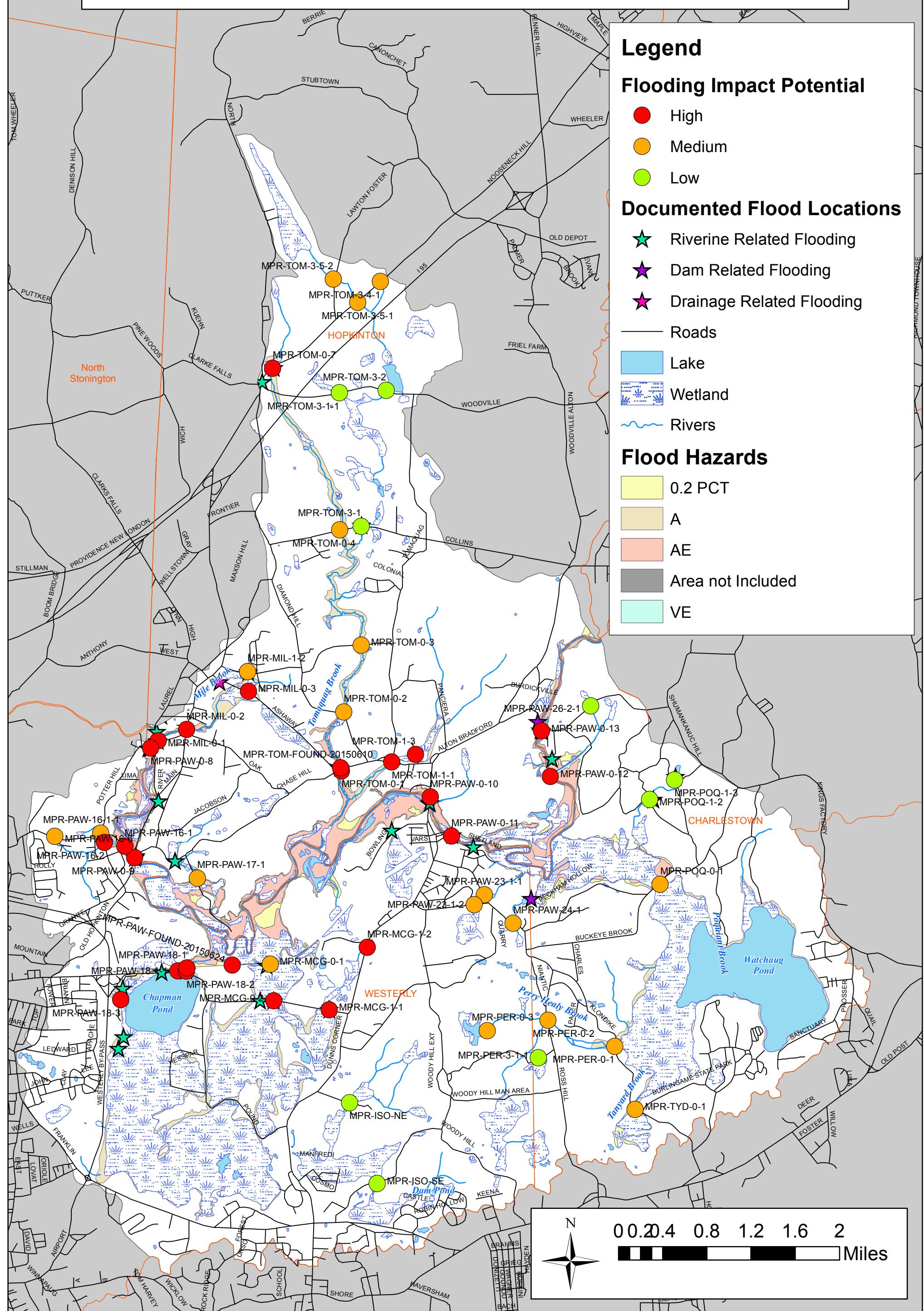
Lower Pawcatuck River Subwatershed Flooding Impact Potential



Lower Wood River Subwatershed Flooding Impact Potential



Middle Pawcatuck River Subwatershed Flooding Impact Potential



Shunock River Subwatershed Flooding Impact Potential

Legend

Flooding Impact Potential

- High
- Medium
- Low

Documented Flood Locations

- ★ Riverine Related Flooding
- ★ Dam Related Flooding
- ★ Drainage Related Flooding

— Roads

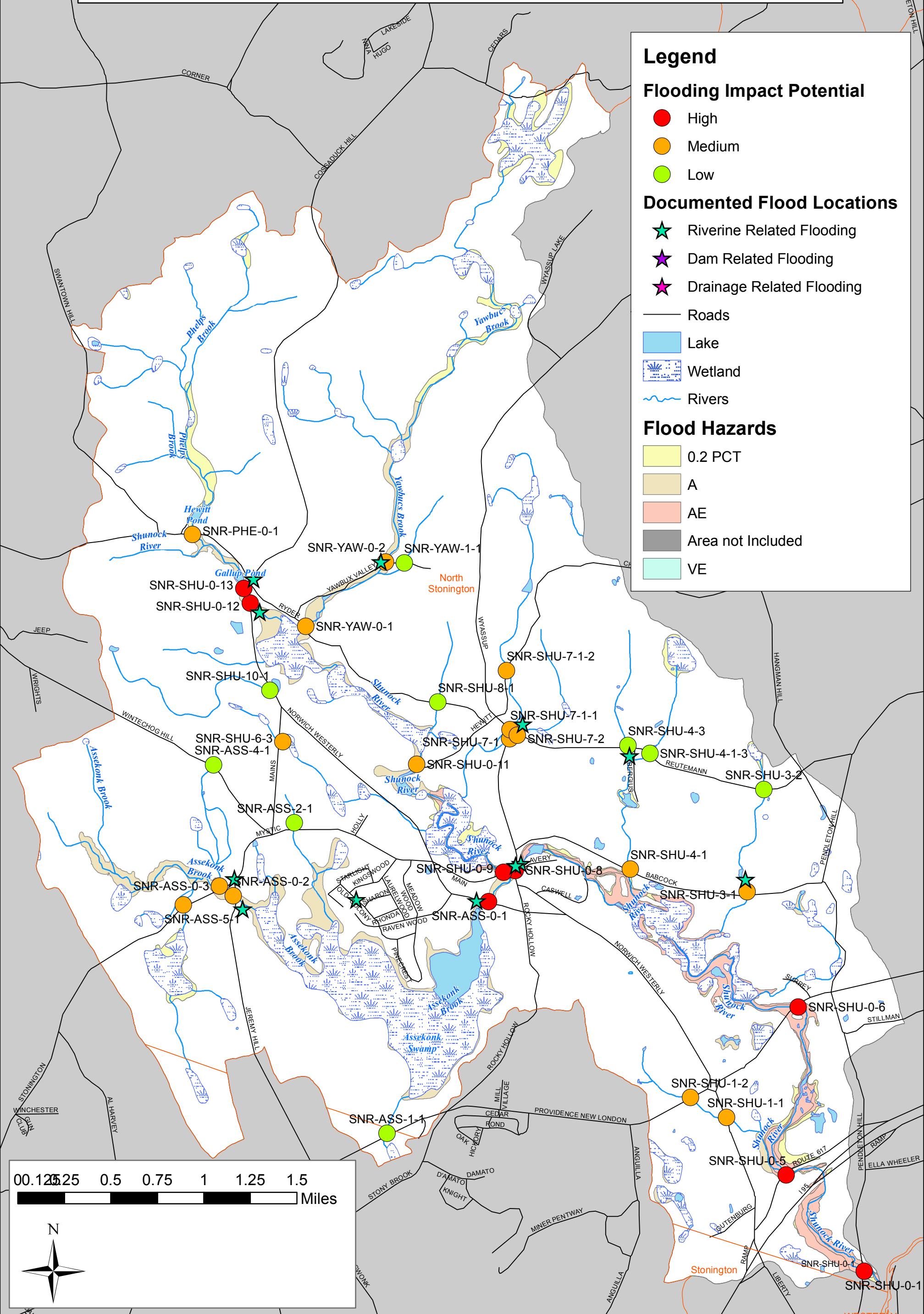
■ Lake

■ Wetland

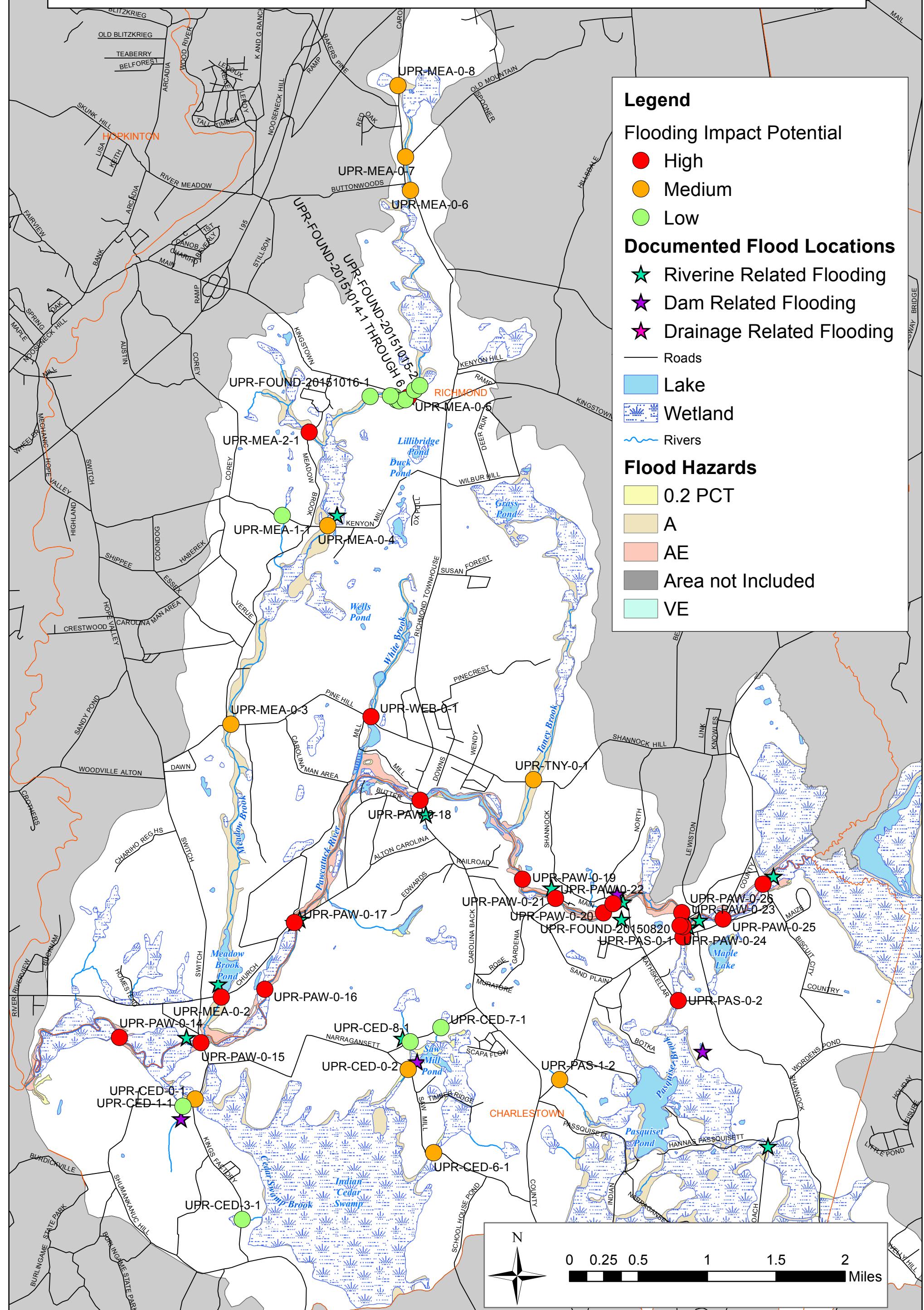
~~~~ Rivers

### Flood Hazards

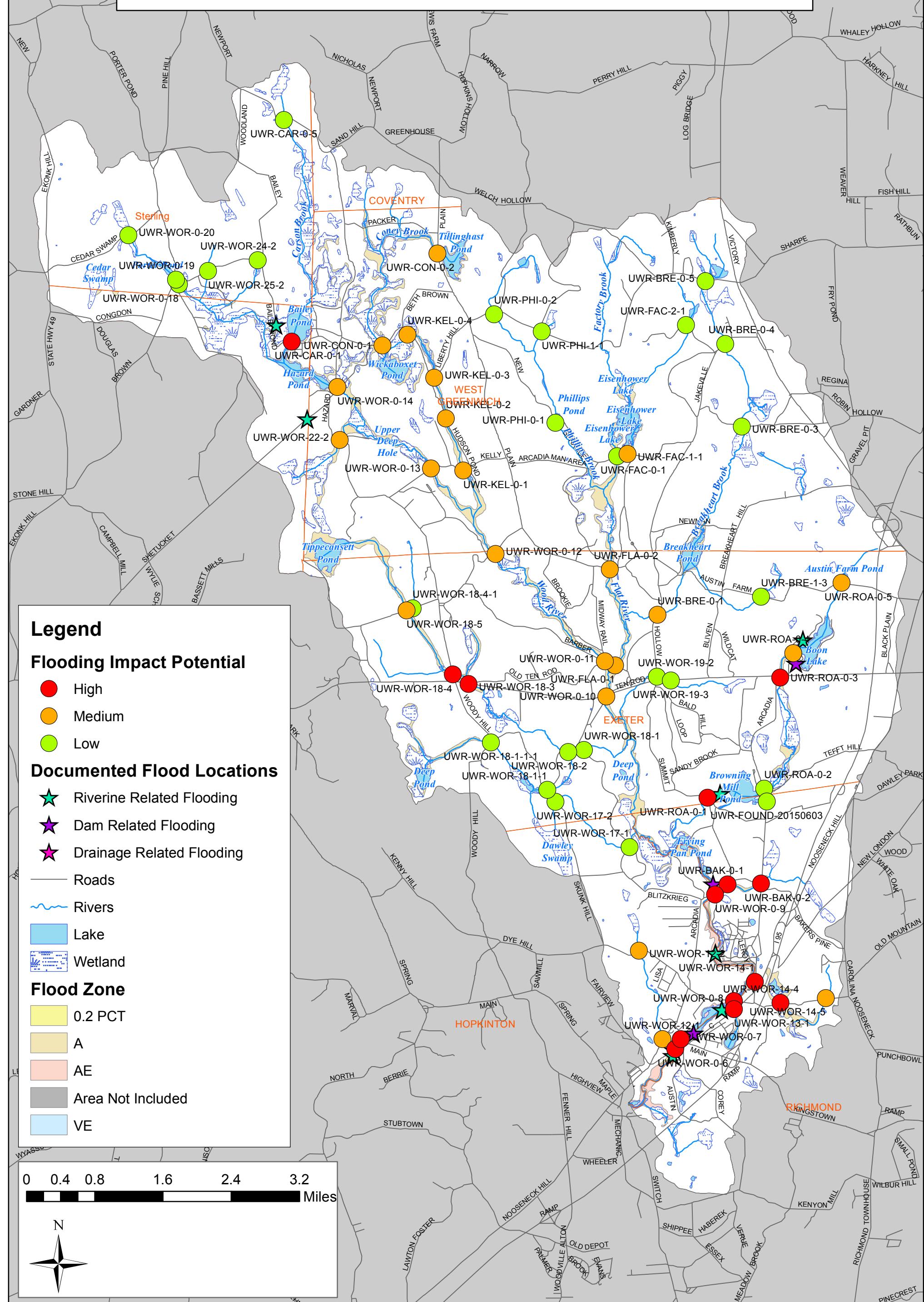
- |   |                   |
|---|-------------------|
| ■ | 0.2 PCT           |
| ■ | A                 |
| ■ | AE                |
| ■ | Area not Included |
| ■ | VE                |



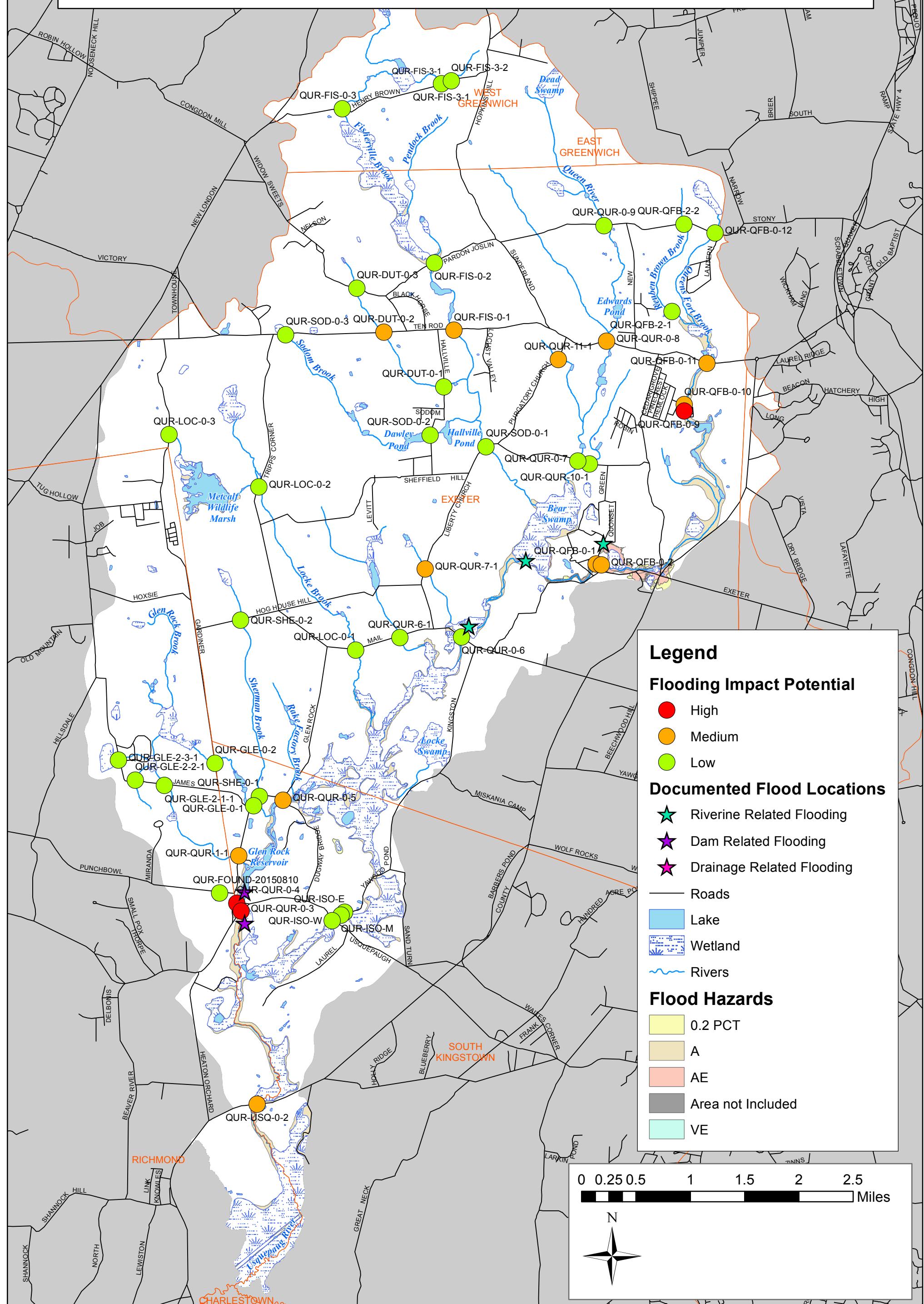
# Upper Pawcatuck River Subwatershed Flooding Impact Potential



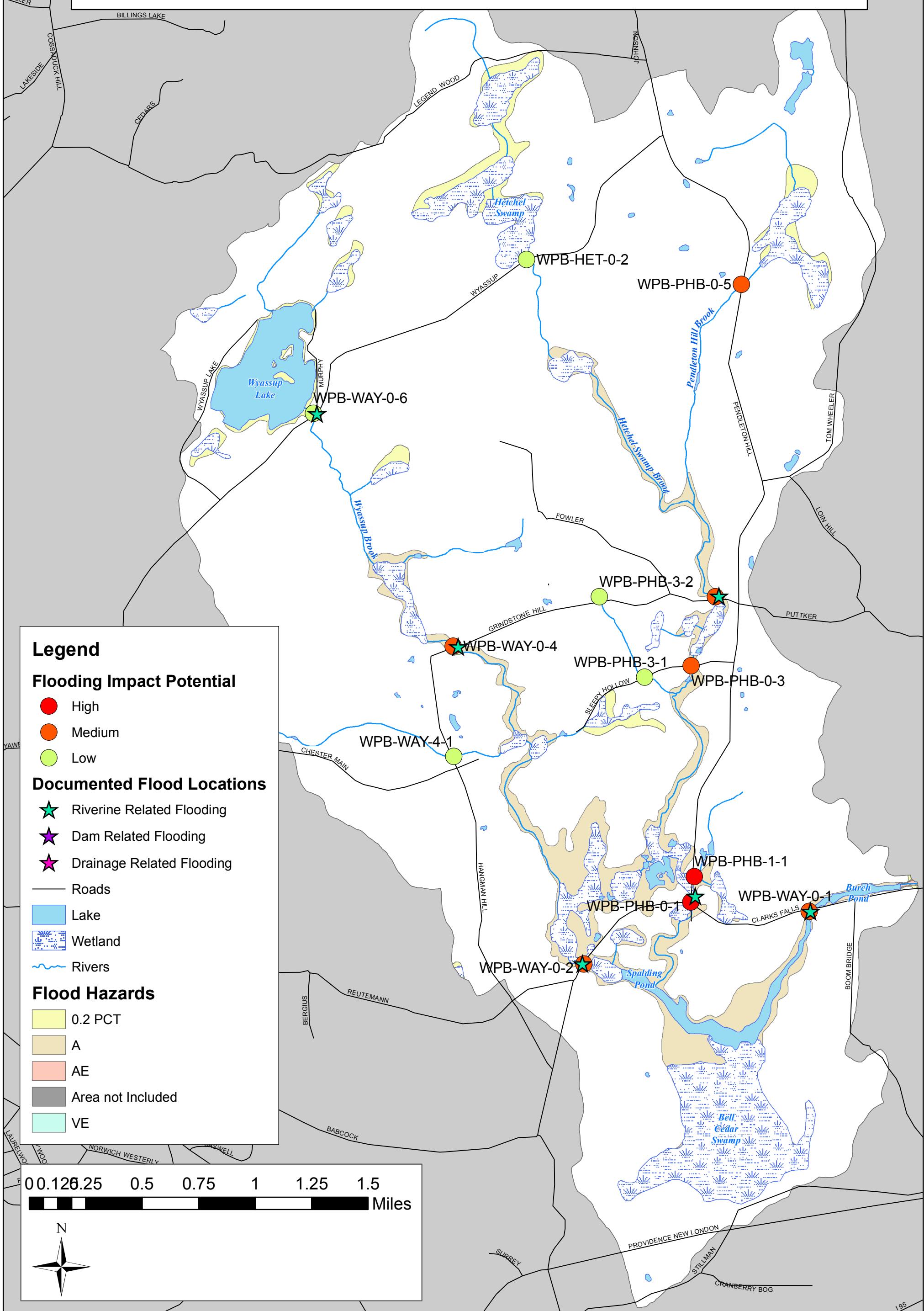
# Upper Wood River Subwatershed Flooding Impact Potential



# Usquepaug River Subwatershed Flooding Impact Potential



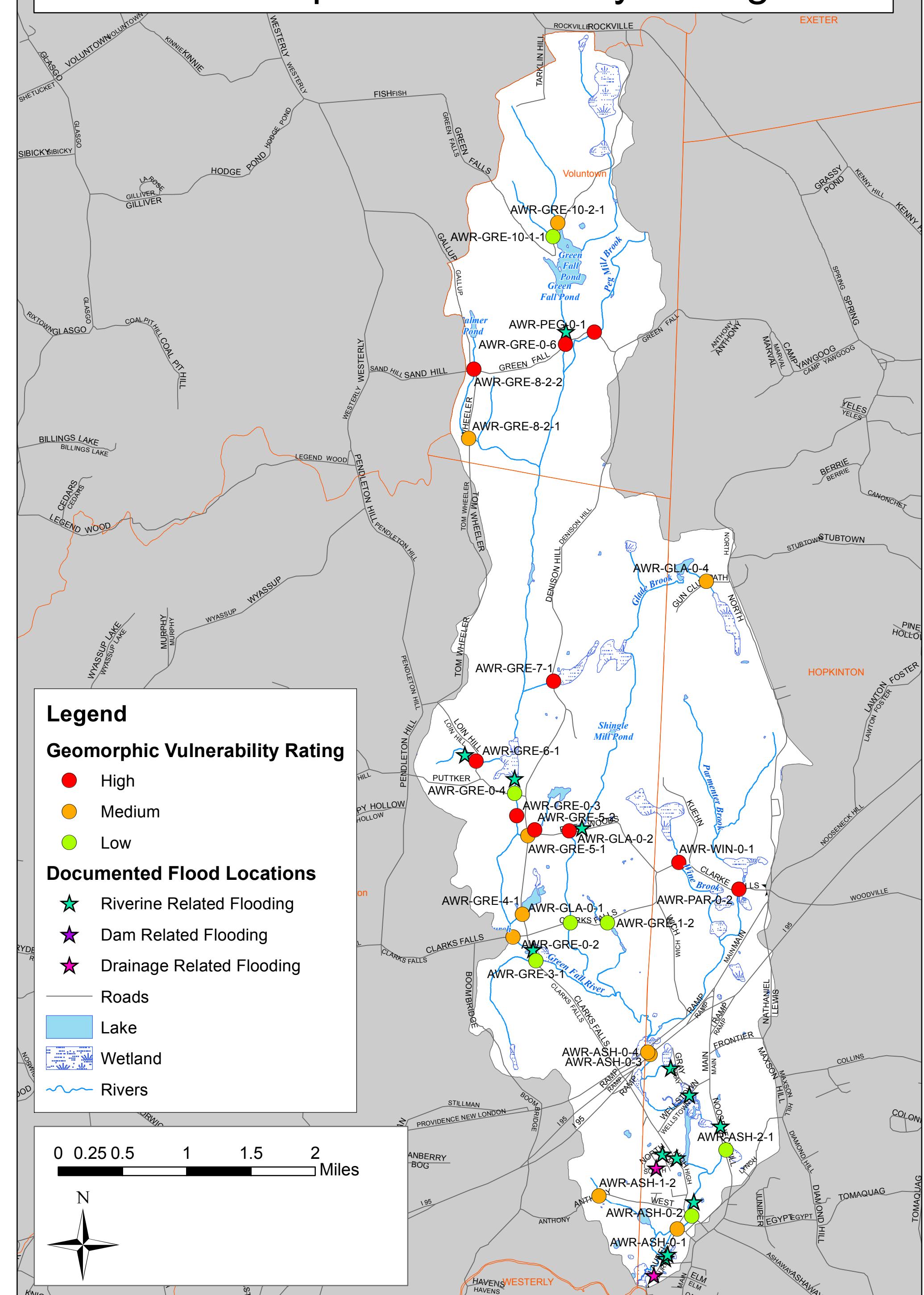
# Wayassup Brook Subwatershed Flooding Impact Potential



## Appendix D

### Culverts/Bridges - Subwatershed Geomorphic Vulnerability Rating Maps and Summary Tables

# Ashaway River Subwatershed Geomorphic Vulnerability Rating



# Beaver River Subwatershed Geomorphic Vulnerability Rating

## Legend

### Geomorphic Vulnerability Rating

- High
- Medium
- Low

### Documented Flood Locations

- ★ Riverine Related Flooding
- ★ Dam Related Flooding
- ★ Drainage Related Flooding

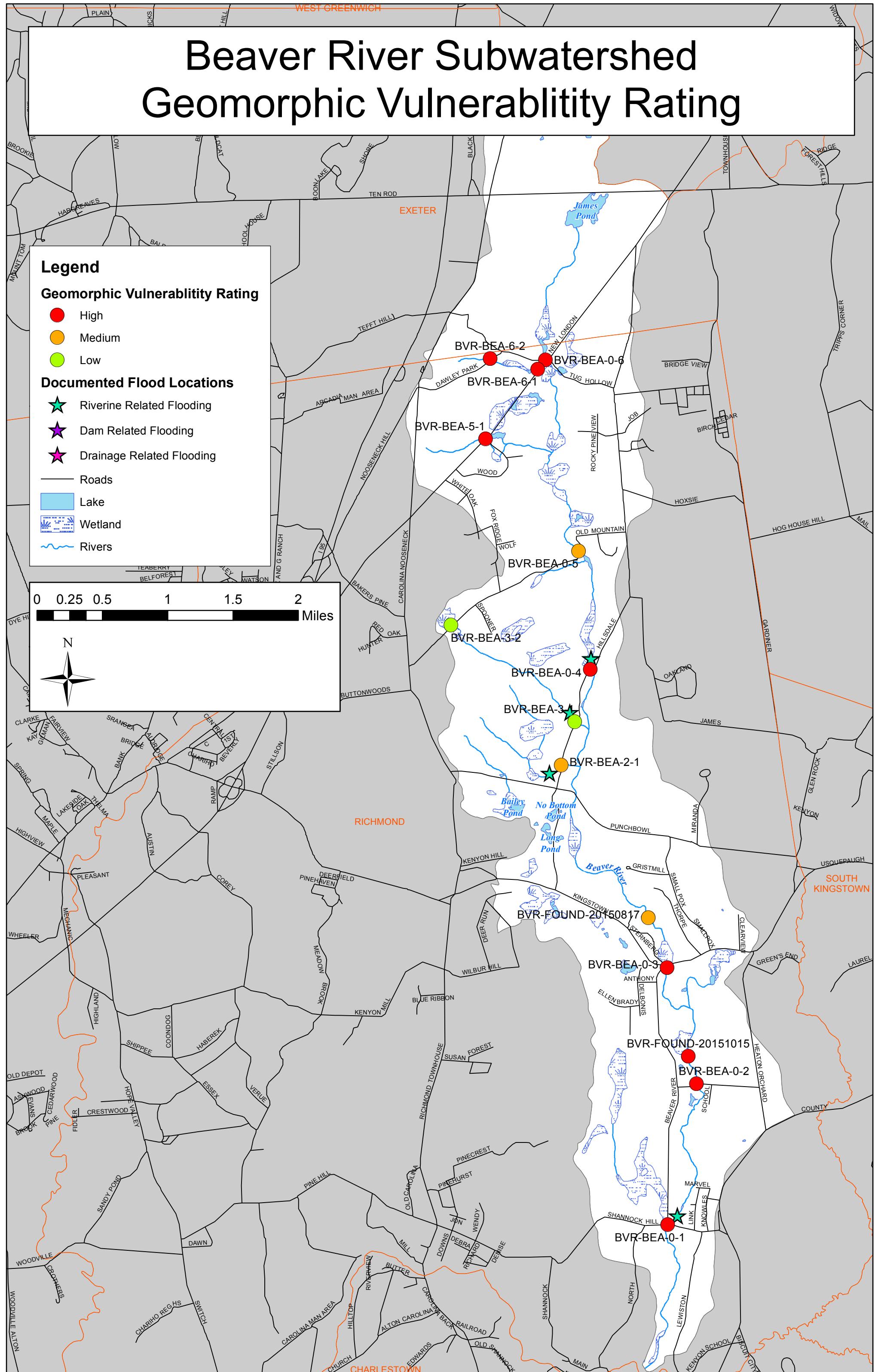
— Roads

Lake

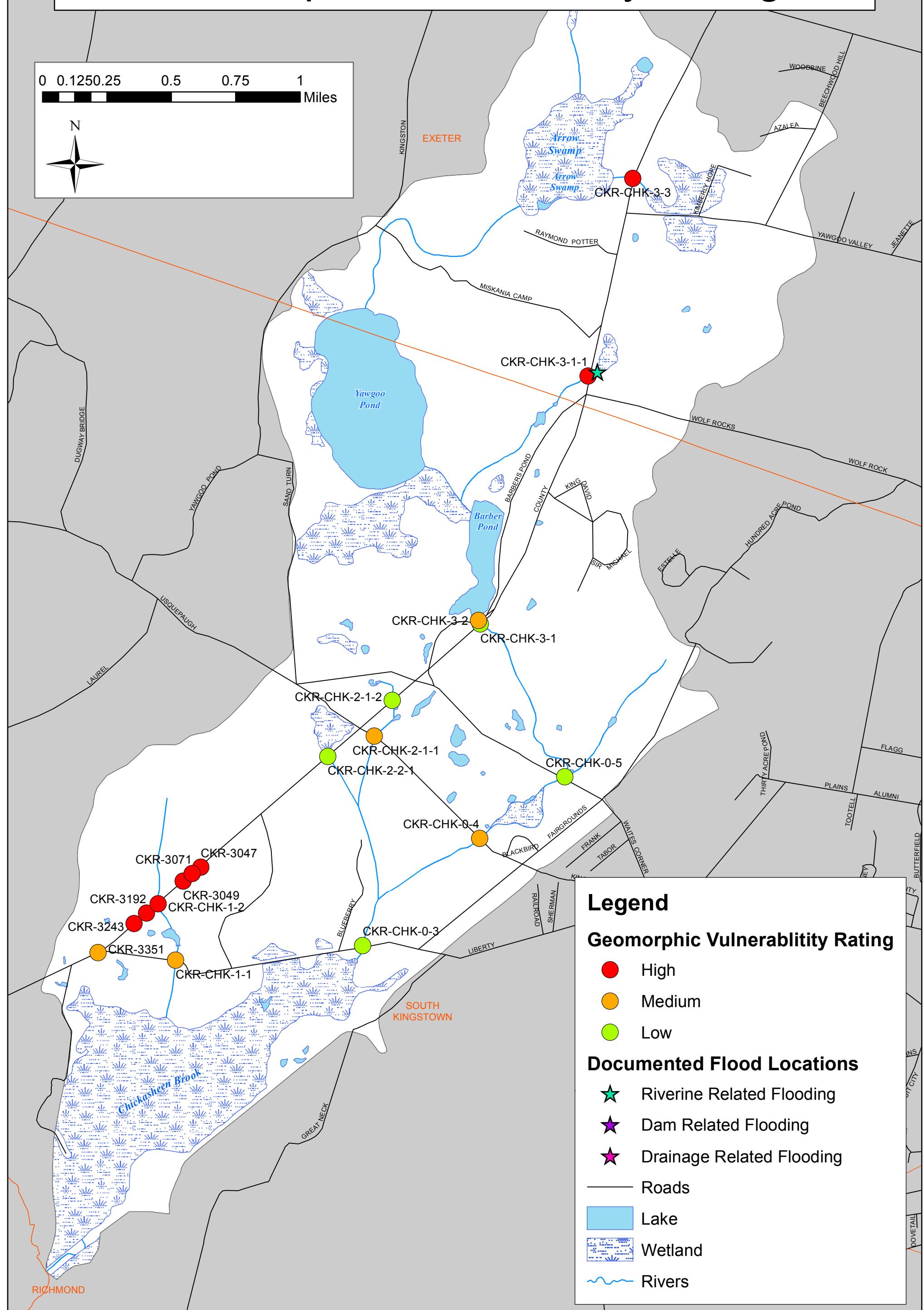
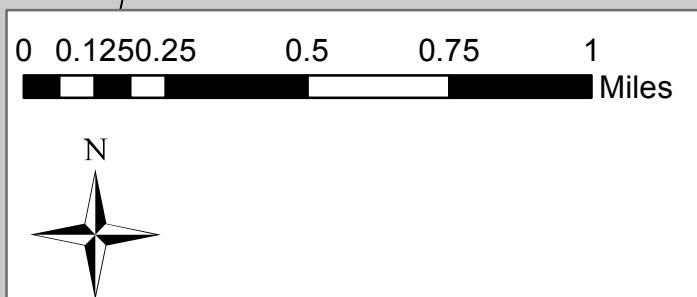
Wetland

Rivers

0 0.25 0.5 1 1.5 2 Miles



# Chickasheen River Subwatershed Geomorphic Vulnerability Rating



# Chipuxet River Subwatershed Geomorphic Vulnerability Rating

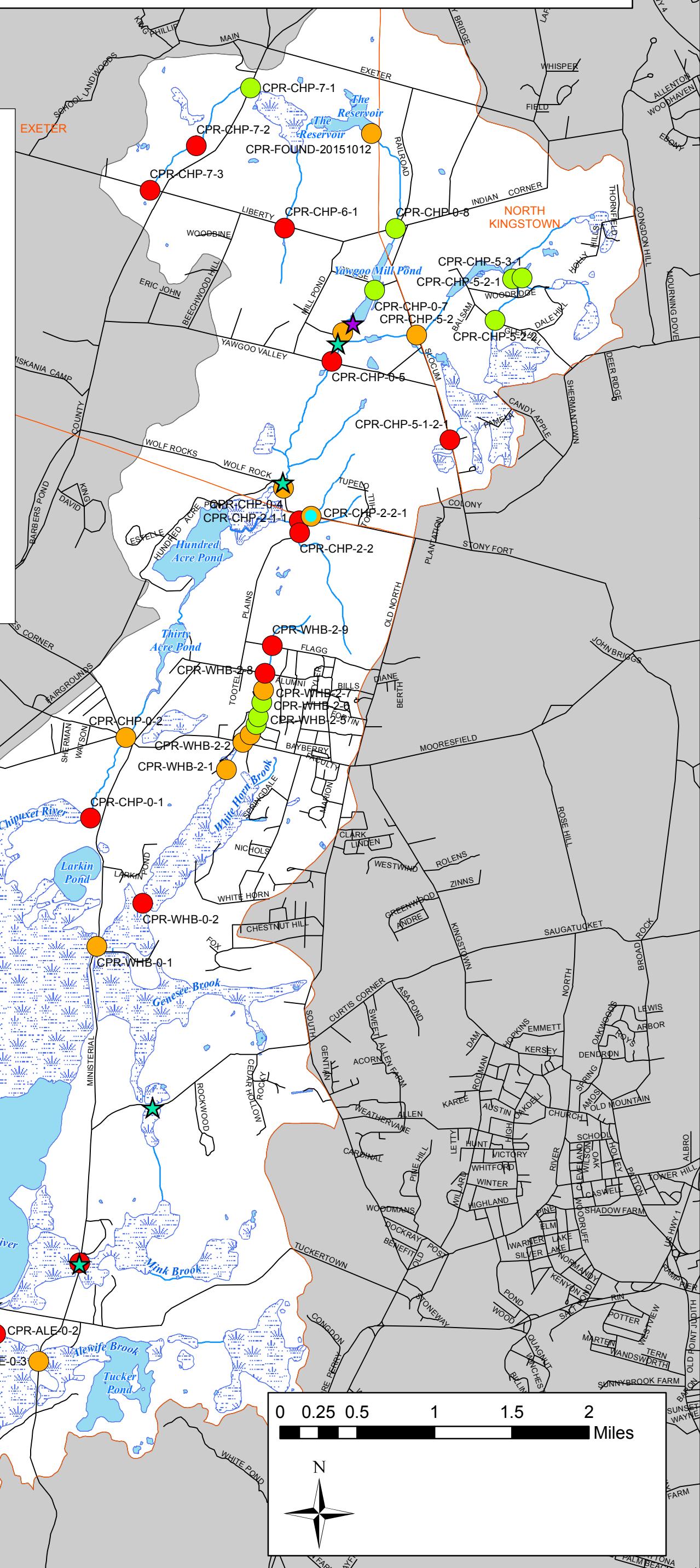
## Legend

### Geomorphic Vulnerability Rating

- High
- Medium
- Low

### Documented Flood Locations

- ★ Riverine Related Flooding
  - ★ Dam Related Flooding
  - ★ Drainage Related Flooding
- Roads
- Lake
- Wetland
- Rivers



# Lower Pawcatuck River Subwatershed Geomorphic Vulnerability Rating

## Legend

## **Geomorphic Vulnerability Rating**

- High
  - Medium
  - Low

## **Documented Flood Locations**

-  Riverine Related Flooding
  -  Dam Related Flooding
  -  Drainage Related Flooding

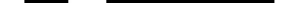
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Roads

Lake

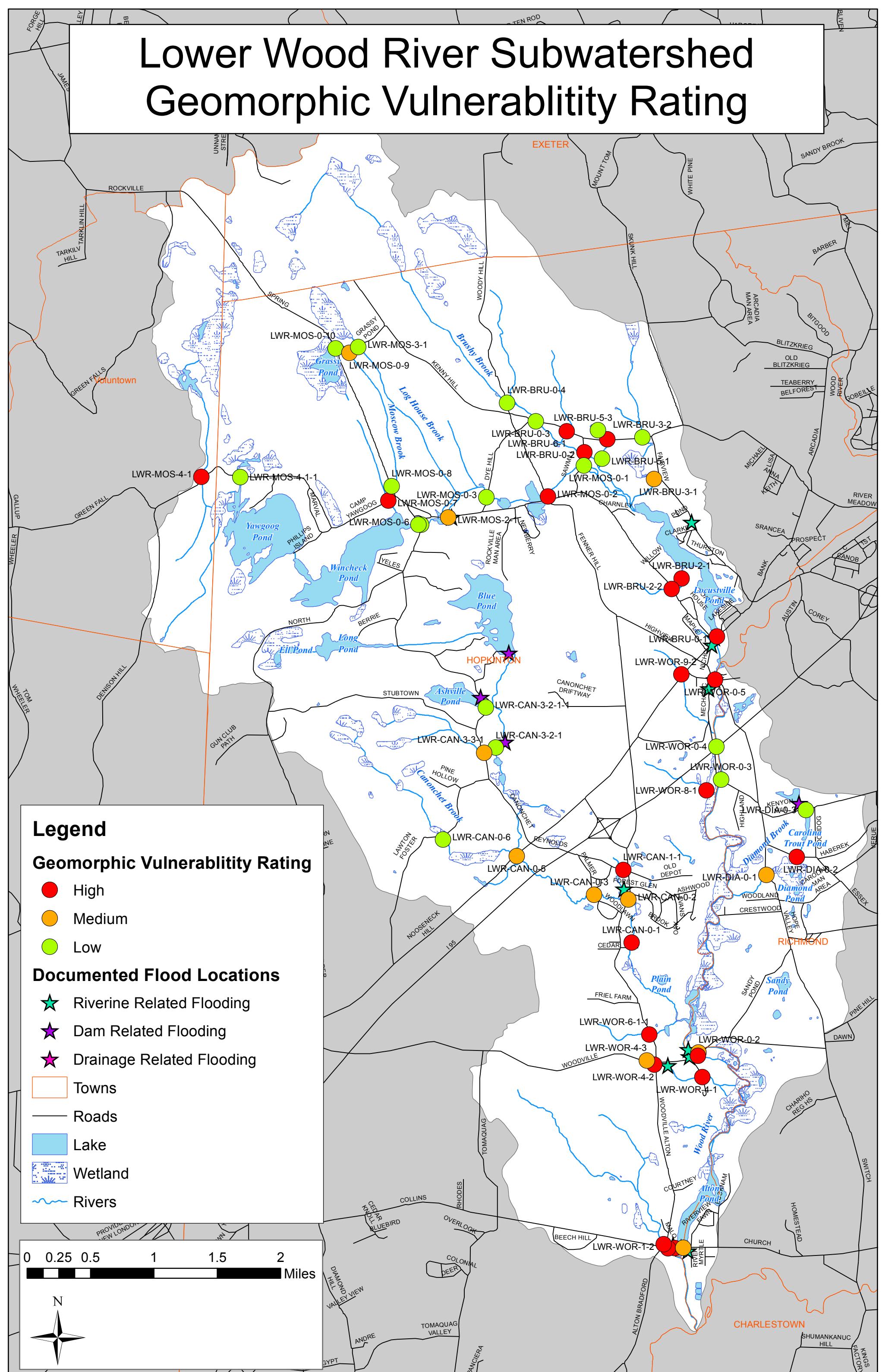
 Wetland

## Rivers

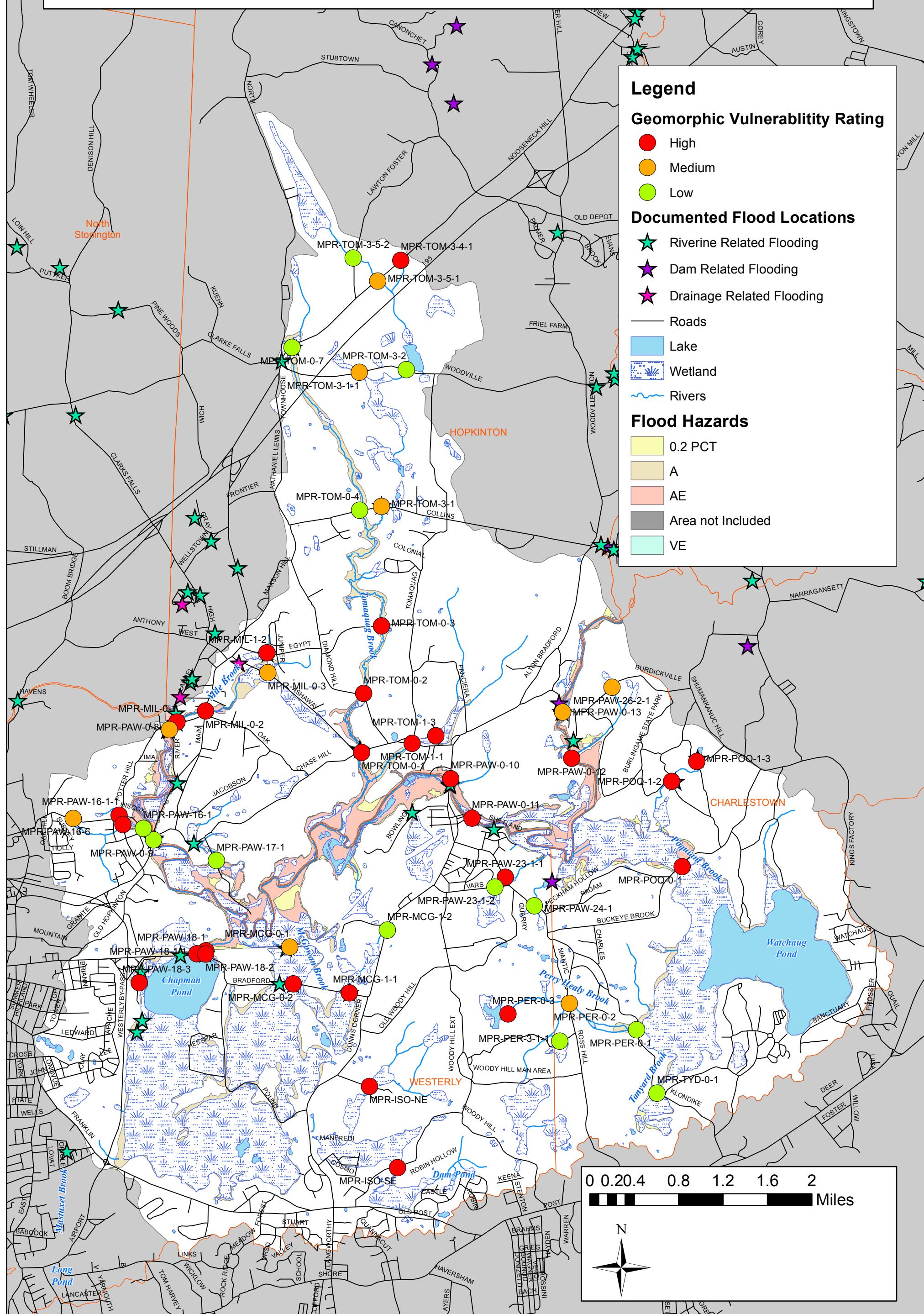
0    0.25    0.5              1              1.5              2  
 Miles



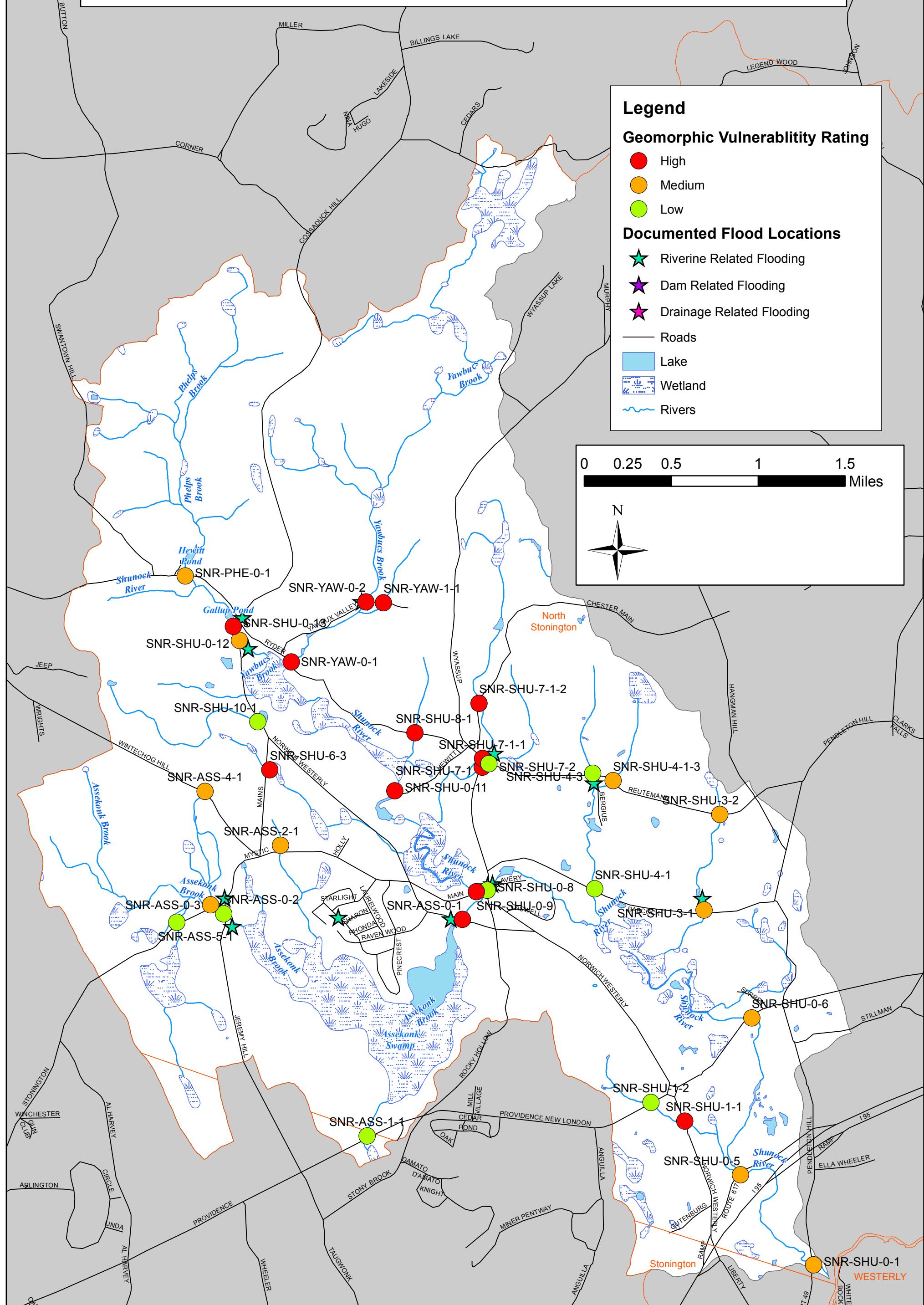
# Lower Wood River Subwatershed Geomorphic Vulnerability Rating



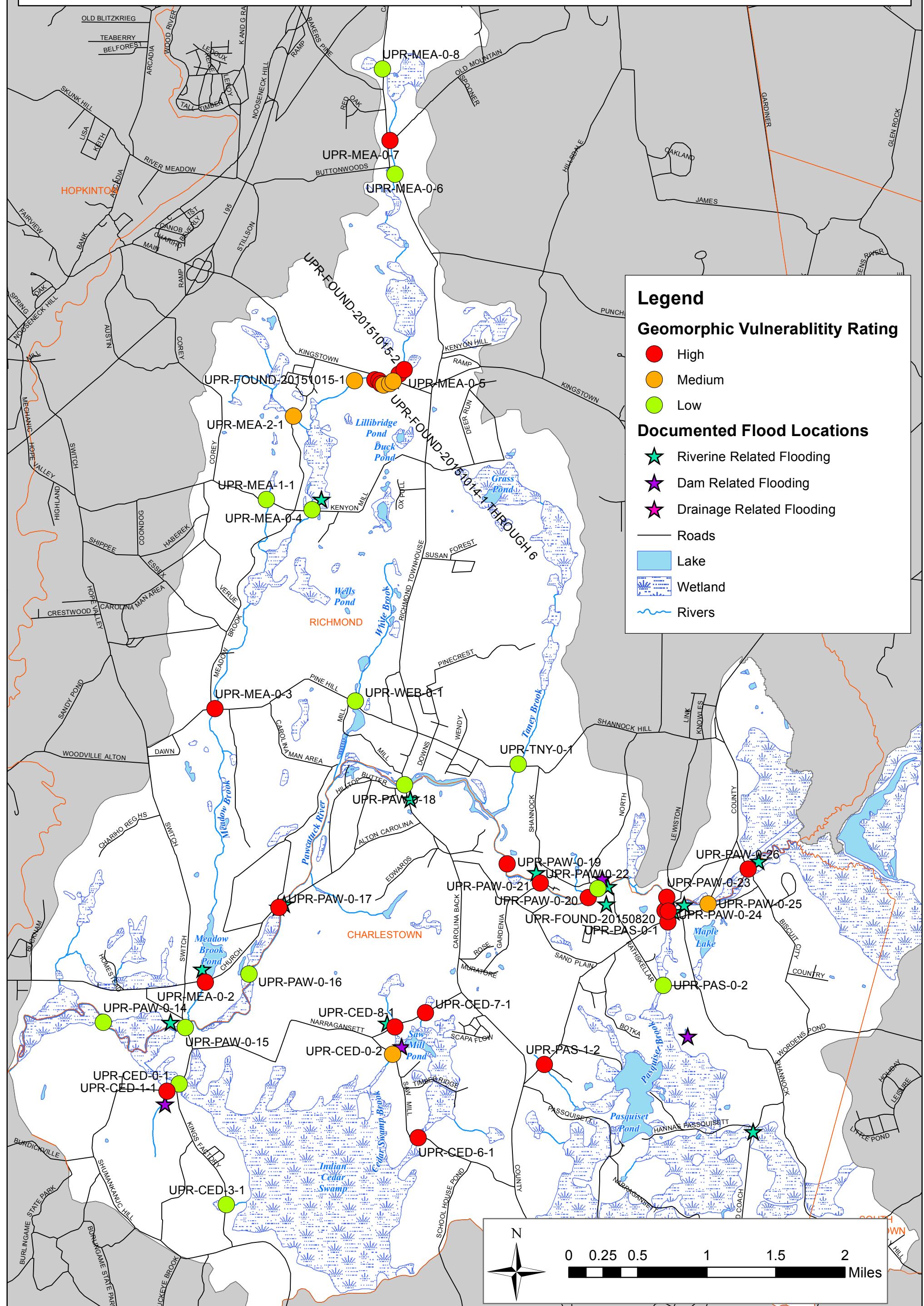
# Middle Pawcatuck River Subwatershed Geomorphic Vulnerability Rating



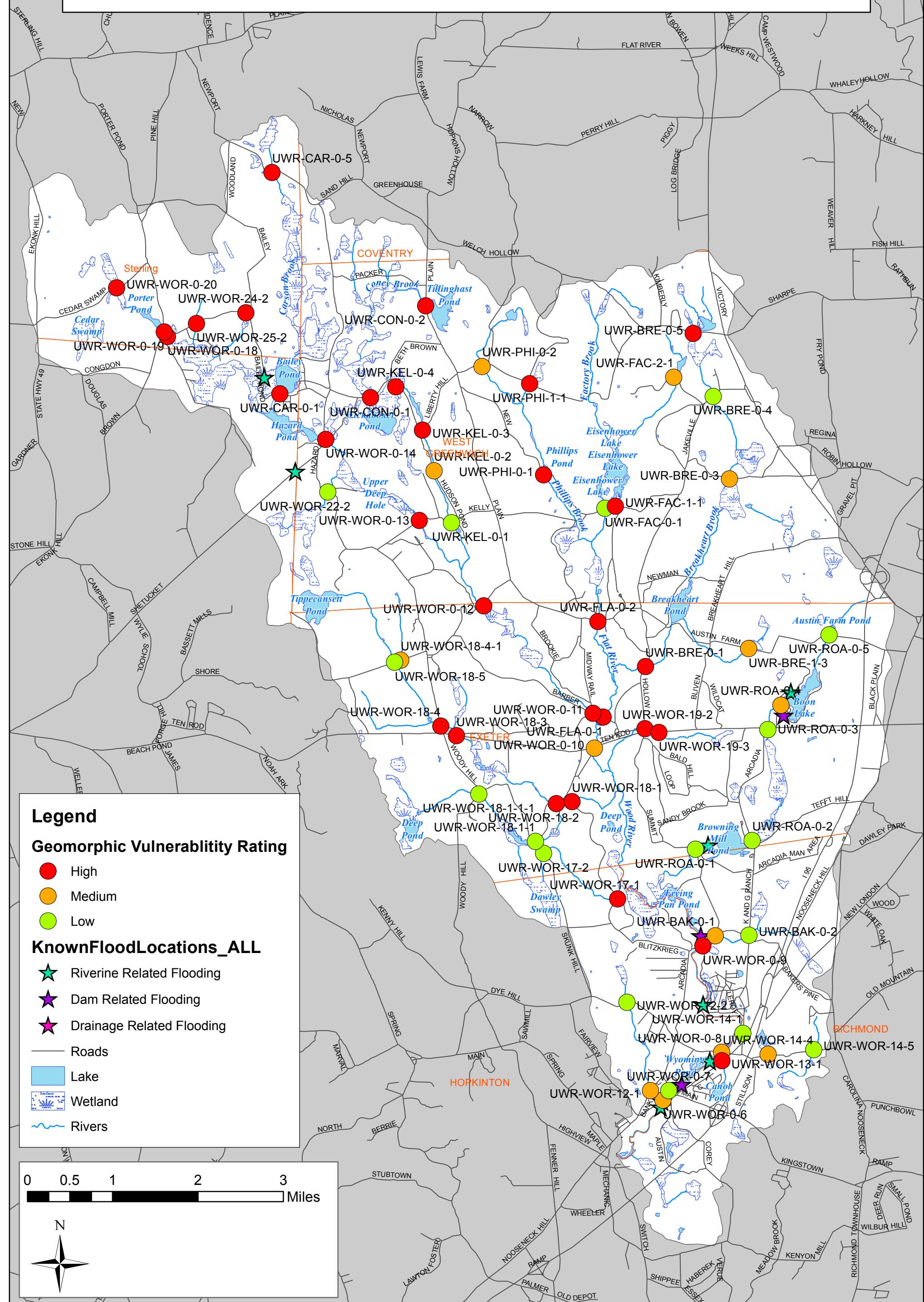
# Shunock River Subwatershed Geomorphic Vulnerability Rating



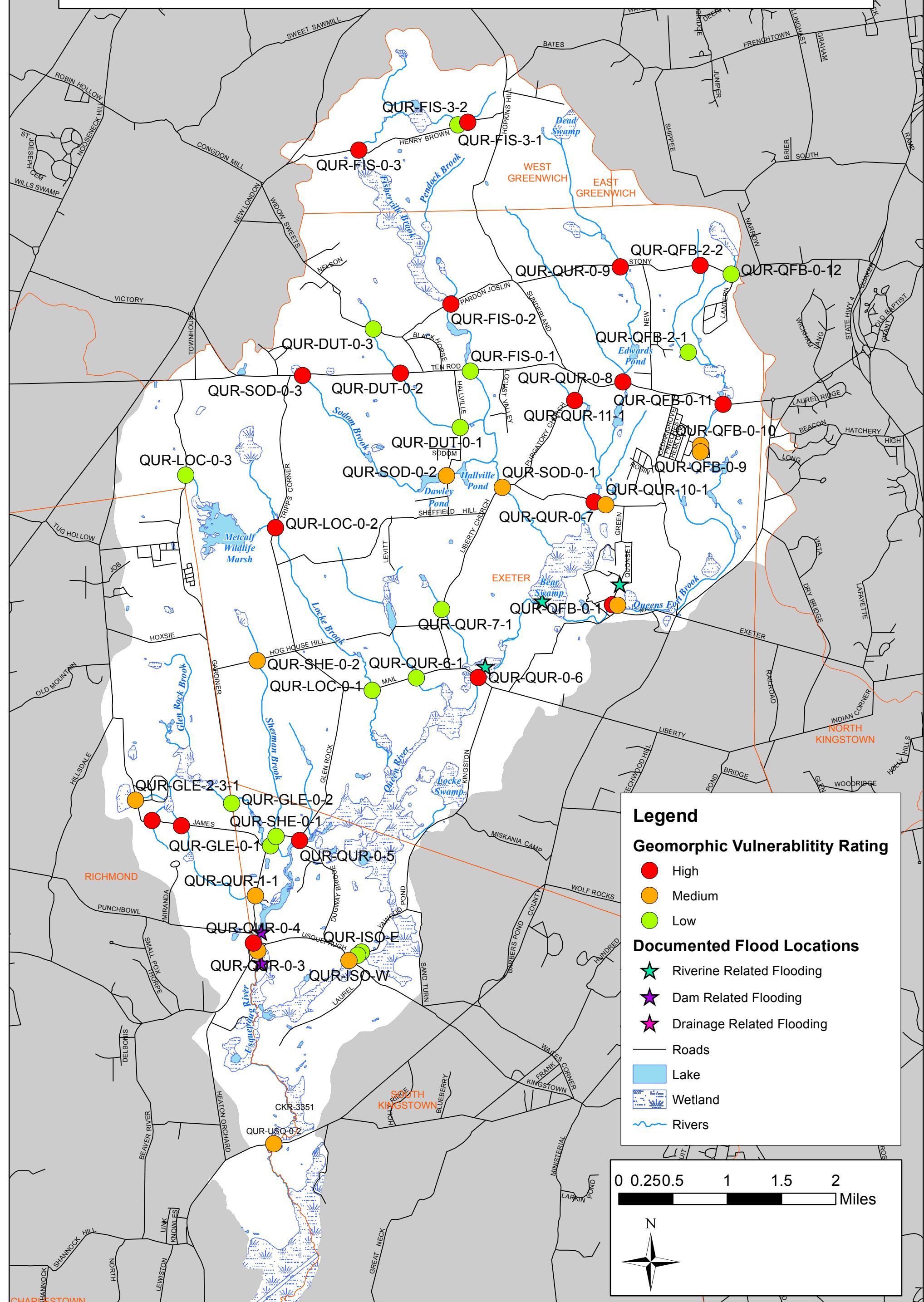
# Upper Pawcatuck River Subwatershed Geomorphic Vulnerability Rating



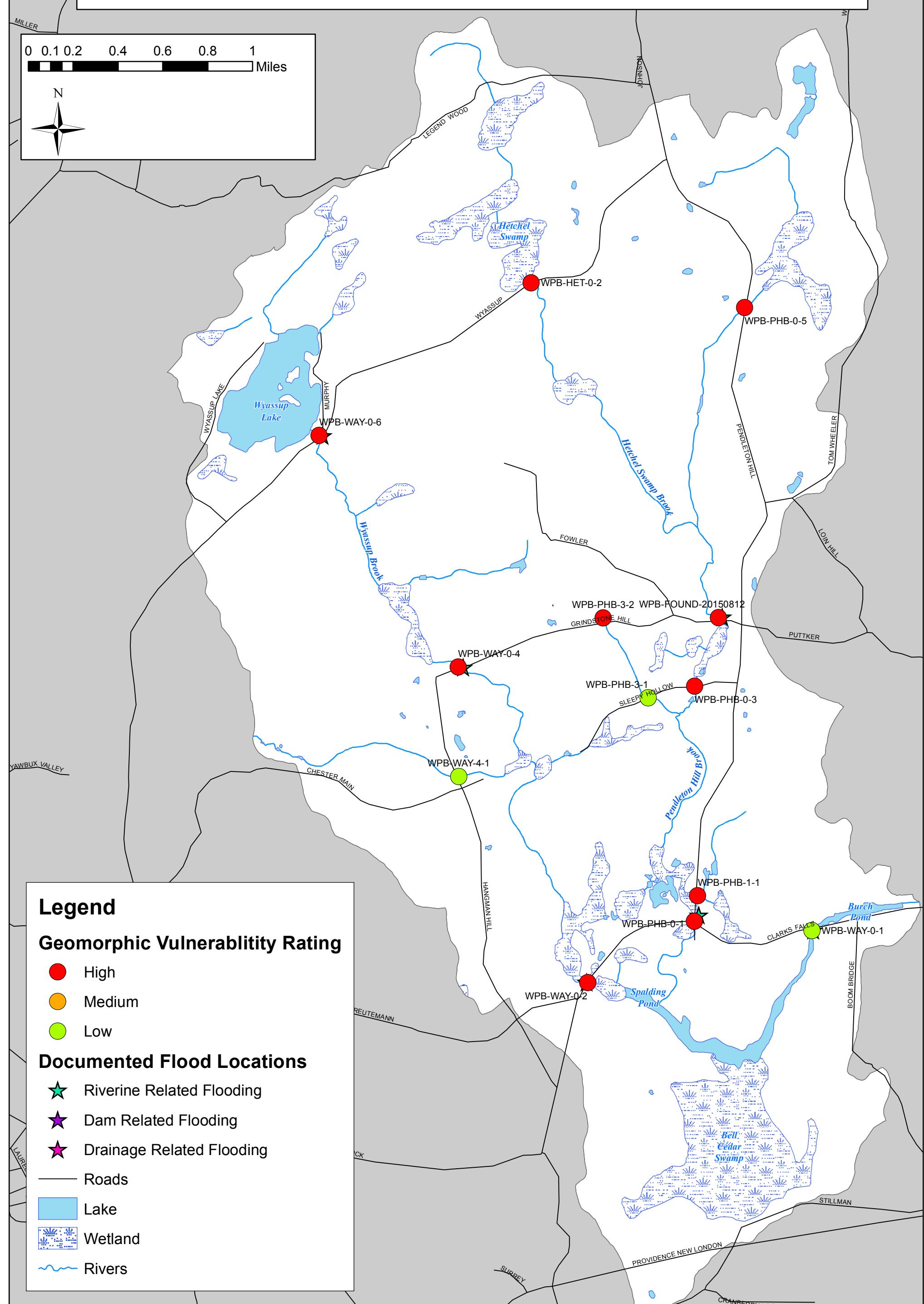
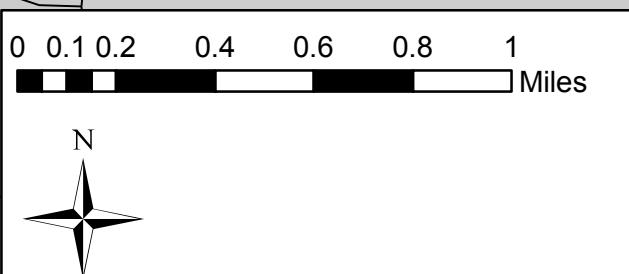
# Upper Wood River Subwatershed Geomorphic Vulnerability Rating



# Usquepaug River Subwatershed Geomorphic Vulnerability Rating



# Wayassup Brook Subwatershed Geomorphic Vulnerability Rating



## Legend

### Geomorphic Vulnerability Rating

- High (Red dot)
- Medium (Orange dot)
- Low (Green dot)

### Documented Flood Locations

- Riverine Related Flooding (Green star)
  - Dam Related Flooding (Purple star)
  - Drainage Related Flooding (Pink star)
- Roads
- Lake
- Wetland
- Rivers

## Bridge and Culvert Geomorphic Vulnerability Rating by Town

| Town        | Structure Name     | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|-------------|--------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| Charlestown | MPR-POQ-0-1        | MPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| Charlestown | MPR-POQ-1-2        | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Charlestown | MPR-POQ-1-3        | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Charlestown | UPR-CED-1-1        | UPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Charlestown | UPR-CED-6-1        | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| Charlestown | UPR-CED-7-1        | UPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Charlestown | UPR-CED-8-1        | UPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Charlestown | UPR-PAS-0-1        | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Charlestown | UPR-PAS-1-2        | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Charlestown | UPR-PAW-0-19       | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Stone or Timber  | Fair              | High                            |
| Charlestown | UPR-PAW-0-20       | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Charlestown | UPR-PAW-0-21       | UPR          | Sand/Gravel | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | High                            |
| Charlestown | MPR-PER-0-1        | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Charlestown | MPR-PER-3-1-1      | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Charlestown | MPR-TYD-0-1        | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Charlestown | UPR-CED-0-1        | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Charlestown | UPR-CED-3-1        | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Charlestown | UPR-PAS-0-2        | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Charlestown | UPR-PAW-0-14       | UPR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Low                             |
| Charlestown | UPR-PAW-0-15       | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Charlestown | UPR-PAW-0-16       | UPR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Low                             |
| Charlestown | UPR-PAW-0-18       | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Charlestown | UPR-PAW-0-22       | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Charlestown | MPR-PAW-26-2-1     | MPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| Charlestown | MPR-PER-0-2        | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| Charlestown | UPR-CED-0-2        | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Charlestown | UPR-PAW-0-25       | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Exeter      | CKR-CHK-3-1-1      | CKR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Exeter      | CKR-CHK-3-3        | CKR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Exeter      | CPR-CHP-0-5        | CPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| Exeter      | CPR-CHP-6-1        | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| Exeter      | CPR-CHP-7-2        | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Exeter      | CPR-CHP-7-3        | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Exeter      | QUR-DUT-0-2        | QUR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | High                            |
| Exeter      | QUR-FIS-0-2        | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| Exeter      | QUR-FOUND-20150810 | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| Exeter      | QUR-LOC-0-2        | QUR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Exeter      | QUR-QFB-0-1        | QUR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| Exeter      | QUR-QFB-0-11       | QUR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | High                            |
| Exeter      | QUR-QFB-2-2        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Exeter      | QUR-QUR-0-6        | QUR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Exeter      | QUR-QUR-0-7        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Exeter      | QUR-QUR-0-8        | QUR          | Sand/Gravel | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | High                            |

## Bridge and Culvert Geomorphic Vulnerability Rating by Town

| Town   | Structure Name   | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|--------|------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| Exeter | QUR-QUR-0-9      | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Exeter | QUR-QUR-11-1     | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Exeter | QUR-SOD-0-3      | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| Exeter | UWR-BRE-0-1      | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Exeter | UWR-FLA-0-1      | UWR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Good              | High                            |
| Exeter | UWR-FLA-0-2      | UWR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Good              | High                            |
| Exeter | UWR-WOR-0-11     | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Exeter | UWR-WOR-0-12     | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Exeter | UWR-WOR-18-1     | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Exeter | UWR-WOR-18-2     | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Exeter | UWR-WOR-18-3     | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Exeter | UWR-WOR-18-4     | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Exeter | UWR-WOR-19-2     | UWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Exeter | UWR-WOR-19-3     | UWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Exeter | CPR-CHP-0-7      | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | >1.2                                 | Concrete         | Good              | Low                             |
| Exeter | CPR-CHP-7-1      | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Exeter | QUR-DUT-0-1      | QUR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| Exeter | QUR-DUT-0-3      | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Exeter | QUR-FIS-0-1      | QUR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Exeter | QUR-LOC-0-1      | QUR          | Structural  | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Good              | Low                             |
| Exeter | QUR-LOC-0-3      | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Exeter | QUR-QFB-0-12     | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Exeter | QUR-QFB-2-1      | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Exeter | QUR-QUR-6-1      | QUR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Fair              | Low                             |
| Exeter | QUR-QUR-7-1      | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| Exeter | UWR-ROA-0-1      | UWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Exeter | UWR-ROA-0-2      | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Exeter | UWR-ROA-0-3      | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Exeter | UWR-ROA-0-5      | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Exeter | UWR-WOR-17-2     | UWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Exeter | UWR-WOR-18-1-1   | UWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Exeter | UWR-WOR-18-1-1-1 | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Exeter | UWR-WOR-18-5     | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Exeter | CPR-CHP-0-2      | CPR          | Cobbles     | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Medium                          |
| Exeter | CPR-CHP-0-4      | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Exeter | CPR-CHP-0-6      | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Exeter | QUR-QFB-0-10     | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| Exeter | QUR-QFB-0-2      | QUR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Exeter | QUR-QFB-0-9      | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Exeter | QUR-QUR-10-1     | QUR          | Structural  | Cobbles      | <10 Year         | <0.75                                | CMP or HDPE      | Good              | Medium                          |
| Exeter | QUR-SHE-0-2      | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| Exeter | QUR-SOD-0-1      | QUR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Good              | Medium                          |
| Exeter | QUR-SOD-0-2      | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Exeter | UWR-BRE-1-3      | UWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |

## Bridge and Culvert Geomorphic Vulnerability Rating by Town

| Town      | Structure Name         | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|-----------|------------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| Exeter    | UWR-ROA-0-4            | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| Exeter    | UWR-WOR-0-10           | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Medium                          |
| Exeter    | UWR-WOR-18-4-1         | UWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton | AWR-PAR-0-2            | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Hopkinton | AWR-WIN-0-1            | AWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| Hopkinton | LWR-BRU-0-1            | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Hopkinton | LWR-BRU-0-2            | LWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| Hopkinton | LWR-BRU-2-1            | LWR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | High                            |
| Hopkinton | LWR-BRU-2-2            | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Hopkinton | LWR-BRU-5-2            | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Hopkinton | LWR-BRU-6-1            | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Hopkinton | LWR-CAN-0-1            | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Hopkinton | LWR-CAN-1-1            | LWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| Hopkinton | LWR-MOS-0-2            | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Hopkinton | LWR-MOS-0-7            | LWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Poor              | High                            |
| Hopkinton | LWR-MOS-4-1            | LWR          | Cobbles     | Cobbles      | 10-50 Year       | <0.75                                | Stone or Timber  | Poor              | High                            |
| Hopkinton | LWR-WOR-0-1            | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Hopkinton | LWR-WOR-1-1            | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Hopkinton | LWR-WOR-4-1            | LWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Hopkinton | LWR-WOR-4-2            | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Hopkinton | LWR-WOR-5-1            | LWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Hopkinton | LWR-WOR-6-1-1          | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Hopkinton | LWR-WOR-8-1            | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| Hopkinton | LWR-WOR-9-2            | LWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Hopkinton | MPR-MIL-0-1            | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Hopkinton | MPR-MIL-0-2            | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Stone or Timber  | Poor              | High                            |
| Hopkinton | MPR-MIL-1-2            | MPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| Hopkinton | MPR-PAW-0-10           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Hopkinton | MPR-PAW-0-12           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Hopkinton | MPR-TOM-0-1            | MPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| Hopkinton | MPR-TOM-0-2            | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Hopkinton | MPR-TOM-0-3            | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Hopkinton | MPR-TOM-1-1            | MPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Hopkinton | MPR-TOM-1-3            | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| Hopkinton | MPR-TOM-3-4-1          | MPR          | Cobbles     | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Hopkinton | MPR-TOM-FOUND-20150610 | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Hopkinton | UWR-WOR-0-9            | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Hopkinton | UWR-WOR-17-1           | UWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Hopkinton | AWR-ASH-0-2            | AWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton | AWR-ASH-2-1            | AWR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Low                             |
| Hopkinton | LWR-BRU-0-3            | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton | LWR-BRU-0-4            | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Hopkinton | LWR-BRU-3-2            | LWR          | Cobbles     | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Hopkinton | LWR-BRU-5-1            | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |

## Bridge and Culvert Geomorphic Vulnerability Rating by Town

| Town            | Structure Name     | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|-----------------|--------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| Hopkinton       | LWR-BRU-5-3        | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Hopkinton       | LWR-CAN-0-6        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| Hopkinton       | LWR-CAN-3-2-1      | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| Hopkinton       | LWR-CAN-3-2-1-1    | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Low                             |
| Hopkinton       | LWR-FOUND-20150625 | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Hopkinton       | LWR-FOUND-20150722 | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| Hopkinton       | LWR-MOS-0-1        | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton       | LWR-MOS-0-10       | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton       | LWR-MOS-0-3        | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton       | LWR-MOS-0-5        | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Hopkinton       | LWR-MOS-0-6        | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton       | LWR-MOS-0-8        | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton       | LWR-MOS-3-1        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton       | LWR-MOS-4-1-1      | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Low                             |
| Hopkinton       | MPR-PAW-0-9        | MPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton       | MPR-PAW-17-1       | MPR          | Structural  | Bedrock      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton       | MPR-TOM-0-4        | MPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| Hopkinton       | MPR-TOM-0-7        | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton       | MPR-TOM-3-2        | MPR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Hopkinton       | MPR-TOM-3-5-2      | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Hopkinton       | UWR-WOR-0-7        | UWR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Stone or Timber  | Good              | Low                             |
| Hopkinton       | UWR-WOR-12-2       | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Hopkinton       | AWR-ASH-0-1        | AWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | AWR-ASH-0-3        | AWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | AWR-ASH-0-4        | AWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | AWR-GLA-0-4        | AWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| Hopkinton       | LWR-BRU-3-1        | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | LWR-CAN-0-2        | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | LWR-CAN-0-3        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| Hopkinton       | LWR-CAN-0-5        | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | LWR-CAN-3-3-1      | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| Hopkinton       | LWR-MOS-0-9        | LWR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Poor              | Medium                          |
| Hopkinton       | LWR-MOS-2-1        | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Good              | Medium                          |
| Hopkinton       | LWR-WOR-0-2        | LWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | LWR-WOR-4-3        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| Hopkinton       | MPR-MIL-0-3        | MPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| Hopkinton       | MPR-PAW-0-13       | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | MPR-TOM-3-1        | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | MPR-TOM-3-1-1      | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| Hopkinton       | MPR-TOM-3-5-1      | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | UWR-WOR-0-8        | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Hopkinton       | UWR-WOR-12-1       | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| North Kingstown | CPR-CHP-5-1-2-1    | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| North Kingstown | CPR-CHP-0-8        | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |

## Bridge and Culvert Geomorphic Vulnerability Rating by Town

| Town             | Structure Name     | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|------------------|--------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| North Kingstown  | CPR-CHP-5-2-1      | CPR          | Structural  | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Low                             |
| North Kingstown  | CPR-CHP-5-2-2      | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| North Kingstown  | CPR-CHP-5-3-1      | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| North Kingstown  | CPR-CHP-5-2        | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | CMP or HDPE      | Good              | Medium                          |
| North Stonington | AWR-GLA-0-2        | AWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| North Stonington | AWR-GRE-0-3        | AWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| North Stonington | AWR-GRE-5-2        | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| North Stonington | AWR-GRE-6-1        | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| North Stonington | AWR-GRE-7-1        | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| North Stonington | LPR-PAW-12-1       | LPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Fair              | High                            |
| North Stonington | SNR-ASS-0-1        | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| North Stonington | SNR-SHU-0-11       | SNR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Good              | High                            |
| North Stonington | SNR-SHU-0-13       | SNR          | Sand/Gravel | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| North Stonington | SNR-SHU-0-9        | SNR          | Sand/Gravel | Cobbles      | <10 Year         | >1.2                                 | Stone or Timber  | Poor              | High                            |
| North Stonington | SNR-SHU-1-1        | SNR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| North Stonington | SNR-SHU-6-3        | SNR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| North Stonington | SNR-SHU-7-1        | SNR          | Structural  | Cobbles      | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| North Stonington | SNR-SHU-7-1-1      | SNR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| North Stonington | SNR-SHU-7-1-2      | SNR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| North Stonington | SNR-SHU-8-1        | SNR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| North Stonington | SNR-YAW-0-1        | SNR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Poor              | High                            |
| North Stonington | SNR-YAW-0-2        | SNR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| North Stonington | SNR-YAW-1-1        | SNR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| North Stonington | WPB-FOUND-20150812 | WPB          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| North Stonington | WPB-HET-0-2        | WPB          | Structural  | Cobbles      | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| North Stonington | WPB-PHB-0-1        | WPB          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| North Stonington | WPB-PHB-0-3        | WPB          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| North Stonington | WPB-PHB-0-5        | WPB          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| North Stonington | WPB-PHB-1-1        | WPB          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| North Stonington | WPB-PHB-3-2        | WPB          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| North Stonington | WPB-WAY-0-2        | WPB          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| North Stonington | WPB-WAY-0-4        | WPB          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| North Stonington | WPB-WAY-0-6        | WPB          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| North Stonington | AWR-GLA-0-1        | AWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| North Stonington | AWR-GRE-0-4        | AWR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| North Stonington | AWR-GRE-1-2        | AWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| North Stonington | AWR-GRE-3-1        | AWR          | Structural  | Bedrock      | <10 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| North Stonington | SNR-ASS-0-2        | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| North Stonington | SNR-ASS-1-1        | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| North Stonington | SNR-ASS-5-1        | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| North Stonington | SNR-SHU-0-8        | SNR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Good              | Low                             |
| North Stonington | SNR-SHU-10-1       | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| North Stonington | SNR-SHU-1-2        | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| North Stonington | SNR-SHU-4-1        | SNR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |

## Bridge and Culvert Geomorphic Vulnerability Rating by Town

| Town             | Structure Name       | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|------------------|----------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| North Stonington | SNR-SHU-4-3          | SNR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| North Stonington | SNR-SHU-7-2          | SNR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| North Stonington | WPB-PHB-3-1          | WPB          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| North Stonington | WPB-WAY-0-1          | WPB          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| North Stonington | WPB-WAY-4-1          | WPB          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| North Stonington | AWR-ASH-1-2          | AWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Good              | Medium                          |
| North Stonington | AWR-GRE-0-2          | AWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Medium                          |
| North Stonington | AWR-GRE-4-1          | AWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| North Stonington | AWR-GRE-5-1          | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| North Stonington | LPR-PAW-12-1-1       | LPR          | Structural  | Cobbles      | >50 Year         | <0.75                                | CMP or HDPE      | Poor              | Medium                          |
| North Stonington | LPR-PAW-13-1         | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| North Stonington | LPR-PAW-9-1          | LPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| North Stonington | SNR-ASS-0-3          | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| North Stonington | SNR-ASS-2-1          | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| North Stonington | SNR-ASS-4-1          | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| North Stonington | SNR-PHE-0-1          | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| North Stonington | SNR-SHU-0-1          | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| North Stonington | SNR-SHU-0-12         | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| North Stonington | SNR-SHU-0-5          | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| North Stonington | SNR-SHU-0-6          | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| North Stonington | SNR-SHU-3-1          | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| North Stonington | SNR-SHU-3-2          | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| North Stonington | SNR-SHU-4-1-3        | SNR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| Richmond         | BVR-BEA-0-1          | BVR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | High                            |
| Richmond         | BVR-BEA-0-2          | BVR          | Cobbles     | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | High                            |
| Richmond         | BVR-BEA-0-3          | BVR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Poor              | High                            |
| Richmond         | BVR-BEA-0-4          | BVR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Richmond         | BVR-BEA-0-6          | BVR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Richmond         | BVR-BEA-5-1          | BVR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Richmond         | BVR-BEA-6-1          | BVR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | CMP or HDPE      | Poor              | High                            |
| Richmond         | BVR-BEA-6-2          | BVR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Richmond         | BVR-FOUND-20150630   | BVR          | Cobbles     | Cobbles      | 10-50 Year       | <0.75                                | Stone or Timber  | Fair              | High                            |
| Richmond         | BVR-FOUND-20151015   | BVR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Fair              | High                            |
| Richmond         | LWR-DIA-0-2          | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| Richmond         | LWR-WOR-0-5          | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Richmond         | LWR-WOR-1-2          | LWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| Richmond         | QUR-GLE-2-1-1        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Richmond         | QUR-GLE-2-2-1        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| Richmond         | QUR-QUR-0-4          | QUR          | Sand/Gravel | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Richmond         | UPR-FOUND-20150820   | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Good              | High                            |
| Richmond         | UPR-FOUND-20151014-1 | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Stone or Timber  | Good              | High                            |
| Richmond         | UPR-FOUND-20151014-2 | UPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Richmond         | UPR-FOUND-20151014-3 | UPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| Richmond         | UPR-FOUND-20151014-6 | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |

## Bridge and Culvert Geomorphic Vulnerability Rating by Town

| Town            | Structure Name       | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|-----------------|----------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| Richmond        | UPR-FOUND-20151015-2 | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Richmond        | UPR-MEA-0-2          | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Richmond        | UPR-MEA-0-3          | UPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| Richmond        | UPR-MEA-0-7          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Richmond        | UPR-PAW-0-17         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Richmond        | UPR-PAW-0-23         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Richmond        | UPR-PAW-0-24         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Richmond        | UPR-PAW-0-26         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Richmond        | UWR-FOUND-20150603   | UWR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Poor              | High                            |
| Richmond        | UWR-WOR-13-1         | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Richmond        | BVR-BEA-3-1          | BVR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Richmond        | BVR-BEA-3-2          | BVR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Richmond        | LWR-DIA-0-3          | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Richmond        | LWR-WOR-0-3          | LWR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Low                             |
| Richmond        | LWR-WOR-0-4          | LWR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Good              | Low                             |
| Richmond        | QUR-GLE-0-2          | QUR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Richmond        | UPR-MEA-0-4          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Richmond        | UPR-MEA-0-6          | UPR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Low                             |
| Richmond        | UPR-MEA-0-8          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| Richmond        | UPR-MEA-1-1          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Richmond        | UPR-TNY-0-1          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Richmond        | UPR-WEB-0-1          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Richmond        | UWR-BAK-0-2          | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Richmond        | UWR-WOR-14-1         | UWR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Fair              | Low                             |
| Richmond        | UWR-WOR-14-5         | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Richmond        | BVR-BEA-0-5          | BVR          | Structural  | Cobbles      | <10 Year         | <0.75                                | Concrete         | Fair              | Medium                          |
| Richmond        | BVR-BEA-2-1          | BVR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| Richmond        | BVR-FOUND-20150817   | BVR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Richmond        | LWR-DIA-0-1          | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| Richmond        | LWR-WOR-2-1          | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Richmond        | QUR-GLE-2-3-1        | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| Richmond        | QUR-QUR-0-3          | QUR          | Cobbles     | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| Richmond        | UPR-FOUND-20151014-4 | UPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| Richmond        | UPR-FOUND-20151014-5 | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Good              | Medium                          |
| Richmond        | UPR-FOUND-20151015-1 | UPR          | Structural  | Cobbles      | <10 Year         | <0.75                                | Concrete         | Fair              | Medium                          |
| Richmond        | UPR-MEA-0-5          | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| Richmond        | UPR-MEA-2-1          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| Richmond        | UWR-BAK-0-1          | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Richmond        | UWR-WOR-0-6          | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| Richmond        | UWR-WOR-14-4         | UWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| South Kingstown | CKR-3047             | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| South Kingstown | CKR-3049             | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Poor              | High                            |
| South Kingstown | CKR-3071             | CKR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| South Kingstown | CKR-3192             | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |

## Bridge and Culvert Geomorphic Vulnerability Rating by Town

| Town            | Structure Name     | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|-----------------|--------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| South Kingstown | CKR-3243           | CKR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| South Kingstown | CKR-CHK-1-2        | CKR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| South Kingstown | CPR-ALE-0-1        | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| South Kingstown | CPR-ALE-0-2        | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| South Kingstown | CPR-CHP-0-1        | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| South Kingstown | CPR-CHP-2-1-1      | CPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Poor              | High                            |
| South Kingstown | CPR-CHP-2-1-2      | CPR          | Cobbles     | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| South Kingstown | CPR-MIN-0-1        | CPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| South Kingstown | CPR-WHB-0-2        | CPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | High                            |
| South Kingstown | CPR-WHB-2-8        | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| South Kingstown | CPR-WHB-2-9        | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| South Kingstown | QUR-QUR-0-5        | QUR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Poor              | High                            |
| South Kingstown | CKR-CHK-0-3        | CKR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| South Kingstown | CKR-CHK-0-5        | CKR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| South Kingstown | CKR-CHK-2-1-2      | CKR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| South Kingstown | CKR-CHK-2-2-1      | CKR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| South Kingstown | CKR-CHK-3-1        | CKR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| South Kingstown | CPR-WHB-2-4        | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| South Kingstown | CPR-WHB-2-5        | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| South Kingstown | CPR-WHB-2-6        | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| South Kingstown | QUR-GLE-0-1        | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| South Kingstown | QUR-ISO-E          | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| South Kingstown | QUR-ISO-M          | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| South Kingstown | QUR-SHE-0-1        | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| South Kingstown | CKR-3351           | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| South Kingstown | CKR-CHK-0-4        | CKR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| South Kingstown | CKR-CHK-1-1        | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| South Kingstown | CKR-CHK-2-1-1      | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| South Kingstown | CKR-CHK-3-2        | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| South Kingstown | CPR-ALE-0-3        | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| South Kingstown | CPR-CHP-2-2-1      | CPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| South Kingstown | CPR-FOUND-20151012 | CPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| South Kingstown | CPR-WHB-0-1        | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| South Kingstown | CPR-WHB-2-1        | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| South Kingstown | CPR-WHB-2-2        | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| South Kingstown | CPR-WHB-2-3        | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| South Kingstown | CPR-WHB-2-7        | CPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| South Kingstown | QUR-ISO-W          | QUR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| South Kingstown | QUR-QUR-1-1        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| South Kingstown | QUR-USQ-0-2        | QUR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Sterling        | UWR-CAR-0-5        | UWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Good              | High                            |
| Sterling        | UWR-WOR-0-18       | UWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Sterling        | UWR-WOR-0-19       | UWR          | Cobbles     | Cobbles      | 10-50 Year       | <0.75                                | Stone or Timber  | Poor              | High                            |
| Sterling        | UWR-WOR-0-20       | UWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |

## Bridge and Culvert Geomorphic Vulnerability Rating by Town

| Town           | Structure Name | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|----------------|----------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| Sterling       | UWR-WOR-24-2   | UWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| Sterling       | UWR-WOR-25-2   | UWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Voluntown      | AWR-GRE-0-6    | AWR          | Cobbles     | Sand/Gravel  | <10 Year         | 0.75-1.2                             | Stone or Timber  | Poor              | High                            |
| Voluntown      | AWR-GRE-8-2-2  | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Voluntown      | AWR-PEG-0-1    | AWR          | Cobbles     | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| Voluntown      | UWR-CAR-0-1    | UWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| Voluntown      | AWR-GRE-10-1-1 | AWR          | Structural  | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Poor              | Low                             |
| Voluntown      | AWR-GRE-10-2-1 | AWR          | Structural  | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Stone or Timber  | Fair              | Medium                          |
| Voluntown      | AWR-GRE-8-2-1  | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| West Greenwich | QUR-FIS-0-3    | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| West Greenwich | QUR-FIS-3-2    | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| West Greenwich | UWR-BRE-0-5    | UWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| West Greenwich | UWR-CON-0-1    | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| West Greenwich | UWR-CON-0-2    | UWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| West Greenwich | UWR-FAC-1-1    | UWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| West Greenwich | UWR-KEL-0-3    | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| West Greenwich | UWR-KEL-0-4    | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| West Greenwich | UWR-PHI-0-1    | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| West Greenwich | UWR-PHI-1-1    | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| West Greenwich | UWR-WOR-0-13   | UWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| West Greenwich | UWR-WOR-0-14   | UWR          | Structural  | Cobbles      | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| West Greenwich | QUR-FIS-3-1    | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| West Greenwich | UWR-BRE-0-4    | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| West Greenwich | UWR-FAC-0-1    | UWR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| West Greenwich | UWR-KEL-0-1    | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| West Greenwich | UWR-WOR-22-2   | UWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Low                             |
| West Greenwich | UWR-BRE-0-3    | UWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Good              | Medium                          |
| West Greenwich | UWR-FAC-2-1    | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| West Greenwich | UWR-KEL-0-2    | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| West Greenwich | UWR-PHI-0-2    | UWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| Westerly       | LPR-PAW-0-1    | LPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | 0.75-1.2                             | Concrete         | Fair              | High                            |
| Westerly       | LPR-PAW-0-2    | LPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Westerly       | LPR-PAW-0-3    | LPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | High                            |
| Westerly       | LPR-PAW-0-6    | LPR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Westerly       | LPR-PAW-0-7    | LPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Westerly       | LPR-PAW-5-1    | LPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Westerly       | LPR-PAW-7-1-1  | LPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | 0.75-1.2                             | Stone or Timber  | Poor              | High                            |
| Westerly       | LPR-PAW-7-2    | LPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | 0.75-1.2                             | Stone or Timber  | Fair              | High                            |
| Westerly       | MPR-ISO-NE     | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Westerly       | MPR-ISO-SE     | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Westerly       | MPR-MCG-0-2    | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Westerly       | MPR-MCG-1-1    | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Westerly       | MPR-PAW-0-11   | MPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Westerly       | MPR-PAW-16-1-1 | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |

## Bridge and Culvert Geomorphic Vulnerability Rating by Town

| Town     | Structure Name         | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|----------|------------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| Westerly | MPR-PAW-16-2           | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Westerly | MPR-PAW-18-1           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Westerly | MPR-PAW-18-1-1         | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Westerly | MPR-PAW-18-2           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| Westerly | MPR-PAW-18-3           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| Westerly | MPR-PAW-23-1-1         | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| Westerly | MPR-PER-0-3            | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| Westerly | LPR-MAS-0-1            | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Westerly | LPR-MAS-1-1            | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Westerly | LPR-PAW-0-4            | LPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Westerly | LPR-PAW-0-5            | LPR          | Cobbles     | Cobbles      | 10-50 Year       | 0.75-1.2                             | Concrete         | Good              | Low                             |
| Westerly | LPR-PAW-7-1            | LPR          | Structural  | Cobbles      | <10 Year         | <0.75                                | Concrete         | Good              | Low                             |
| Westerly | LPR-PAW-7-2-1          | LPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Good              | Low                             |
| Westerly | LPR-PAW-8-2            | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Westerly | LPR-PAW-8-3            | LPR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Low                             |
| Westerly | LPR-PAW-8-4            | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Westerly | LPR-PAW-8-5            | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Westerly | MPR-MCG-1-2            | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Westerly | MPR-PAW-16-1           | MPR          | Structural  | Bedrock      | <10 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Westerly | MPR-PAW-23-1-2         | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Westerly | MPR-PAW-24-1           | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| Westerly | MPR-PAW-FOUND-20150624 | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| Westerly | LPR-PAW-8-6            | LPR          | Structural  | Sand/Gravel  | >50 Year         | 0.75-1.2                             | CMP or HDPE      | Poor              | Medium                          |
| Westerly | MPR-MCG-0-1            | MPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| Westerly | MPR-PAW-0-8            | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| Westerly | MPR-PAW-16-6           | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |

## Bridge and Culvert Geomorphic Vulnerability Rating by Subwatershed

| Structure Name     | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|--------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| AWR-GLA-0-2        | AWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| AWR-GRE-0-3        | AWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| AWR-GRE-0-6        | AWR          | Cobbles     | Sand/Gravel  | <10 Year         | 0.75-1.2                             | Stone or Timber  | Poor              | High                            |
| AWR-GRE-5-2        | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| AWR-GRE-6-1        | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| AWR-GRE-7-1        | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| AWR-GRE-8-2-2      | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| AWR-PAR-0-2        | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| AWR-PEG-0-1        | AWR          | Cobbles     | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| AWR-WIN-0-1        | AWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| AWR-ASH-0-2        | AWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| AWR-ASH-2-1        | AWR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Low                             |
| AWR-GLA-0-1        | AWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| AWR-GRE-0-4        | AWR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| AWR-GRE-10-1-1     | AWR          | Structural  | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Poor              | Low                             |
| AWR-GRE-1-2        | AWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| AWR-GRE-3-1        | AWR          | Structural  | Bedrock      | <10 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| AWR-ASH-0-1        | AWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| AWR-ASH-0-3        | AWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| AWR-ASH-0-4        | AWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| AWR-ASH-1-2        | AWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Good              | Medium                          |
| AWR-GLA-0-4        | AWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| AWR-GRE-0-2        | AWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Medium                          |
| AWR-GRE-10-2-1     | AWR          | Structural  | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Stone or Timber  | Fair              | Medium                          |
| AWR-GRE-4-1        | AWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| AWR-GRE-5-1        | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| AWR-GRE-8-2-1      | AWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| BVR-BEA-0-1        | BVR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | High                            |
| BVR-BEA-0-2        | BVR          | Cobbles     | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | High                            |
| BVR-BEA-0-3        | BVR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Poor              | High                            |
| BVR-BEA-0-4        | BVR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| BVR-BEA-0-6        | BVR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| BVR-BEA-5-1        | BVR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| BVR-BEA-6-1        | BVR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | CMP or HDPE      | Poor              | High                            |
| BVR-BEA-6-2        | BVR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| BVR-FOUND-20150630 | BVR          | Cobbles     | Cobbles      | 10-50 Year       | <0.75                                | Stone or Timber  | Fair              | High                            |
| BVR-FOUND-20151015 | BVR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Fair              | High                            |
| BVR-BEA-3-1        | BVR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| BVR-BEA-3-2        | BVR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| BVR-BEA-0-5        | BVR          | Structural  | Cobbles      | <10 Year         | <0.75                                | Concrete         | Fair              | Medium                          |
| BVR-BEA-2-1        | BVR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| BVR-FOUND-20150817 | BVR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| CKR-3047           | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |

## Bridge and Culvert Geomorphic Vulnerability Rating by Subwatershed

| Structure Name  | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|-----------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| CKR-3049        | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Poor              | High                            |
| CKR-3071        | CKR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| CKR-3192        | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| CKR-3243        | CKR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| CKR-CHK-1-2     | CKR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| CKR-CHK-3-1-1   | CKR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| CKR-CHK-3-3     | CKR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| CKR-CHK-0-3     | CKR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| CKR-CHK-0-5     | CKR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| CKR-CHK-2-1-2   | CKR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| CKR-CHK-2-2-1   | CKR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| CKR-CHK-3-1     | CKR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| CKR-3351        | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| CKR-CHK-0-4     | CKR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| CKR-CHK-1-1     | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| CKR-CHK-2-1-1   | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| CKR-CHK-3-2     | CKR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| CPR-ALE-0-1     | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| CPR-ALE-0-2     | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| CPR-CHP-0-1     | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| CPR-CHP-0-5     | CPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| CPR-CHP-2-1-1   | CPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Poor              | High                            |
| CPR-CHP-2-1-2   | CPR          | Cobbles     | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| CPR-CHP-5-1-2-1 | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| CPR-CHP-6-1     | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| CPR-CHP-7-2     | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| CPR-CHP-7-3     | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| CPR-MIN-0-1     | CPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| CPR-WHB-0-2     | CPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | High                            |
| CPR-WHB-2-8     | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| CPR-WHB-2-9     | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| CPR-CHP-0-7     | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | >1.2                                 | Concrete         | Good              | Low                             |
| CPR-CHP-0-8     | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| CPR-CHP-5-2-1   | CPR          | Structural  | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Low                             |
| CPR-CHP-5-2-2   | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| CPR-CHP-5-3-1   | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| CPR-CHP-7-1     | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| CPR-WHB-2-4     | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| CPR-WHB-2-5     | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| CPR-WHB-2-6     | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| CPR-ALE-0-3     | CPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| CPR-CHP-0-2     | CPR          | Cobbles     | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Medium                          |
| CPR-CHP-0-4     | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| CPR-CHP-0-6     | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |

## Bridge and Culvert Geomorphic Vulnerability Rating by Subwatershed

| Structure Name     | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|--------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| CPR-CHP-2-2-1      | CPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| CPR-CHP-5-2        | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | CMP or HDPE      | Good              | Medium                          |
| CPR-FOUND-20151012 | CPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| CPR-WHB-0-1        | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| CPR-WHB-2-1        | CPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| CPR-WHB-2-2        | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| CPR-WHB-2-3        | CPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| CPR-WHB-2-7        | CPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| LPR-PAW-0-1        | LPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | 0.75-1.2                             | Concrete         | Fair              | High                            |
| LPR-PAW-0-2        | LPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| LPR-PAW-0-3        | LPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | High                            |
| LPR-PAW-0-6        | LPR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| LPR-PAW-0-7        | LPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| LPR-PAW-12-1       | LPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Fair              | High                            |
| LPR-PAW-5-1        | LPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| LPR-PAW-7-1-1      | LPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | 0.75-1.2                             | Stone or Timber  | Poor              | High                            |
| LPR-PAW-7-2        | LPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | 0.75-1.2                             | Stone or Timber  | Fair              | High                            |
| LPR-MAS-0-1        | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| LPR-MAS-1-1        | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LPR-PAW-0-4        | LPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LPR-PAW-0-5        | LPR          | Cobbles     | Cobbles      | 10-50 Year       | 0.75-1.2                             | Concrete         | Good              | Low                             |
| LPR-PAW-7-1        | LPR          | Structural  | Cobbles      | <10 Year         | <0.75                                | Concrete         | Good              | Low                             |
| LPR-PAW-7-2-1      | LPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Good              | Low                             |
| LPR-PAW-8-2        | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LPR-PAW-8-3        | LPR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Low                             |
| LPR-PAW-8-4        | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LPR-PAW-8-5        | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LPR-PAW-12-1-1     | LPR          | Structural  | Cobbles      | >50 Year         | <0.75                                | CMP or HDPE      | Poor              | Medium                          |
| LPR-PAW-13-1       | LPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| LPR-PAW-8-6        | LPR          | Structural  | Sand/Gravel  | >50 Year         | 0.75-1.2                             | CMP or HDPE      | Poor              | Medium                          |
| LPR-PAW-9-1        | LPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| LWR-BRU-0-1        | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| LWR-BRU-0-2        | LWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| LWR-BRU-2-1        | LWR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | High                            |
| LWR-BRU-2-2        | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| LWR-BRU-5-2        | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| LWR-BRU-6-1        | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| LWR-CAN-0-1        | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| LWR-CAN-1-1        | LWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| LWR-DIA-0-2        | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| LWR-MOS-0-2        | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| LWR-MOS-0-7        | LWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Poor              | High                            |
| LWR-MOS-4-1        | LWR          | Cobbles     | Cobbles      | 10-50 Year       | <0.75                                | Stone or Timber  | Poor              | High                            |
| LWR-WOR-0-1        | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |

## Bridge and Culvert Geomorphic Vulnerability Rating by Subwatershed

| Structure Name     | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|--------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| LWR-WOR-0-5        | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| LWR-WOR-1-1        | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| LWR-WOR-1-2        | LWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| LWR-WOR-4-1        | LWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| LWR-WOR-4-2        | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| LWR-WOR-5-1        | LWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| LWR-WOR-6-1-1      | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| LWR-WOR-8-1        | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| LWR-WOR-9-2        | LWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| LWR-BRU-0-3        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LWR-BRU-0-4        | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| LWR-BRU-3-2        | LWR          | Cobbles     | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| LWR-BRU-5-1        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| LWR-BRU-5-3        | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| LWR-CAN-0-6        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| LWR-CAN-3-2-1      | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| LWR-CAN-3-2-1-1    | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Low                             |
| LWR-DIA-0-3        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LWR-FOUND-20150625 | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| LWR-FOUND-20150722 | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| LWR-MOS-0-1        | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LWR-MOS-0-10       | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LWR-MOS-0-3        | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LWR-MOS-0-5        | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| LWR-MOS-0-6        | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LWR-MOS-0-8        | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LWR-MOS-3-1        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| LWR-MOS-4-1-1      | LWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Low                             |
| LWR-WOR-0-3        | LWR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Low                             |
| LWR-WOR-0-4        | LWR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Good              | Low                             |
| LWR-BRU-3-1        | LWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| LWR-CAN-0-2        | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| LWR-CAN-0-3        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| LWR-CAN-0-5        | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| LWR-CAN-3-3-1      | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| LWR-DIA-0-1        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| LWR-MOS-0-9        | LWR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Poor              | Medium                          |
| LWR-MOS-2-1        | LWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Good              | Medium                          |
| LWR-WOR-0-2        | LWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| LWR-WOR-2-1        | LWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| LWR-WOR-4-3        | LWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| MPR-ISO-NE         | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| MPR-ISO-SE         | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| MPR-MCG-0-2        | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |

## Bridge and Culvert Geomorphic Vulnerability Rating by Subwatershed

| Structure Name         | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|------------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| MPR-MCG-1-1            | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| MPR-MIL-0-1            | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| MPR-MIL-0-2            | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Stone or Timber  | Poor              | High                            |
| MPR-MIL-1-2            | MPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| MPR-PAW-0-10           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| MPR-PAW-0-11           | MPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| MPR-PAW-0-12           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| MPR-PAW-16-1-1         | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| MPR-PAW-16-2           | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| MPR-PAW-18-1           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| MPR-PAW-18-1-1         | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| MPR-PAW-18-2           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| MPR-PAW-18-3           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| MPR-PAW-23-1-1         | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| MPR-PER-0-3            | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| MPR-POQ-0-1            | MPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| MPR-POQ-1-2            | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| MPR-POQ-1-3            | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| MPR-TOM-0-1            | MPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| MPR-TOM-0-2            | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| MPR-TOM-0-3            | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| MPR-TOM-1-1            | MPR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| MPR-TOM-1-3            | MPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| MPR-TOM-3-4-1          | MPR          | Cobbles     | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| MPR-TOM-FOUND-20150610 | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| MPR-MCG-1-2            | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| MPR-PAW-0-9            | MPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| MPR-PAW-16-1           | MPR          | Structural  | Bedrock      | <10 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| MPR-PAW-17-1           | MPR          | Structural  | Bedrock      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| MPR-PAW-23-1-2         | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| MPR-PAW-24-1           | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| MPR-PAW-FOUND-20150624 | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| MPR-PER-0-1            | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| MPR-PER-3-1-1          | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| MPR-TOM-0-4            | MPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| MPR-TOM-0-7            | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| MPR-TOM-3-2            | MPR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| MPR-TOM-3-5-2          | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| MPR-TYD-0-1            | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| MPR-MCG-0-1            | MPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| MPR-MIL-0-3            | MPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| MPR-PAW-0-13           | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| MPR-PAW-0-8            | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| MPR-PAW-16-6           | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |

## Bridge and Culvert Geomorphic Vulnerability Rating by Subwatershed

| Structure Name     | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|--------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| MPR-PAW-26-2-1     | MPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| MPR-PER-0-2        | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| MPR-TOM-3-1        | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| MPR-TOM-3-1-1      | MPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| MPR-TOM-3-5-1      | MPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| QUR-DUT-0-2        | QUR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | High                            |
| QUR-FIS-0-2        | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| QUR-FIS-0-3        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| QUR-FIS-3-2        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| QUR-FOUND-20150810 | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| QUR-GLE-2-1-1      | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| QUR-GLE-2-2-1      | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| QUR-LOC-0-2        | QUR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| QUR-QFB-0-1        | QUR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| QUR-QFB-0-11       | QUR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | High                            |
| QUR-QFB-2-2        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| QUR-QUR-0-4        | QUR          | Sand/Gravel | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| QUR-QUR-0-5        | QUR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Poor              | High                            |
| QUR-QUR-0-6        | QUR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| QUR-QUR-0-7        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| QUR-QUR-0-8        | QUR          | Sand/Gravel | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | High                            |
| QUR-QUR-0-9        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| QUR-QUR-11-1       | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| QUR-SOD-0-3        | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| QUR-DUT-0-1        | QUR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| QUR-DUT-0-3        | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| QUR-FIS-0-1        | QUR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| QUR-FIS-3-1        | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| QUR-GLE-0-1        | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| QUR-GLE-0-2        | QUR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| QUR-ISO-E          | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| QUR-ISO-M          | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| QUR-LOC-0-1        | QUR          | Structural  | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Good              | Low                             |
| QUR-LOC-0-3        | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| QUR-QFB-0-12       | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| QUR-QFB-2-1        | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| QUR-QUR-6-1        | QUR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Fair              | Low                             |
| QUR-QUR-7-1        | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| QUR-SHE-0-1        | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| QUR-GLE-2-3-1      | QUR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| QUR-ISO-W          | QUR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| QUR-QFB-0-10       | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| QUR-QFB-0-2        | QUR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| QUR-QFB-0-9        | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |

## Bridge and Culvert Geomorphic Vulnerability Rating by Subwatershed

| Structure Name | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|----------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| QUR-QUR-0-3    | QUR          | Cobbles     | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| QUR-QUR-10-1   | QUR          | Structural  | Cobbles      | <10 Year         | <0.75                                | CMP or HDPE      | Good              | Medium                          |
| QUR-QUR-1-1    | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| QUR-SHE-0-2    | QUR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| QUR-SOD-0-1    | QUR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Good              | Medium                          |
| QUR-SOD-0-2    | QUR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| QUR-USQ-0-2    | QUR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| SNR-ASS-0-1    | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| SNR-SHU-0-11   | SNR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Good              | High                            |
| SNR-SHU-0-13   | SNR          | Sand/Gravel | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| SNR-SHU-0-9    | SNR          | Sand/Gravel | Cobbles      | <10 Year         | >1.2                                 | Stone or Timber  | Poor              | High                            |
| SNR-SHU-1-1    | SNR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| SNR-SHU-6-3    | SNR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| SNR-SHU-7-1    | SNR          | Structural  | Cobbles      | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| SNR-SHU-7-1-1  | SNR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| SNR-SHU-7-1-2  | SNR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| SNR-SHU-8-1    | SNR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| SNR-YAW-0-1    | SNR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Poor              | High                            |
| SNR-YAW-0-2    | SNR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| SNR-YAW-1-1    | SNR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| SNR-ASS-0-2    | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| SNR-ASS-1-1    | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| SNR-ASS-5-1    | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| SNR-SHU-0-8    | SNR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Good              | Low                             |
| SNR-SHU-10-1   | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| SNR-SHU-1-2    | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| SNR-SHU-4-1    | SNR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| SNR-SHU-4-3    | SNR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| SNR-SHU-7-2    | SNR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| SNR-ASS-0-3    | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| SNR-ASS-2-1    | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| SNR-ASS-4-1    | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| SNR-PHE-0-1    | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| SNR-SHU-0-1    | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| SNR-SHU-0-12   | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| SNR-SHU-0-5    | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| SNR-SHU-0-6    | SNR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| SNR-SHU-3-1    | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| SNR-SHU-3-2    | SNR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| SNR-SHU-4-1-3  | SNR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| UPR-CED-1-1    | UPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UPR-CED-6-1    | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| UPR-CED-7-1    | UPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| UPR-CED-8-1    | UPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |

## Bridge and Culvert Geomorphic Vulnerability Rating by Subwatershed

| Structure Name       | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|----------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| UPR-FOUND-20150820   | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Good              | High                            |
| UPR-FOUND-20151014-1 | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Stone or Timber  | Good              | High                            |
| UPR-FOUND-20151014-2 | UPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| UPR-FOUND-20151014-3 | UPR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| UPR-FOUND-20151014-6 | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UPR-FOUND-20151015-2 | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| UPR-MEA-0-2          | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UPR-MEA-0-3          | UPR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| UPR-MEA-0-7          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UPR-PAS-0-1          | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UPR-PAS-1-2          | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| UPR-PAW-0-17         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UPR-PAW-0-19         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Stone or Timber  | Fair              | High                            |
| UPR-PAW-0-20         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UPR-PAW-0-21         | UPR          | Sand/Gravel | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | High                            |
| UPR-PAW-0-23         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UPR-PAW-0-24         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UPR-PAW-0-26         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UPR-CED-0-1          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UPR-CED-3-1          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| UPR-MEA-0-4          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UPR-MEA-0-6          | UPR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Low                             |
| UPR-MEA-0-8          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Good              | Low                             |
| UPR-MEA-1-1          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UPR-PAS-0-2          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| UPR-PAW-0-14         | UPR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Low                             |
| UPR-PAW-0-15         | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UPR-PAW-0-16         | UPR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Low                             |
| UPR-PAW-0-18         | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UPR-PAW-0-22         | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| UPR-TNY-0-1          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UPR-WEB-0-1          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UPR-CED-0-2          | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| UPR-FOUND-20151014-4 | UPR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| UPR-FOUND-20151014-5 | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Good              | Medium                          |
| UPR-FOUND-20151015-1 | UPR          | Structural  | Cobbles      | <10 Year         | <0.75                                | Concrete         | Fair              | Medium                          |
| UPR-MEA-0-5          | UPR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| UPR-MEA-2-1          | UPR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| UPR-PAW-0-25         | UPR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| UWR-BRE-0-1          | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UWR-BRE-0-5          | UWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Fair              | High                            |
| UWR-CAR-0-1          | UWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| UWR-CAR-0-5          | UWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Good              | High                            |
| UWR-CON-0-1          | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |

## Bridge and Culvert Geomorphic Vulnerability Rating by Subwatershed

| Structure Name     | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|--------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| UWR-CON-0-2        | UWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UWR-FAC-1-1        | UWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UWR-FLA-0-1        | UWR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Good              | High                            |
| UWR-FLA-0-2        | UWR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Good              | High                            |
| UWR-FOUND-20150603 | UWR          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Stone or Timber  | Poor              | High                            |
| UWR-KEL-0-3        | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | High                            |
| UWR-KEL-0-4        | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UWR-PHI-0-1        | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UWR-PHI-1-1        | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UWR-WOR-0-11       | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UWR-WOR-0-12       | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UWR-WOR-0-13       | UWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UWR-WOR-0-14       | UWR          | Structural  | Cobbles      | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| UWR-WOR-0-18       | UWR          | Cobbles     | Cobbles      | <10 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UWR-WOR-0-19       | UWR          | Cobbles     | Cobbles      | 10-50 Year       | <0.75                                | Stone or Timber  | Poor              | High                            |
| UWR-WOR-0-20       | UWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| UWR-WOR-0-9        | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Fair              | High                            |
| UWR-WOR-13-1       | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UWR-WOR-17-1       | UWR          | Sand/Gravel | Sand/Gravel  | <10 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| UWR-WOR-18-1       | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| UWR-WOR-18-2       | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| UWR-WOR-18-3       | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| UWR-WOR-18-4       | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Stone or Timber  | Poor              | High                            |
| UWR-WOR-19-2       | UWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Poor              | High                            |
| UWR-WOR-19-3       | UWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Fair              | High                            |
| UWR-WOR-24-2       | UWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| UWR-WOR-25-2       | UWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| UWR-BAK-0-2        | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UWR-BRE-0-4        | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| UWR-FAC-0-1        | UWR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Good              | Low                             |
| UWR-KEL-0-1        | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UWR-ROA-0-1        | UWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UWR-ROA-0-2        | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UWR-ROA-0-3        | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| UWR-ROA-0-5        | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| UWR-WOR-0-7        | UWR          | Cobbles     | Cobbles      | >50 Year         | 0.75-1.2                             | Stone or Timber  | Good              | Low                             |
| UWR-WOR-12-2       | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UWR-WOR-14-1       | UWR          | Structural  | Cobbles      | 10-50 Year       | <0.75                                | Concrete         | Fair              | Low                             |
| UWR-WOR-14-5       | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| UWR-WOR-17-2       | UWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UWR-WOR-18-1-1     | UWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| UWR-WOR-18-1-1-1   | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| UWR-WOR-18-5       | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| UWR-WOR-22-2       | UWR          | Structural  | Cobbles      | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Low                             |

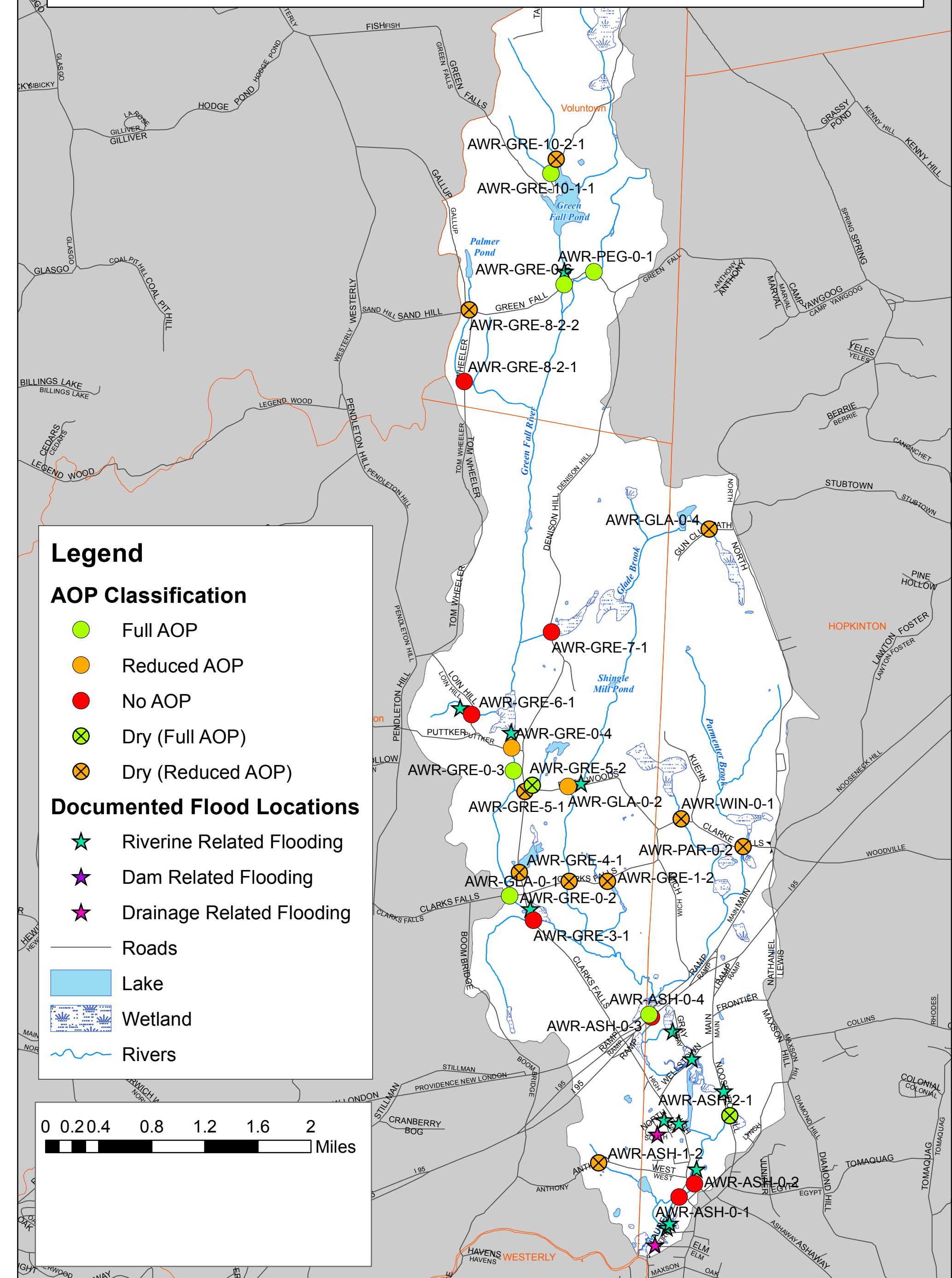
## Bridge and Culvert Geomorphic Vulnerability Rating by Subwatershed

| Structure Name     | Subwatershed | Invert      | Bed Material | Culvert Capacity | Culvert Width/Channel Bankfull Width | Culvert Material | Culvert Condition | Geomorphic Vulnerability Rating |
|--------------------|--------------|-------------|--------------|------------------|--------------------------------------|------------------|-------------------|---------------------------------|
| UWR-BAK-0-1        | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| UWR-BRE-0-3        | UWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | CMP or HDPE      | Good              | Medium                          |
| UWR-BRE-1-3        | UWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| UWR-FAC-2-1        | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | Medium                          |
| UWR-KEL-0-2        | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| UWR-PHI-0-2        | UWR          | Structural  | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | Medium                          |
| UWR-ROA-0-4        | UWR          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| UWR-WOR-0-10       | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | 0.75-1.2                             | Concrete         | Fair              | Medium                          |
| UWR-WOR-0-6        | UWR          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Poor              | Medium                          |
| UWR-WOR-0-8        | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| UWR-WOR-12-1       | UWR          | Sand/Gravel | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| UWR-WOR-14-4       | UWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| UWR-WOR-18-4-1     | UWR          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | Concrete         | Good              | Medium                          |
| WPB-FOUND-20150812 | WPB          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| WPB-HET-0-2        | WPB          | Structural  | Cobbles      | <10 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| WPB-PHB-0-1        | WPB          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Poor              | High                            |
| WPB-PHB-0-3        | WPB          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | CMP or HDPE      | Fair              | High                            |
| WPB-PHB-0-5        | WPB          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Good              | High                            |
| WPB-PHB-1-1        | WPB          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| WPB-PHB-3-2        | WPB          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| WPB-WAY-0-2        | WPB          | Sand/Gravel | Sand/Gravel  | 10-50 Year       | <0.75                                | Concrete         | Fair              | High                            |
| WPB-WAY-0-4        | WPB          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| WPB-WAY-0-6        | WPB          | Structural  | Sand/Gravel  | <10 Year         | <0.75                                | CMP or HDPE      | Poor              | High                            |
| WPB-PHB-3-1        | WPB          | Structural  | Sand/Gravel  | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |
| WPB-WAY-0-1        | WPB          | Cobbles     | Cobbles      | >50 Year         | <0.75                                | Concrete         | Good              | Low                             |
| WPB-WAY-4-1        | WPB          | Structural  | Cobbles      | >50 Year         | <0.75                                | Concrete         | Fair              | Low                             |

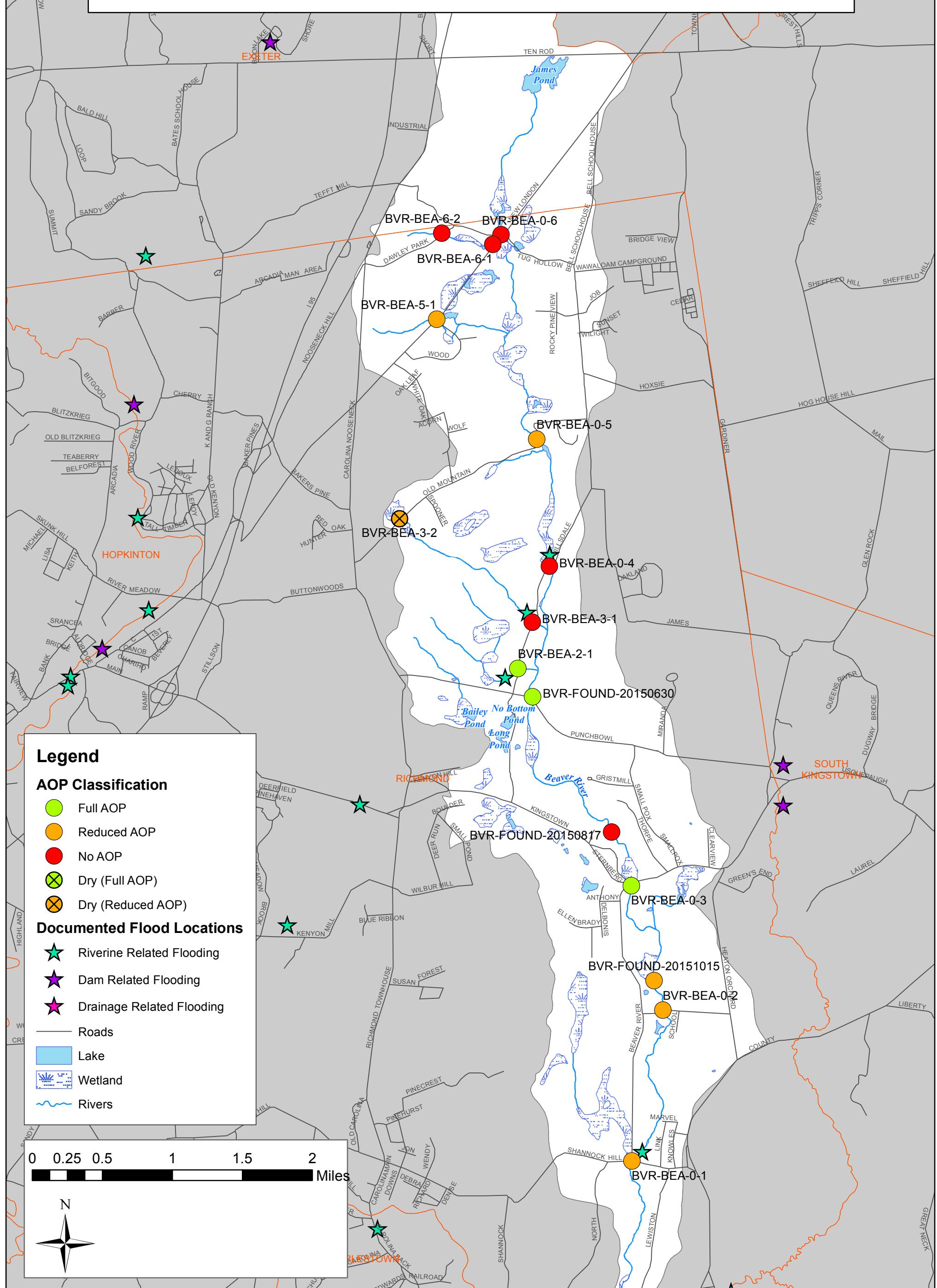
## Appendix E

### Culverts/Bridges - Subwatershed AOP Classification Maps and Summary Tables

# Ashaway River Subwatershed Aquatic Organism Passage (AOP) Classification



# Beaver River Subwatershed Aquatic Organism Passage (AOP) Classification



# Chickasheen River Subwatershed Aquatic Organism Passage (AOP)

## Legend

## AOP Classification

-  Full AOP
  -  Reduced AOP
  -  No AOP
  -  Dry (Full AOP)
  -  Dry (Reduced AOP)

## **Documented Flood Locations**

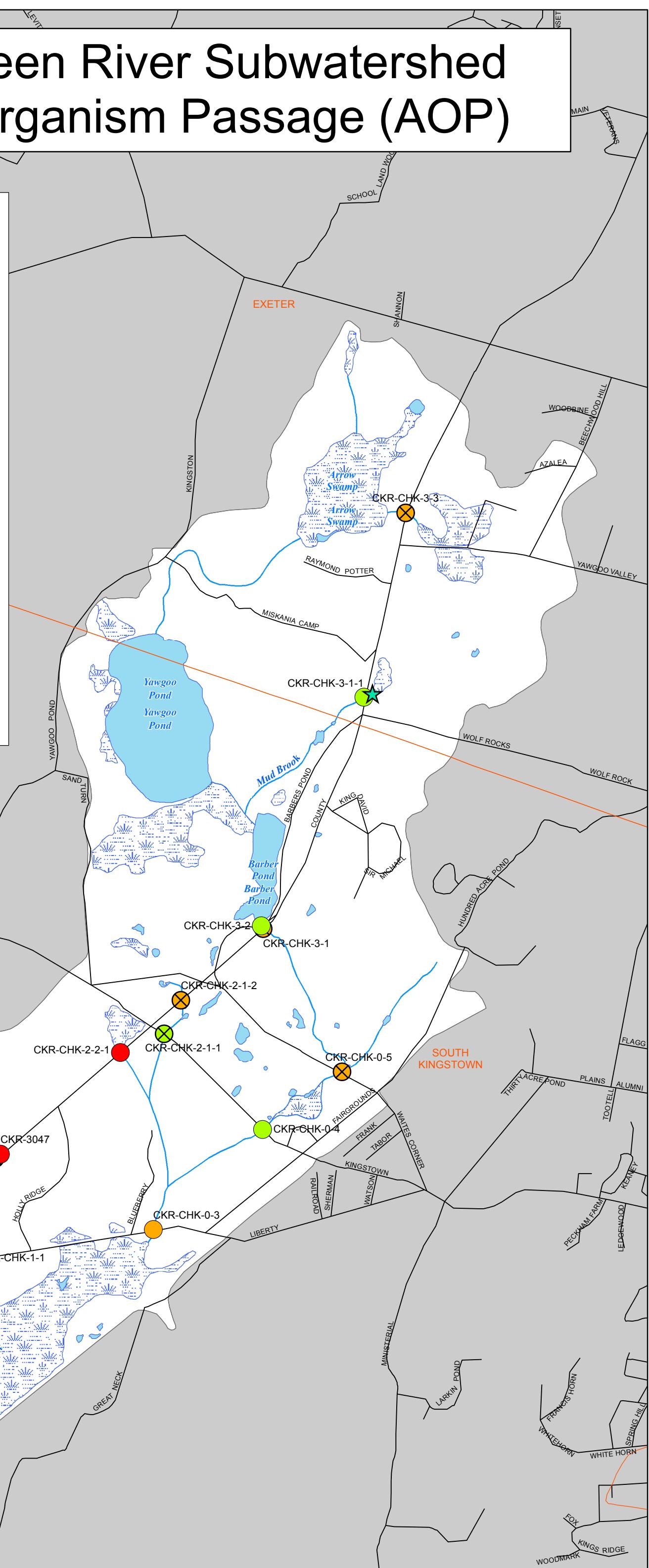
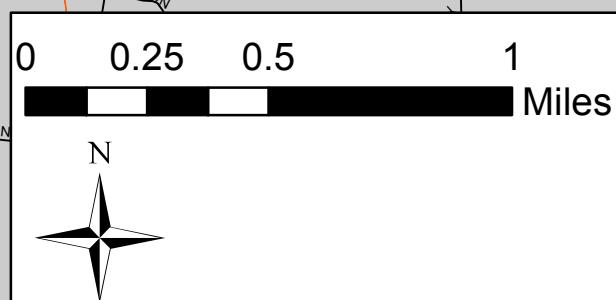
- ★ Riverine Related Flooding
  - ★ Dam Related Flooding
  - ★ Drainage Related Flooding

— Roads

Lake

 Wetland

# Rivers



# Chipuxet River Subwatershed Aquatic Organism Passage (AOP) Classification

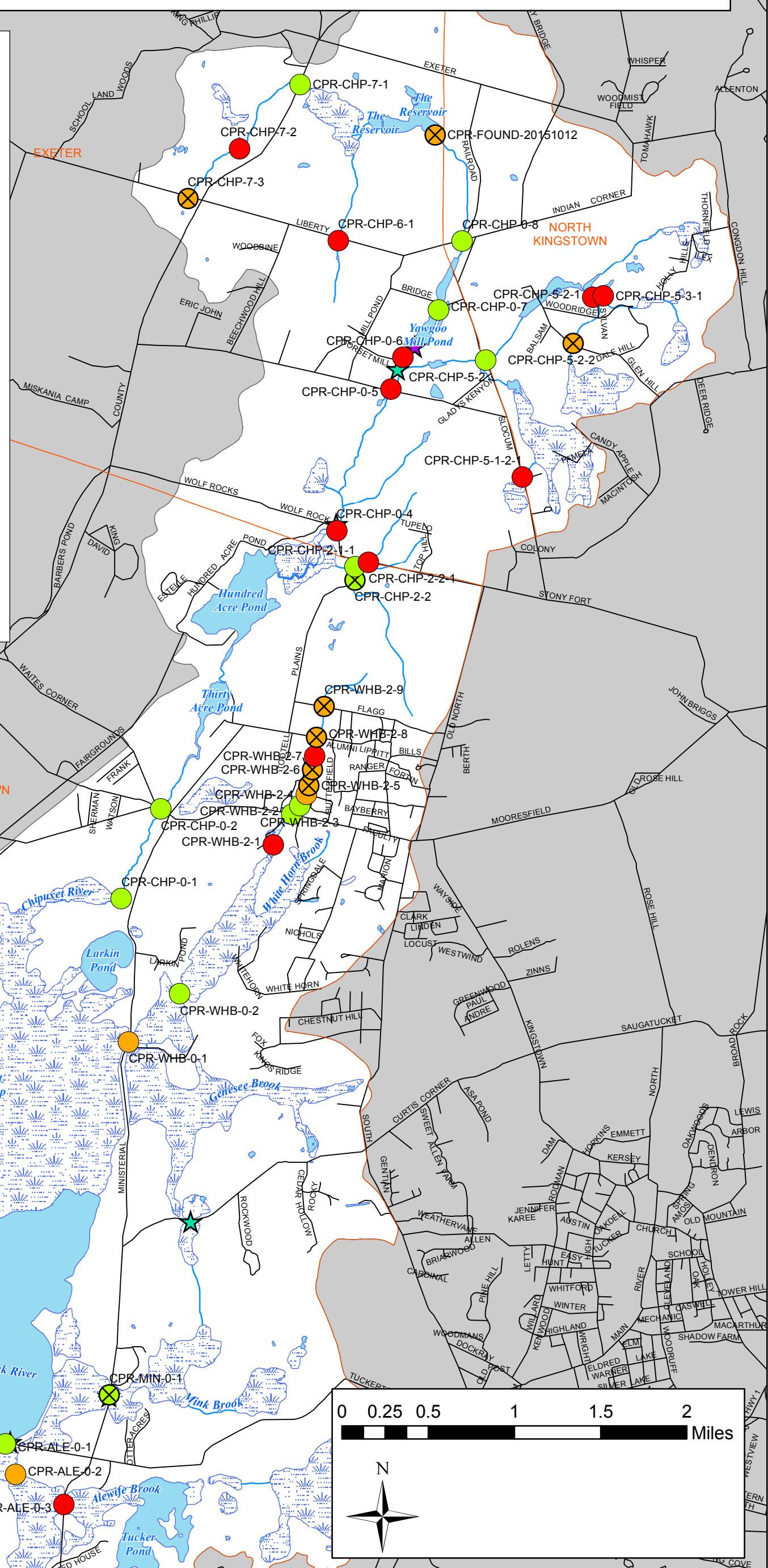
## Legend

### AOP Classification

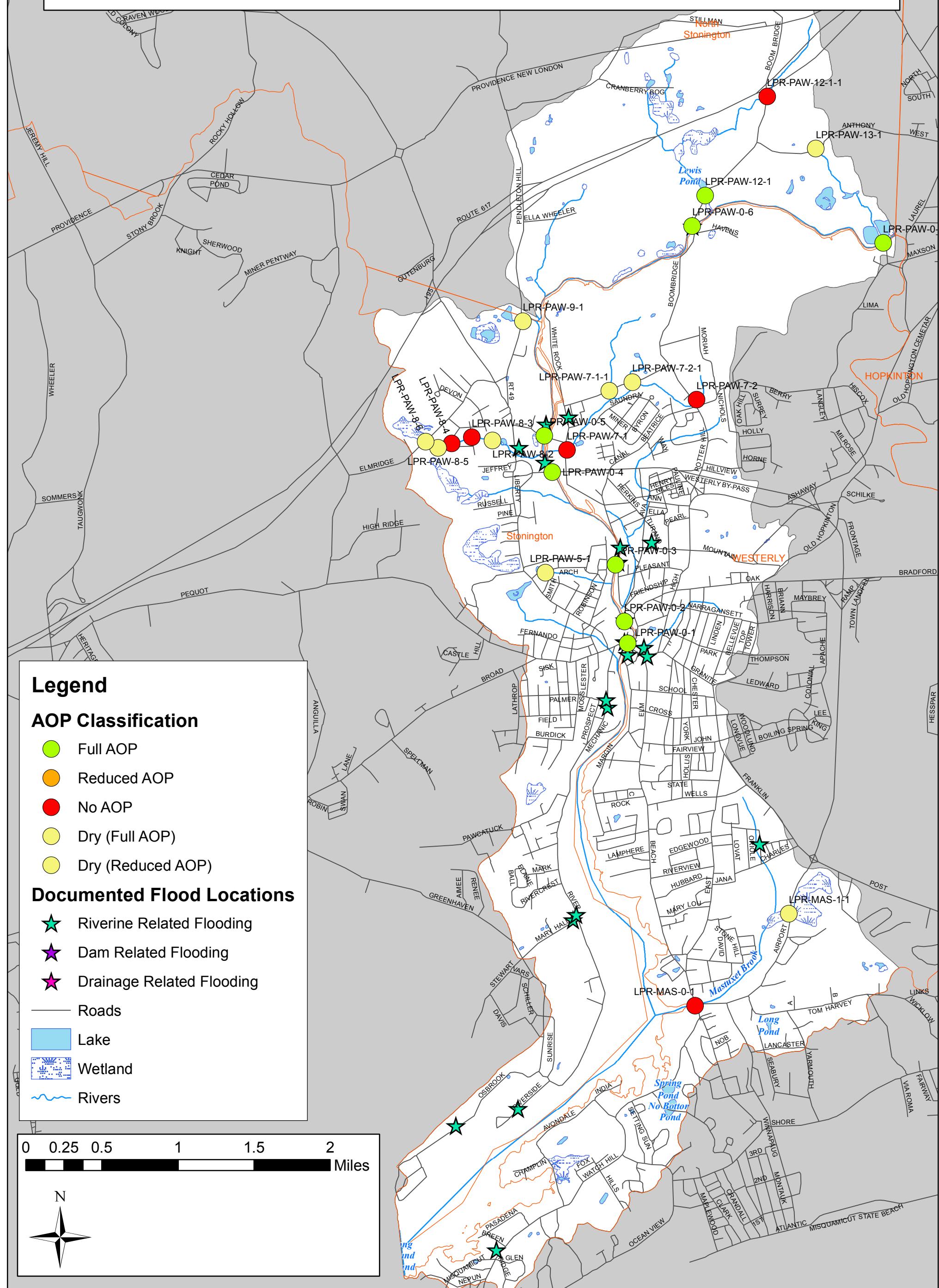
- Full AOP
- Reduced AOP
- No AOP
- Dry (Full AOP)
- Dry (Reduced AOP)

### Documented Flood Locations

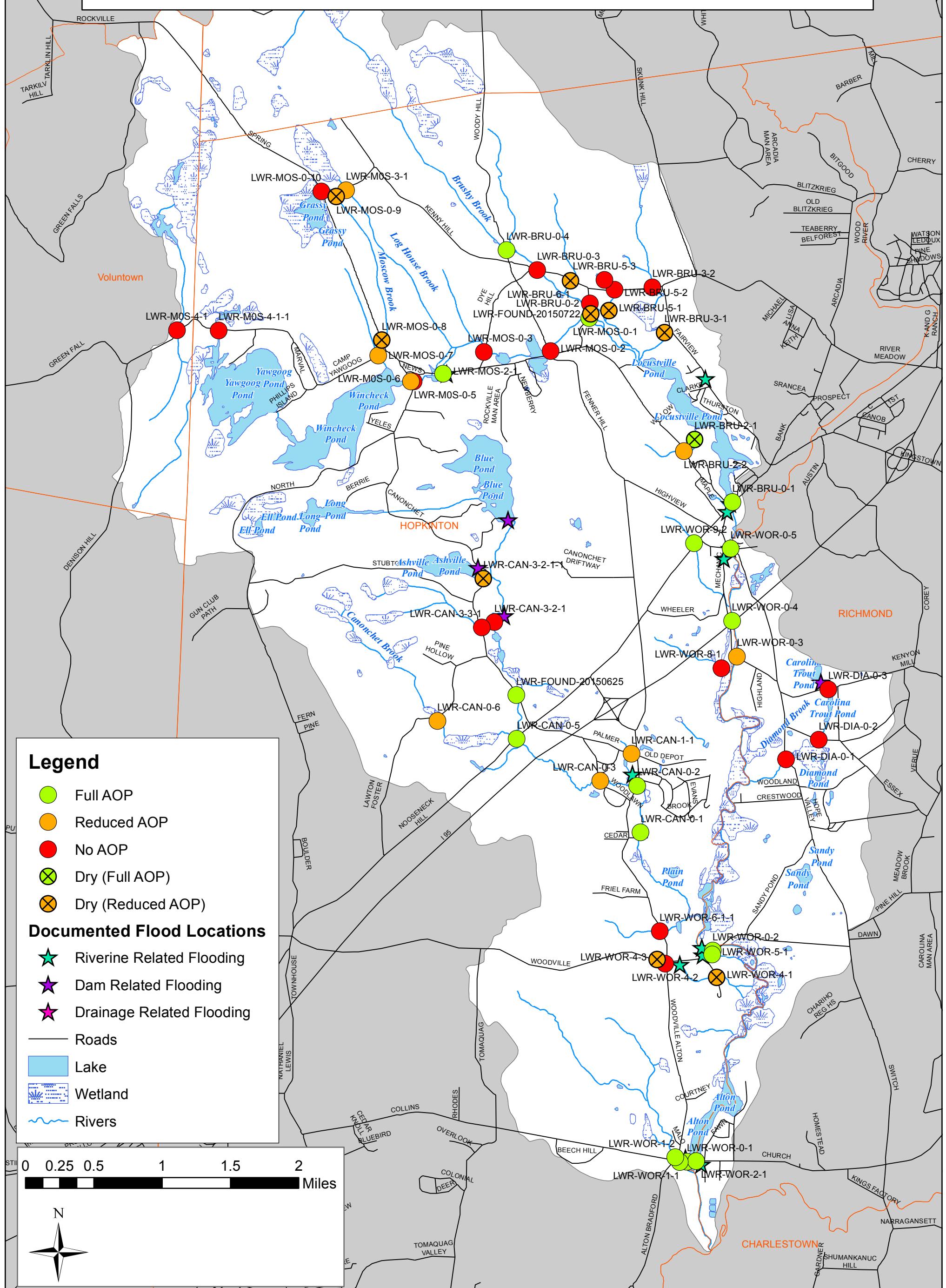
- ★ Riverine Related Flooding
  - ★ Dam Related Flooding
  - ★ Drainage Related Flooding
- Roads  
 Lake  
 Wetland  
 Rivers



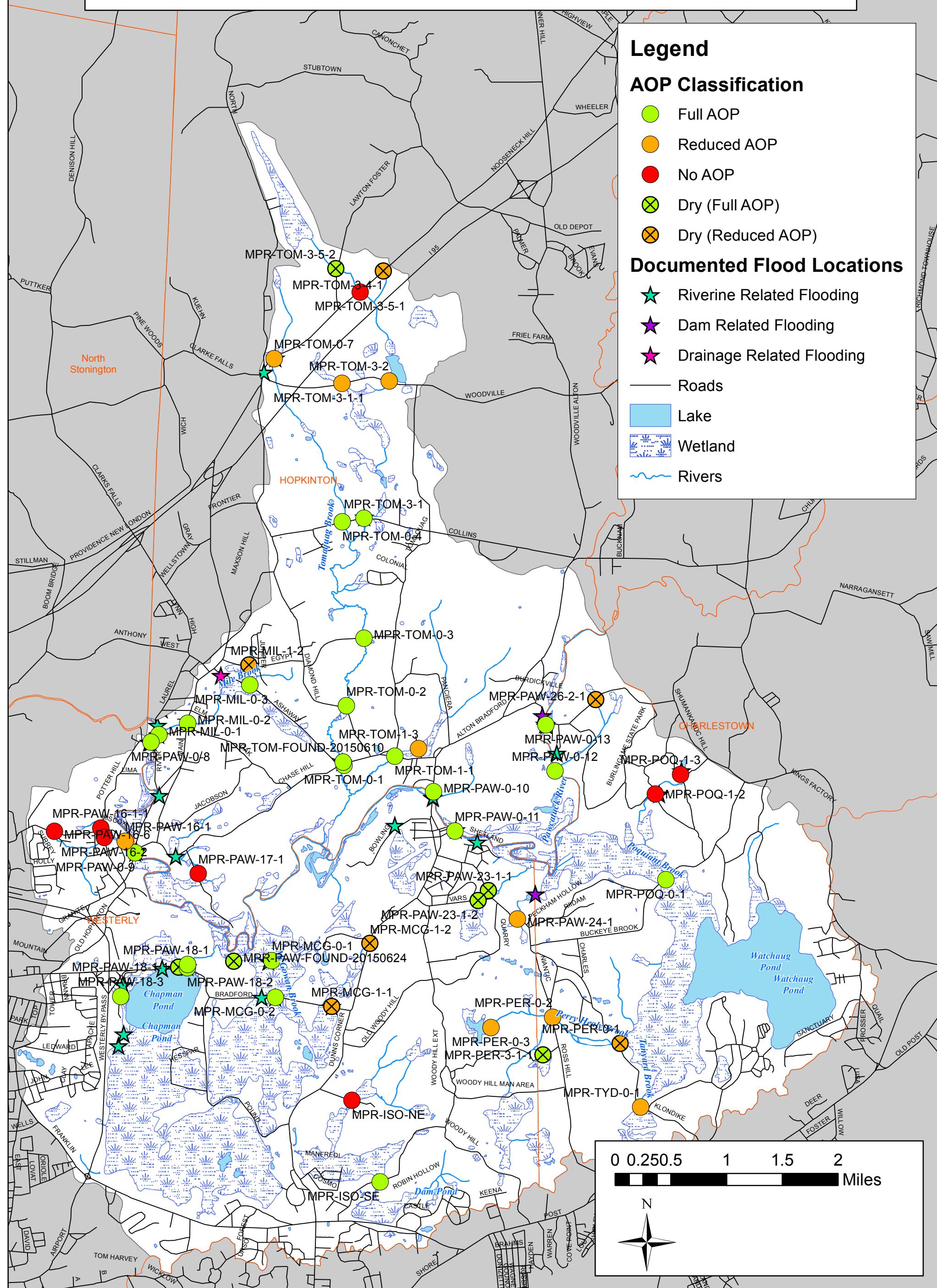
# Lower Pawcatuck River Subwatershed Aquatic Organism Passage (AOP) Classification



# Lower Wood River Subwatershed Aquatic Organism Passage (AOP) Classification



# Middle Pawcatuck River Subwatershed Aquatic Organism Passage (AOP) Classification



# Shunock River Watershed Aquatic Organism Passage (AOP) Classification

## Legend

### AOP Classification

- Full AOP
- Reduced AOP
- No AOP
- ✖ Dry (Full AOP)
- ✖ Dry (Reduced AOP)

### Documented Flood Locations

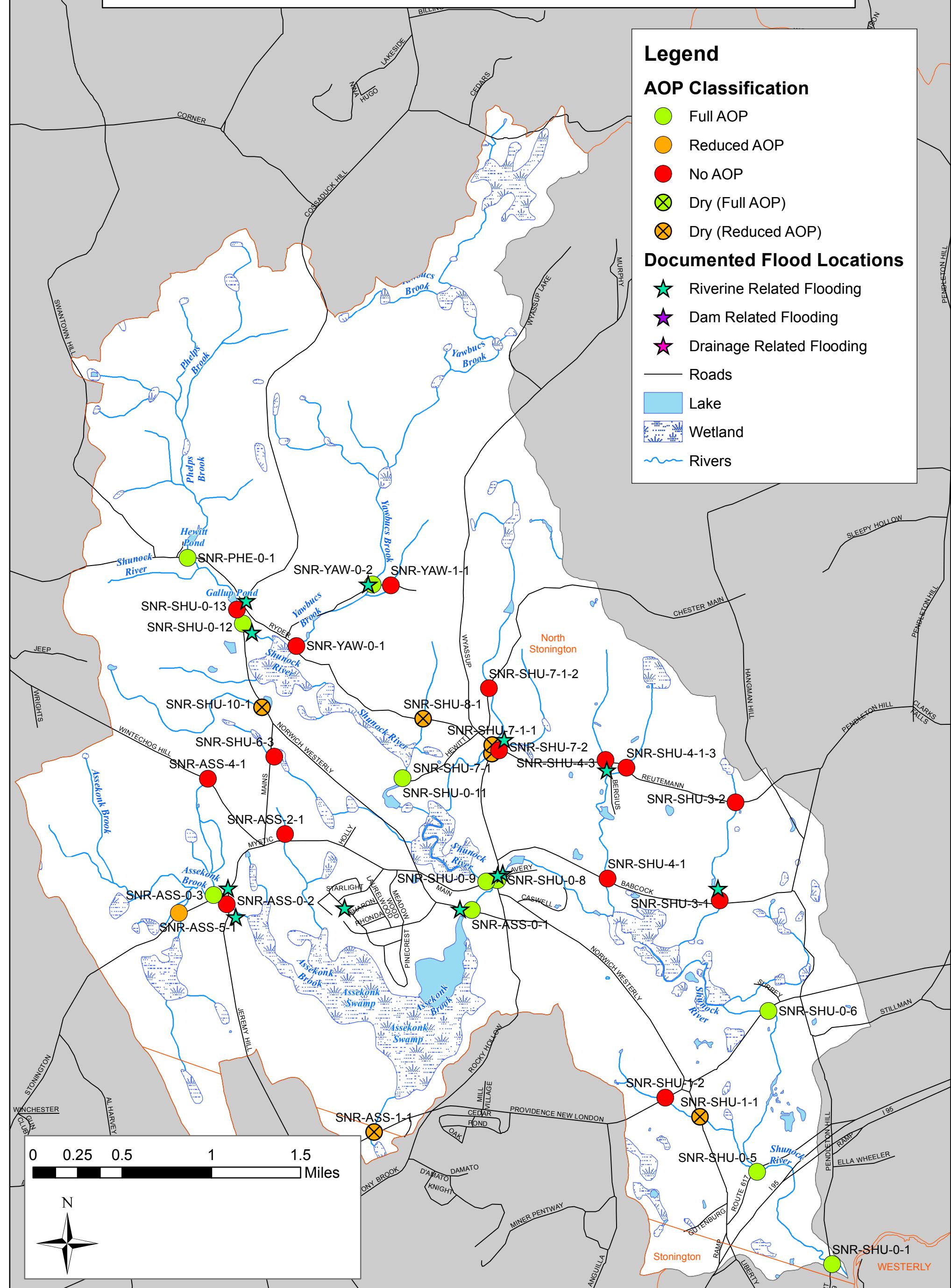
- ★ Riverine Related Flooding
- ★ Dam Related Flooding
- ★ Drainage Related Flooding

— Roads

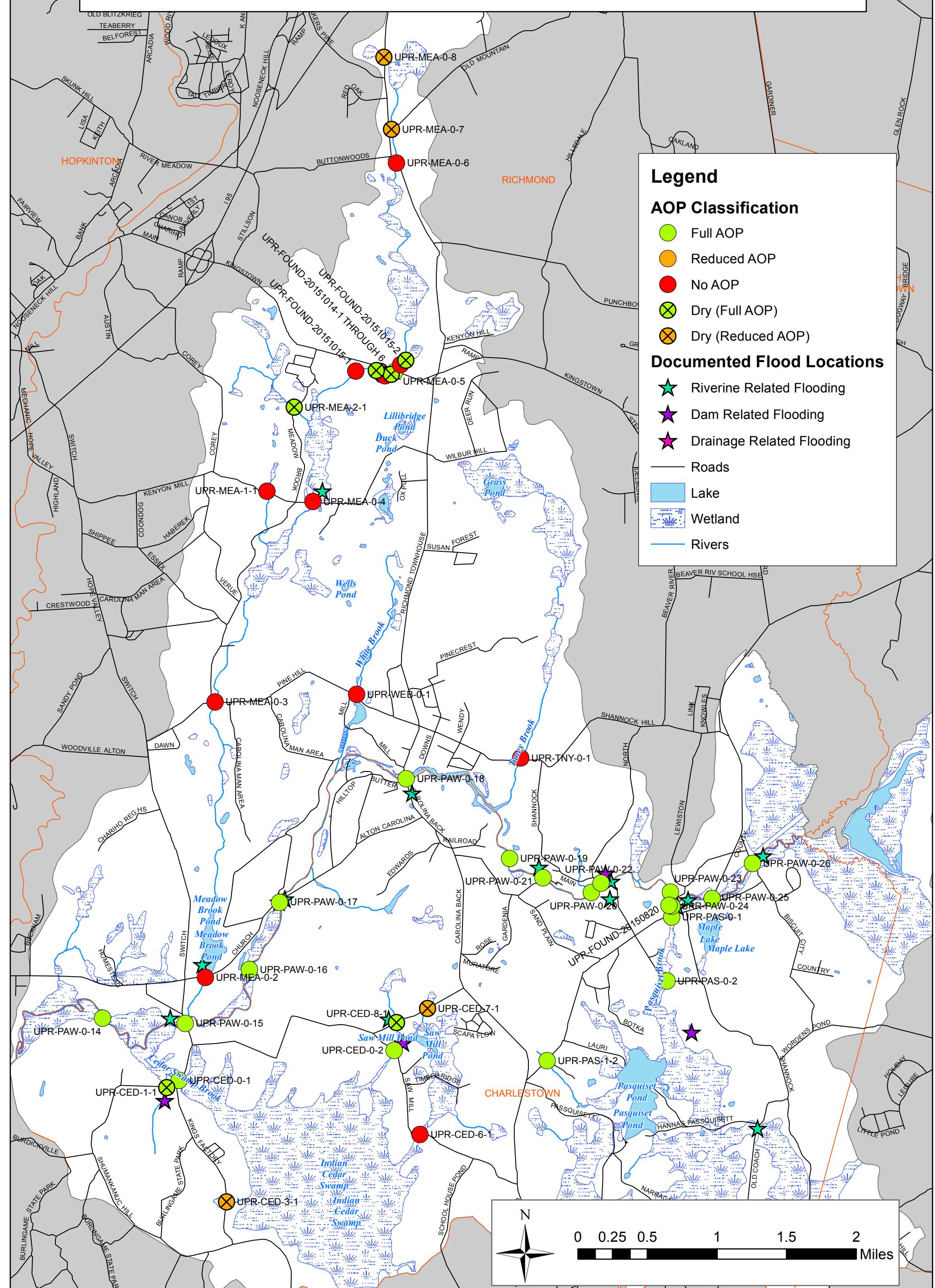
■ Lake

■ Wetland

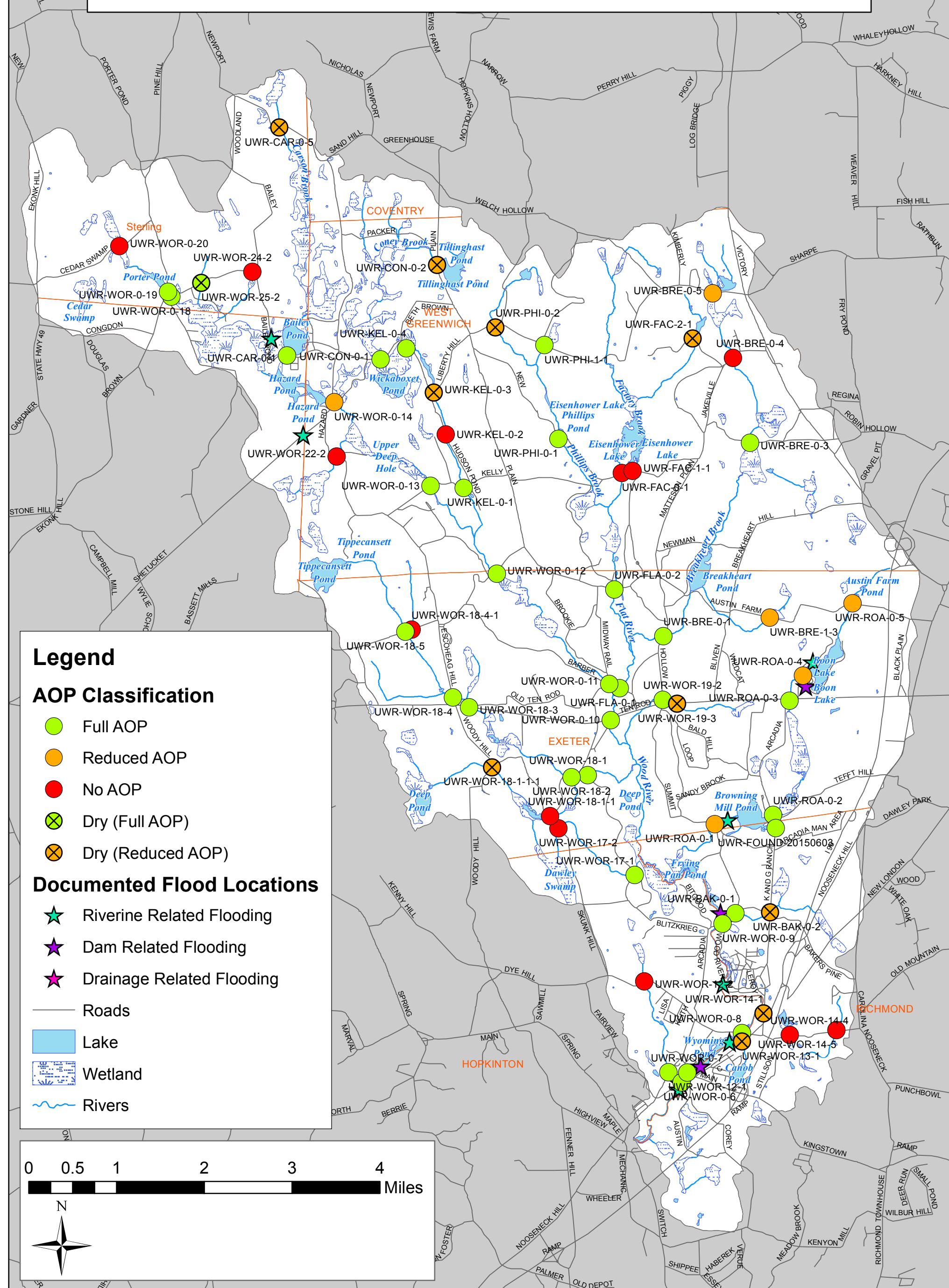
— Rivers



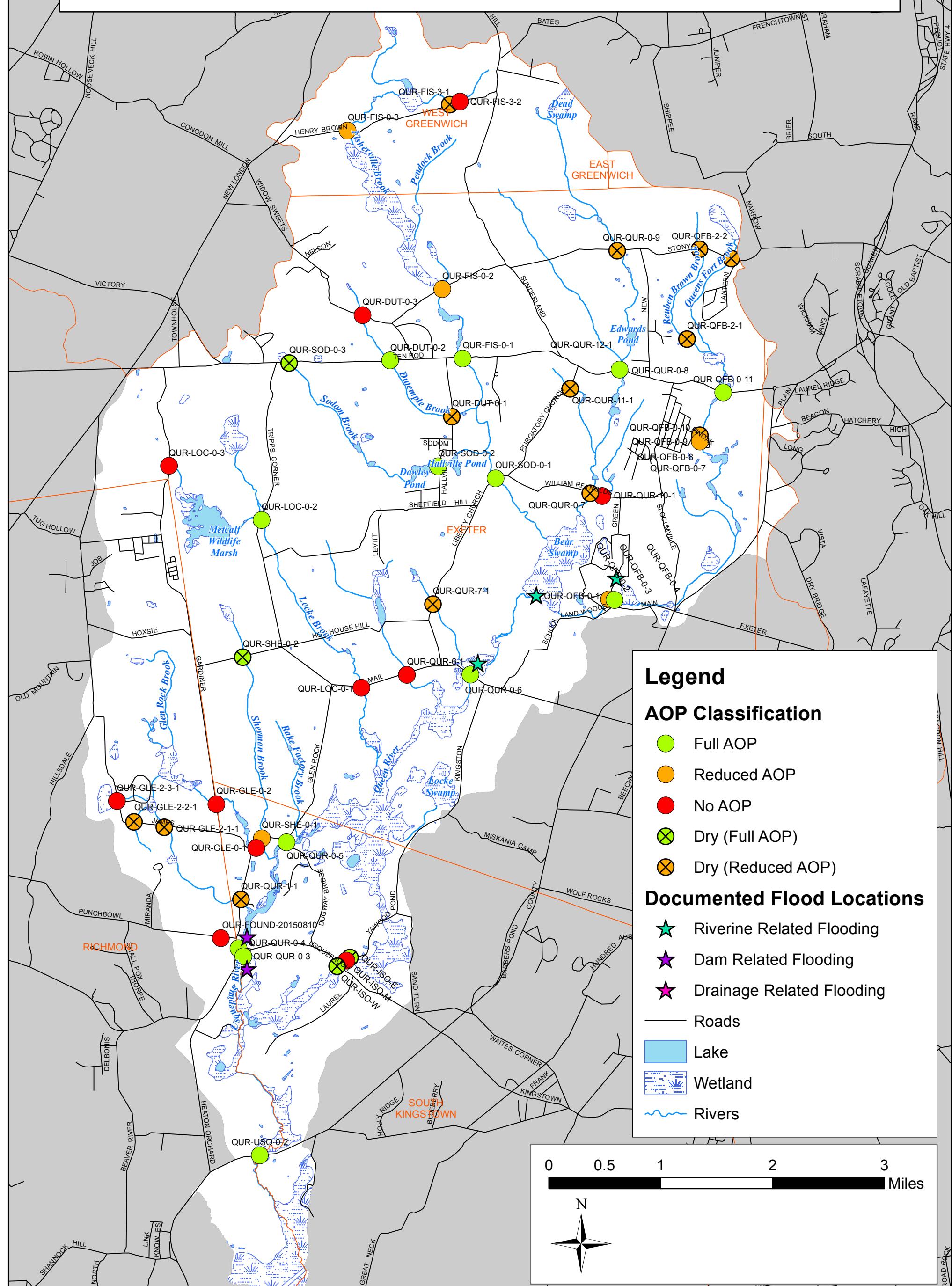
# Upper Pawcatuck River Subwatershed Aquatic Organism Passage (AOP) Classification



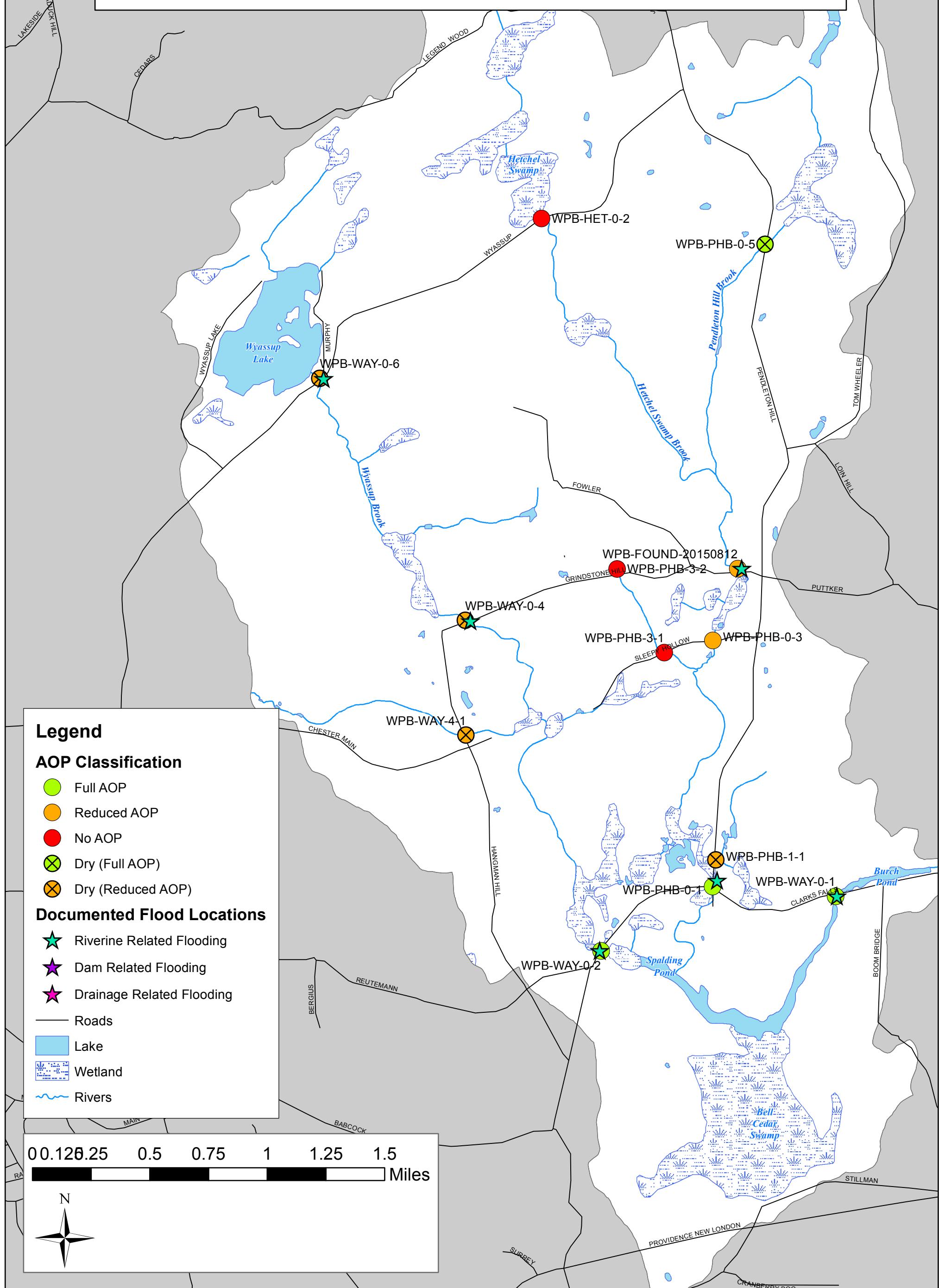
# Upper Wood River Subwatershed Aquatic Organism Passage (AOP) Classification



# Usquepaug River Subwatershed Aquatic Organism Passage (AOP) Classification



# Wayassup Brook Subwatershed Aquatic Organism Passage (AOP) Classification



## Aquatic Organism Passage (AOP) Classification By Subwatershed

| Structure Name     | Inlet Grade  | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|--------------------|--------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| AWR-ASH-0-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| AWR-ASH-0-2        | Drop/Perched | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| AWR-ASH-0-3        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| AWR-ASH-0-4        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| AWR-ASH-1-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| AWR-ASH-2-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| AWR-GLA-0-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| AWR-GLA-0-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| AWR-GLA-0-4        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| AWR-GRE-0-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| AWR-GRE-0-3        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| AWR-GRE-0-4        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| AWR-GRE-0-6        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| AWR-GRE-10-1-1     | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| AWR-GRE-10-2-1     | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| AWR-GRE-1-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | Dry (Reduced AOP)  |
| AWR-GRE-3-1        | At Grade     | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| AWR-GRE-4-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| AWR-GRE-5-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| AWR-GRE-5-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| AWR-GRE-6-1        | At Grade     | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| AWR-GRE-7-1        | At Grade     | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| AWR-GRE-8-2-1      | At Grade     | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| AWR-GRE-8-2-2      | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| AWR-PAR-0-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| AWR-PEG-0-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| AWR-WIN-0-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| BVR-BEA-0-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| BVR-BEA-0-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| BVR-BEA-0-3        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| BVR-BEA-0-4        | At Grade     | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| BVR-BEA-0-5        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| BVR-BEA-0-6        | At Grade     | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| BVR-BEA-2-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| BVR-BEA-3-1        | At Grade     | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| BVR-BEA-3-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| BVR-BEA-5-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| BVR-BEA-6-1        | At Grade     | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| BVR-BEA-6-2        | At Grade     | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| BVR-FOUND-20150630 | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| BVR-FOUND-20150817 | At Grade     | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| BVR-FOUND-20151015 | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |

## Aquatic Organism Passage (AOP) Classification By Subwatershed

| Structure Name     | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|--------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| CKR-3047           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| CKR-3049           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| CKR-3071           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| CKR-3192           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| CKR-3243           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| CKR-3351           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| CKR-CHK-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| CKR-CHK-0-4        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CKR-CHK-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| CKR-CHK-1-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| CKR-CHK-1-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| CKR-CHK-2-1-1      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CKR-CHK-2-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| CKR-CHK-2-2-1      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| CKR-CHK-3-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| CKR-CHK-3-1-1      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CKR-CHK-3-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CKR-CHK-3-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| CPR-ALE-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-ALE-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| CPR-ALE-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| CPR-CHP-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-CHP-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-CHP-0-4        | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| CPR-CHP-0-5        | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| CPR-CHP-0-6        | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| CPR-CHP-0-7        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-CHP-0-8        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-CHP-2-1-1      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-CHP-2-1-2      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| CPR-CHP-2-2-1      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| CPR-CHP-5-1-2-1    | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| CPR-CHP-5-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-CHP-5-2-1      | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| CPR-CHP-5-2-2      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| CPR-CHP-5-3-1      | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| CPR-CHP-6-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| CPR-CHP-7-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-CHP-7-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| CPR-CHP-7-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| CPR-FOUND-20151012 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| CPR-MIN-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |

## Aquatic Organism Passage (AOP) Classification By Subwatershed

| Structure Name | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|----------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| CPR-WHB-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| CPR-WHB-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-WHB-2-1    | At Grade    | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | No AOP             |
| CPR-WHB-2-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-WHB-2-3    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| CPR-WHB-2-4    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| CPR-WHB-2-5    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| CPR-WHB-2-6    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| CPR-WHB-2-7    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| CPR-WHB-2-8    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| CPR-WHB-2-9    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| LPR-MAS-0-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| LPR-MAS-1-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| LPR-PAW-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LPR-PAW-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LPR-PAW-0-3    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LPR-PAW-0-4    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LPR-PAW-0-5    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LPR-PAW-0-6    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LPR-PAW-0-7    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LPR-PAW-12-1   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LPR-PAW-12-1-1 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| LPR-PAW-13-1   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| LPR-PAW-5-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| LPR-PAW-7-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| LPR-PAW-7-1-1  | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| LPR-PAW-7-2    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| LPR-PAW-7-2-1  | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| LPR-PAW-8-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| LPR-PAW-8-3    | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| LPR-PAW-8-4    | At Grade    | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| LPR-PAW-8-5    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| LPR-PAW-8-6    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| LPR-PAW-9-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| LWR-BRU-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-BRU-0-2    | At Grade    | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | No AOP             |
| LWR-BRU-0-3    | At Grade    | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| LWR-BRU-0-4    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-BRU-2-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| LWR-BRU-2-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| LWR-BRU-3-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| LWR-BRU-3-2    | At Grade    | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |

## Aquatic Organism Passage (AOP) Classification By Subwatershed

| Structure Name     | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|--------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| LWR-BRU-5-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| LWR-BRU-5-2        | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| LWR-BRU-5-3        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| LWR-BRU-6-1        | At Grade    | At Grade          | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | Dry (Reduced AOP)  |
| LWR-CAN-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-CAN-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-CAN-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| LWR-CAN-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-CAN-0-6        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | 100%                         | None                      | Reduced AOP        |
| LWR-CAN-1-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| LWR-CAN-3-2-1      | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| LWR-CAN-3-2-1-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| LWR-CAN-3-3-1      | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| LWR-DIA-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| LWR-DIA-0-2        | At Grade    | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | No AOP             |
| LWR-DIA-0-3        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| LWR-FOUND-20150625 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-FOUND-20150722 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| LWR-MOS-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-MOS-0-10       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| LWR-MOS-0-2        | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| LWR-MOS-0-3        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| LWR-MOS-0-5        | At Grade    | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| LWR-MOS-0-6        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| LWR-MOS-0-7        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| LWR-MOS-0-8        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| LWR-MOS-0-9        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| LWR-MOS-2-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-MOS-3-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| LWR-MOS-4-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| LWR-MOS-4-1-1      | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| LWR-WOR-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| LWR-WOR-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-WOR-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| LWR-WOR-0-4        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-WOR-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-WOR-1-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-WOR-1-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-WOR-2-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| LWR-WOR-4-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| LWR-WOR-4-2        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| LWR-WOR-4-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| LWR-WOR-5-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |

## Aquatic Organism Passage (AOP) Classification By Subwatershed

| Structure Name         | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|------------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| LWR-WOR-6-1-1          | At Grade    | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| LWR-WOR-8-1            | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| LWR-WOR-9-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-ISO-NE             | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| MPR-ISO-SE             | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-MCG-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-MCG-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-MCG-1-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| MPR-MCG-1-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| MPR-MIL-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-MIL-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-MIL-0-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-MIL-1-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| MPR-PAW-0-10           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-PAW-0-11           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-PAW-0-12           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-PAW-0-13           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-PAW-0-8            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-PAW-0-9            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-PAW-16-1           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | Reduced AOP        |
| MPR-PAW-16-1-1         | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| MPR-PAW-16-2           | At Grade    | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| MPR-PAW-16-6           | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | No AOP             |
| MPR-PAW-17-1           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| MPR-PAW-18-1           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-PAW-18-1-1         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| MPR-PAW-18-2           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-PAW-18-3           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-PAW-23-1-1         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| MPR-PAW-23-1-2         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| MPR-PAW-24-1           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| MPR-PAW-26-2-1         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| MPR-PAW-FOUND-20150624 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| MPR-PER-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| MPR-PER-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| MPR-PER-0-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| MPR-PER-3-1-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| MPR-POQ-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-POQ-1-2            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | No AOP             |
| MPR-POQ-1-3            | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | No AOP             |
| MPR-TOM-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-TOM-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |

## Aquatic Organism Passage (AOP) Classification By Subwatershed

| Structure Name         | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|------------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| MPR-TOM-0-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-TOM-0-4            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-TOM-0-7            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| MPR-TOM-1-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-TOM-1-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | Reduced AOP        |
| MPR-TOM-3-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-TOM-3-1-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| MPR-TOM-3-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| MPR-TOM-3-4-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| MPR-TOM-3-5-1          | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| MPR-TOM-3-5-2          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| MPR-TOM-FOUND-20150610 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| MPR-TYD-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| QUR-DUT-0-1            | At Grade    | At Grade          | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-DUT-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-DUT-0-3            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | No AOP             |
| QUR-FIS-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-FIS-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | 100%                         | None                      | Reduced AOP        |
| QUR-FIS-0-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| QUR-FIS-3-1            | At Grade    | At Grade          | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-FIS-3-2            | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| QUR-FOUND-20150810     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| QUR-GLE-0-1            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | No AOP             |
| QUR-GLE-0-2            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| QUR-GLE-2-1-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| QUR-GLE-2-2-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-GLE-2-3-1          | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| QUR-ISO-E              | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| QUR-ISO-M              | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| QUR-ISO-W              | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| QUR-LOC-0-1            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| QUR-LOC-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-LOC-0-3            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| QUR-QFB-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| QUR-QFB-0-10           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-QFB-0-11           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-QFB-0-12           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-QFB-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-QFB-0-9            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| QUR-QFB-2-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-QFB-2-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-QUR-0-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |

## Aquatic Organism Passage (AOP) Classification By Subwatershed

| Structure Name | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|----------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| QUR-QUR-0-4    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-QUR-0-5    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-QUR-0-6    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-QUR-0-7    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-QUR-0-8    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-QUR-0-9    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-QUR-10-1   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-QUR-1-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| QUR-QUR-11-1   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-QUR-6-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| QUR-QUR-7-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| QUR-SHE-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| QUR-SHE-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| QUR-SOD-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-SOD-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| QUR-SOD-0-3    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| QUR-USQ-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-ASS-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-ASS-0-2    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| SNR-ASS-0-3    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-ASS-1-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| SNR-ASS-2-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| SNR-ASS-4-1    | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| SNR-ASS-5-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| SNR-PHE-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-SHU-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-SHU-0-11   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-SHU-0-12   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-SHU-0-13   | At Grade    | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| SNR-SHU-0-5    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-SHU-0-6    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-SHU-0-8    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-SHU-0-9    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-SHU-10-1   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| SNR-SHU-1-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| SNR-SHU-1-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| SNR-SHU-3-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| SNR-SHU-3-2    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| SNR-SHU-4-1    | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| SNR-SHU-4-1-3  | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| SNR-SHU-4-3    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| SNR-SHU-6-3    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |

## Aquatic Organism Passage (AOP) Classification By Subwatershed

| Structure Name       | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|----------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| SNR-SHU-7-1          | At Grade    | At Grade          | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| SNR-SHU-7-1-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| SNR-SHU-7-1-2        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| SNR-SHU-7-2          | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| SNR-SHU-8-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| SNR-YAW-0-1          | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| SNR-YAW-0-2          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| SNR-YAW-1-1          | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | No AOP             |
| UPR-CED-0-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-CED-0-2          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-CED-1-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| UPR-CED-3-1          | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UPR-CED-6-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| UPR-CED-7-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| UPR-CED-8-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| UPR-FOUND-20150820   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-FOUND-20151014-1 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| UPR-FOUND-20151014-2 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| UPR-FOUND-20151014-3 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| UPR-FOUND-20151014-4 | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| UPR-FOUND-20151014-5 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| UPR-FOUND-20151014-6 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| UPR-FOUND-20151015-1 | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UPR-FOUND-20151015-2 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| UPR-MEA-0-2          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| UPR-MEA-0-3          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| UPR-MEA-0-4          | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UPR-MEA-0-5          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-MEA-0-6          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| UPR-MEA-0-7          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| UPR-MEA-0-8          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| UPR-MEA-1-1          | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| UPR-MEA-2-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| UPR-PAS-0-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAS-0-2          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAS-1-2          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-14         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-15         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-16         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-17         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-18         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-19         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |

## Aquatic Organism Passage (AOP) Classification By Subwatershed

| Structure Name     | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|--------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| UPR-PAW-0-20       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-21       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-22       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-23       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-24       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-25       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-PAW-0-26       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UPR-TNY-0-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| UPR-WEB-0-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UWR-BAK-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-BAK-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| UWR-BRE-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-BRE-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-BRE-0-4        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UWR-BRE-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| UWR-BRE-1-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | Reduced AOP        |
| UWR-CAR-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-CAR-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| UWR-CON-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-CON-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| UWR-FAC-0-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UWR-FAC-1-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| UWR-FAC-2-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| UWR-FLA-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-FLA-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-FOUND-20150603 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-KEL-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-KEL-0-2        | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| UWR-KEL-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| UWR-KEL-0-4        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-PHI-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-PHI-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| UWR-PHI-1-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-ROA-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| UWR-ROA-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-ROA-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-ROA-0-4        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| UWR-ROA-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| UWR-WOR-0-10       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-0-11       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-0-12       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-0-13       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |

## Aquatic Organism Passage (AOP) Classification By Subwatershed

| Structure Name     | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|--------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| UWR-WOR-0-14       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| UWR-WOR-0-18       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-0-19       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-0-20       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| UWR-WOR-0-6        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-0-7        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-0-8        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-0-9        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-12-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-12-2       | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UWR-WOR-13-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| UWR-WOR-14-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| UWR-WOR-14-4       | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| UWR-WOR-14-5       | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UWR-WOR-17-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-17-2       | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UWR-WOR-18-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-18-1-1     | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| UWR-WOR-18-1-1-1   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| UWR-WOR-18-2       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-18-3       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-18-4       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-18-4-1     | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UWR-WOR-18-5       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-19-2       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| UWR-WOR-19-3       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| UWR-WOR-22-2       | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| UWR-WOR-24-2       | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| UWR-WOR-25-2       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| WPB-FOUND-20150812 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| WPB-HET-0-2        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| WPB-PHB-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| WPB-PHB-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | 100%                         | None                      | Reduced AOP        |
| WPB-PHB-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| WPB-PHB-1-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | Dry (Reduced AOP)  |
| WPB-PHB-3-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | No AOP             |
| WPB-PHB-3-2        | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| WPB-WAY-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| WPB-WAY-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| WPB-WAY-0-4        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| WPB-WAY-0-6        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| WPB-WAY-4-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |

## Aquatic Organism Passage (AOP) Classification By Town

| Town        | Structure Name | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|-------------|----------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| Charlestown | MPR-PAW-26-2-1 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Charlestown | MPR-PER-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Charlestown | MPR-PER-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| Charlestown | MPR-PER-3-1-1  | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Charlestown | MPR-POQ-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | MPR-POQ-1-2    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | No AOP             |
| Charlestown | MPR-POQ-1-3    | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | No AOP             |
| Charlestown | MPR-TYD-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| Charlestown | UPR-CED-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-CED-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-CED-1-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Charlestown | UPR-CED-3-1    | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Charlestown | UPR-CED-6-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| Charlestown | UPR-CED-7-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Charlestown | UPR-CED-8-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Charlestown | UPR-PAS-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAS-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAS-1-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAW-0-14   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAW-0-15   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAW-0-16   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAW-0-18   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAW-0-19   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAW-0-20   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAW-0-21   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAW-0-22   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Charlestown | UPR-PAW-0-25   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter      | CKR-CHK-3-1-1  | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter      | CKR-CHK-3-3    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| Exeter      | CPR-CHP-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter      | CPR-CHP-0-4    | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| Exeter      | CPR-CHP-0-5    | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| Exeter      | CPR-CHP-0-6    | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Exeter      | CPR-CHP-0-7    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter      | CPR-CHP-6-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Exeter      | CPR-CHP-7-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter      | CPR-CHP-7-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| Exeter      | CPR-CHP-7-3    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter      | QUR-DUT-0-1    | At Grade    | At Grade          | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter      | QUR-DUT-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter      | QUR-DUT-0-3    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | No AOP             |
| Exeter      | QUR-FIS-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |

## Aquatic Organism Passage (AOP) Classification By Town

| Town   | Structure Name     | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|--------|--------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| Exeter | QUR-FIS-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | 100%                         | None                      | Reduced AOP        |
| Exeter | QUR-FOUND-20150810 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| Exeter | QUR-LOC-0-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Exeter | QUR-LOC-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | QUR-LOC-0-3        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| Exeter | QUR-QFB-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| Exeter | QUR-QFB-0-10       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter | QUR-QFB-0-11       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | QUR-QFB-0-12       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter | QUR-QFB-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | QUR-QFB-0-9        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| Exeter | QUR-QFB-2-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter | QUR-QFB-2-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter | QUR-QUR-0-6        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | QUR-QUR-0-7        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter | QUR-QUR-0-8        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | QUR-QUR-0-9        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter | QUR-QUR-10-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter | QUR-QUR-11-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter | QUR-QUR-6-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Exeter | QUR-QUR-7-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter | QUR-SHE-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Exeter | QUR-SOD-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | QUR-SOD-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | QUR-SOD-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Exeter | UWR-BRE-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | UWR-BRE-1-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | Reduced AOP        |
| Exeter | UWR-FLA-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | UWR-FLA-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | UWR-ROA-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| Exeter | UWR-ROA-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | UWR-ROA-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | UWR-ROA-0-4        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| Exeter | UWR-ROA-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| Exeter | UWR-WOR-0-10       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | UWR-WOR-0-11       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | UWR-WOR-0-12       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | UWR-WOR-17-2       | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Exeter | UWR-WOR-18-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter | UWR-WOR-18-1-1     | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| Exeter | UWR-WOR-18-1-1-1   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Exeter | UWR-WOR-18-2       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |

### Aquatic Organism Passage (AOP) Classification By Town

| Town      | Structure Name     | Inlet Grade  | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|-----------|--------------------|--------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| Exeter    | UWR-WOR-18-3       | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter    | UWR-WOR-18-4       | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter    | UWR-WOR-18-4-1     | At Grade     | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Exeter    | UWR-WOR-18-5       | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter    | UWR-WOR-19-2       | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Exeter    | UWR-WOR-19-3       | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Hopkinton | AWR-ASH-0-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| Hopkinton | AWR-ASH-0-2        | Drop/Perched | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| Hopkinton | AWR-ASH-0-3        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | AWR-ASH-0-4        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | AWR-ASH-2-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Hopkinton | AWR-GLA-0-4        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| Hopkinton | AWR-PAR-0-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Hopkinton | AWR-WIN-0-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Hopkinton | LWR-BRU-0-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-BRU-0-2        | At Grade     | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | No AOP             |
| Hopkinton | LWR-BRU-0-3        | At Grade     | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| Hopkinton | LWR-BRU-0-4        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-BRU-2-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Hopkinton | LWR-BRU-2-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| Hopkinton | LWR-BRU-3-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| Hopkinton | LWR-BRU-3-2        | At Grade     | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| Hopkinton | LWR-BRU-5-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Hopkinton | LWR-BRU-5-2        | At Grade     | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Hopkinton | LWR-BRU-5-3        | At Grade     | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Hopkinton | LWR-BRU-6-1        | At Grade     | At Grade          | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | Dry (Reduced AOP)  |
| Hopkinton | LWR-CAN-0-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-CAN-0-2        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-CAN-0-3        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| Hopkinton | LWR-CAN-0-5        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-CAN-0-6        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | 100%                         | None                      | Reduced AOP        |
| Hopkinton | LWR-CAN-1-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| Hopkinton | LWR-CAN-3-2-1      | At Grade     | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Hopkinton | LWR-CAN-3-2-1-1    | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Hopkinton | LWR-CAN-3-3-1      | At Grade     | At Grade          | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| Hopkinton | LWR-FOUND-20150625 | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-FOUND-20150722 | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Hopkinton | LWR-MOS-0-1        | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-MOS-0-10       | At Grade     | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| Hopkinton | LWR-MOS-0-2        | At Grade     | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| Hopkinton | LWR-MOS-0-3        | At Grade     | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Hopkinton | LWR-MOS-0-5        | At Grade     | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |

### Aquatic Organism Passage (AOP) Classification By Town

| Town      | Structure Name         | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|-----------|------------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| Hopkinton | LWR-MOS-0-6            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| Hopkinton | LWR-MOS-0-7            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| Hopkinton | LWR-MOS-0-8            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Hopkinton | LWR-MOS-0-9            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| Hopkinton | LWR-MOS-2-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-MOS-3-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| Hopkinton | LWR-MOS-4-1            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| Hopkinton | LWR-MOS-4-1-1          | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Hopkinton | LWR-WOR-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| Hopkinton | LWR-WOR-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-WOR-1-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-WOR-4-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Hopkinton | LWR-WOR-4-2            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Hopkinton | LWR-WOR-4-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Hopkinton | LWR-WOR-5-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | LWR-WOR-6-1-1          | At Grade    | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Hopkinton | LWR-WOR-8-1            | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| Hopkinton | LWR-WOR-9-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-MIL-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-MIL-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-MIL-0-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-MIL-1-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Hopkinton | MPR-PAW-0-10           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-PAW-0-12           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-PAW-0-13           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-PAW-0-9            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-PAW-17-1           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| Hopkinton | MPR-TOM-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-TOM-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-TOM-0-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-TOM-0-4            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-TOM-0-7            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| Hopkinton | MPR-TOM-1-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-TOM-1-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | Reduced AOP        |
| Hopkinton | MPR-TOM-3-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | MPR-TOM-3-1-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| Hopkinton | MPR-TOM-3-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| Hopkinton | MPR-TOM-3-4-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| Hopkinton | MPR-TOM-3-5-1          | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| Hopkinton | MPR-TOM-3-5-2          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Hopkinton | MPR-TOM-FOUND-20150610 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | UWR-WOR-0-7            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton | UWR-WOR-0-8            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |

## Aquatic Organism Passage (AOP) Classification By Town

| Town             | Structure Name  | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|------------------|-----------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| Hopkinton        | UWR-WOR-0-9     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton        | UWR-WOR-12-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Hopkinton        | UWR-WOR-12-2    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Hopkinton        | UWR-WOR-17-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Kingstown  | CPR-CHP-0-8     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Kingstown  | CPR-CHP-5-1-2-1 | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| North Kingstown  | CPR-CHP-5-2     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Kingstown  | CPR-CHP-5-2-1   | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Kingstown  | CPR-CHP-5-2-2   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| North Kingstown  | CPR-CHP-5-3-1   | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | AWR-ASH-1-2     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| North Stonington | AWR-GLA-0-1     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | AWR-GLA-0-2     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| North Stonington | AWR-GRE-0-2     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | AWR-GRE-0-3     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | AWR-GRE-0-4     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| North Stonington | AWR-GRE-1-2     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | Dry (Reduced AOP)  |
| North Stonington | AWR-GRE-3-1     | At Grade    | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | AWR-GRE-4-1     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | AWR-GRE-5-1     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | AWR-GRE-5-2     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| North Stonington | AWR-GRE-6-1     | At Grade    | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| North Stonington | AWR-GRE-7-1     | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | LPR-PAW-12-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | LPR-PAW-12-1-1  | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| North Stonington | LPR-PAW-13-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | LPR-PAW-9-1     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| North Stonington | SNR-ASS-0-1     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | SNR-ASS-0-2     | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| North Stonington | SNR-ASS-0-3     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | SNR-ASS-1-1     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | SNR-ASS-2-1     | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| North Stonington | SNR-ASS-4-1     | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-ASS-5-1     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| North Stonington | SNR-PHE-0-1     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | SNR-SHU-0-1     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | SNR-SHU-0-11    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | SNR-SHU-0-12    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | SNR-SHU-0-13    | At Grade    | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-SHU-0-5     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | SNR-SHU-0-6     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | SNR-SHU-0-8     | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |

## Aquatic Organism Passage (AOP) Classification By Town

| Town             | Structure Name     | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|------------------|--------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| North Stonington | SNR-SHU-0-9        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | SNR-SHU-10-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | SNR-SHU-1-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| North Stonington | SNR-SHU-1-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | SNR-SHU-3-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-SHU-3-2        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-SHU-4-1        | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-SHU-4-1-3      | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-SHU-4-3        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-SHU-6-3        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-SHU-7-1        | At Grade    | At Grade          | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | SNR-SHU-7-1-1      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | SNR-SHU-7-1-2      | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-SHU-7-2        | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-SHU-8-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | SNR-YAW-0-1        | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | SNR-YAW-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | SNR-YAW-1-1        | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | No AOP             |
| North Stonington | WPB-FOUND-20150812 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| North Stonington | WPB-HET-0-2        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| North Stonington | WPB-PHB-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | WPB-PHB-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | 100%                         | None                      | Reduced AOP        |
| North Stonington | WPB-PHB-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| North Stonington | WPB-PHB-1-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | Dry (Reduced AOP)  |
| North Stonington | WPB-PHB-3-1        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | No AOP             |
| North Stonington | WPB-PHB-3-2        | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| North Stonington | WPB-WAY-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | WPB-WAY-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| North Stonington | WPB-WAY-0-4        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| North Stonington | WPB-WAY-0-6        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| North Stonington | WPB-WAY-4-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Richmond         | BVR-BEA-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| Richmond         | BVR-BEA-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| Richmond         | BVR-BEA-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond         | BVR-BEA-0-4        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Richmond         | BVR-BEA-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| Richmond         | BVR-BEA-0-6        | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| Richmond         | BVR-BEA-2-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond         | BVR-BEA-3-1        | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Richmond         | BVR-BEA-3-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Richmond         | BVR-BEA-5-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| Richmond         | BVR-BEA-6-1        | At Grade    | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |

## Aquatic Organism Passage (AOP) Classification By Town

| Town     | Structure Name       | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|----------|----------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| Richmond | BVR-BEA-6-2          | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| Richmond | BVR-FOUND-20150630   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | BVR-FOUND-20150817   | At Grade    | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Richmond | BVR-FOUND-20151015   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| Richmond | LWR-DIA-0-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| Richmond | LWR-DIA-0-2          | At Grade    | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | No AOP             |
| Richmond | LWR-DIA-0-3          | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| Richmond | LWR-WOR-0-3          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Reduced AOP        |
| Richmond | LWR-WOR-0-4          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | LWR-WOR-0-5          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | LWR-WOR-1-2          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | LWR-WOR-2-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | QUR-GLE-0-2          | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| Richmond | QUR-GLE-2-1-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| Richmond | QUR-GLE-2-2-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Richmond | QUR-GLE-2-3-1        | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| Richmond | QUR-QUR-0-3          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | QUR-QUR-0-4          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | UPR-FOUND-20150820   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | UPR-FOUND-20151014-1 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Richmond | UPR-FOUND-20151014-2 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| Richmond | UPR-FOUND-20151014-3 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| Richmond | UPR-FOUND-20151014-4 | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| Richmond | UPR-FOUND-20151014-5 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Richmond | UPR-FOUND-20151014-6 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| Richmond | UPR-FOUND-20151015-1 | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Richmond | UPR-FOUND-20151015-2 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Richmond | UPR-MEA-0-2          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| Richmond | UPR-MEA-0-3          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| Richmond | UPR-MEA-0-4          | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Richmond | UPR-MEA-0-5          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | UPR-MEA-0-6          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| Richmond | UPR-MEA-0-7          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| Richmond | UPR-MEA-0-8          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| Richmond | UPR-MEA-1-1          | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| Richmond | UPR-MEA-2-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Richmond | UPR-PAW-0-17         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | UPR-PAW-0-23         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | UPR-PAW-0-24         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | UPR-PAW-0-26         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond | UPR-TNY-0-1          | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| Richmond | UPR-WEB-0-1          | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |

## Aquatic Organism Passage (AOP) Classification By Town

| Town            | Structure Name     | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|-----------------|--------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| Richmond        | UWR-BAK-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond        | UWR-BAK-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Richmond        | UWR-FOUND-20150603 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond        | UWR-WOR-0-6        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Richmond        | UWR-WOR-13-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Richmond        | UWR-WOR-14-1       | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Richmond        | UWR-WOR-14-4       | At Grade    | At Grade          | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| Richmond        | UWR-WOR-14-5       | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| South Kingstown | CKR-3047           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| South Kingstown | CKR-3049           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| South Kingstown | CKR-3071           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| South Kingstown | CKR-3192           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| South Kingstown | CKR-3243           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| South Kingstown | CKR-3351           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| South Kingstown | CKR-CHK-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| South Kingstown | CKR-CHK-0-4        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| South Kingstown | CKR-CHK-0-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| South Kingstown | CKR-CHK-1-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| South Kingstown | CKR-CHK-1-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| South Kingstown | CKR-CHK-2-1-1      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| South Kingstown | CKR-CHK-2-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| South Kingstown | CKR-CHK-2-2-1      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| South Kingstown | CKR-CHK-3-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| South Kingstown | CKR-CHK-3-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| South Kingstown | CPR-ALE-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| South Kingstown | CPR-ALE-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| South Kingstown | CPR-ALE-0-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Severe                    | No AOP             |
| South Kingstown | CPR-CHP-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| South Kingstown | CPR-CHP-2-1-1      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| South Kingstown | CPR-CHP-2-1-2      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| South Kingstown | CPR-CHP-2-2-1      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| South Kingstown | CPR-FOUND-20151012 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| South Kingstown | CPR-MIN-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| South Kingstown | CPR-WHB-0-1        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| South Kingstown | CPR-WHB-0-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| South Kingstown | CPR-WHB-2-1        | At Grade    | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | No AOP             |
| South Kingstown | CPR-WHB-2-2        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| South Kingstown | CPR-WHB-2-3        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| South Kingstown | CPR-WHB-2-4        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| South Kingstown | CPR-WHB-2-5        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| South Kingstown | CPR-WHB-2-6        | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| South Kingstown | CPR-WHB-2-7        | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |

## Aquatic Organism Passage (AOP) Classification By Town

| Town            | Structure Name | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|-----------------|----------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| South Kingstown | CPR-WHB-2-8    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| South Kingstown | CPR-WHB-2-9    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| South Kingstown | QUR-GLE-0-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | No AOP             |
| South Kingstown | QUR-ISO-E      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| South Kingstown | QUR-ISO-M      | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| South Kingstown | QUR-ISO-W      | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| South Kingstown | QUR-QUR-0-5    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| South Kingstown | QUR-QUR-1-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| South Kingstown | QUR-SHE-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| South Kingstown | QUR-USQ-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Sterling        | UWR-CAR-0-5    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Sterling        | UWR-WOR-0-18   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Sterling        | UWR-WOR-0-19   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Sterling        | UWR-WOR-0-20   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | Severe                    | No AOP             |
| Sterling        | UWR-WOR-24-2   | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| Sterling        | UWR-WOR-25-2   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Voluntown       | AWR-GRE-0-6    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Voluntown       | AWR-GRE-10-1-1 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | Dry (Reduced AOP)  |
| Voluntown       | AWR-GRE-10-2-1 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Voluntown       | AWR-GRE-8-2-1  | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Voluntown       | AWR-GRE-8-2-2  | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Voluntown       | AWR-PEG-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Voluntown       | UWR-CAR-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| West Greenwich  | QUR-FIS-0-3    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| West Greenwich  | QUR-FIS-3-1    | At Grade    | At Grade          | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| West Greenwich  | QUR-FIS-3-2    | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| West Greenwich  | UWR-BRE-0-3    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| West Greenwich  | UWR-BRE-0-4    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| West Greenwich  | UWR-BRE-0-5    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| West Greenwich  | UWR-CON-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| West Greenwich  | UWR-CON-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| West Greenwich  | UWR-FAC-0-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| West Greenwich  | UWR-FAC-1-1    | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| West Greenwich  | UWR-FAC-2-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| West Greenwich  | UWR-KEL-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| West Greenwich  | UWR-KEL-0-2    | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| West Greenwich  | UWR-KEL-0-3    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| West Greenwich  | UWR-KEL-0-4    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| West Greenwich  | UWR-PHI-0-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| West Greenwich  | UWR-PHI-0-2    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| West Greenwich  | UWR-PHI-1-1    | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| West Greenwich  | UWR-WOR-0-13   | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |

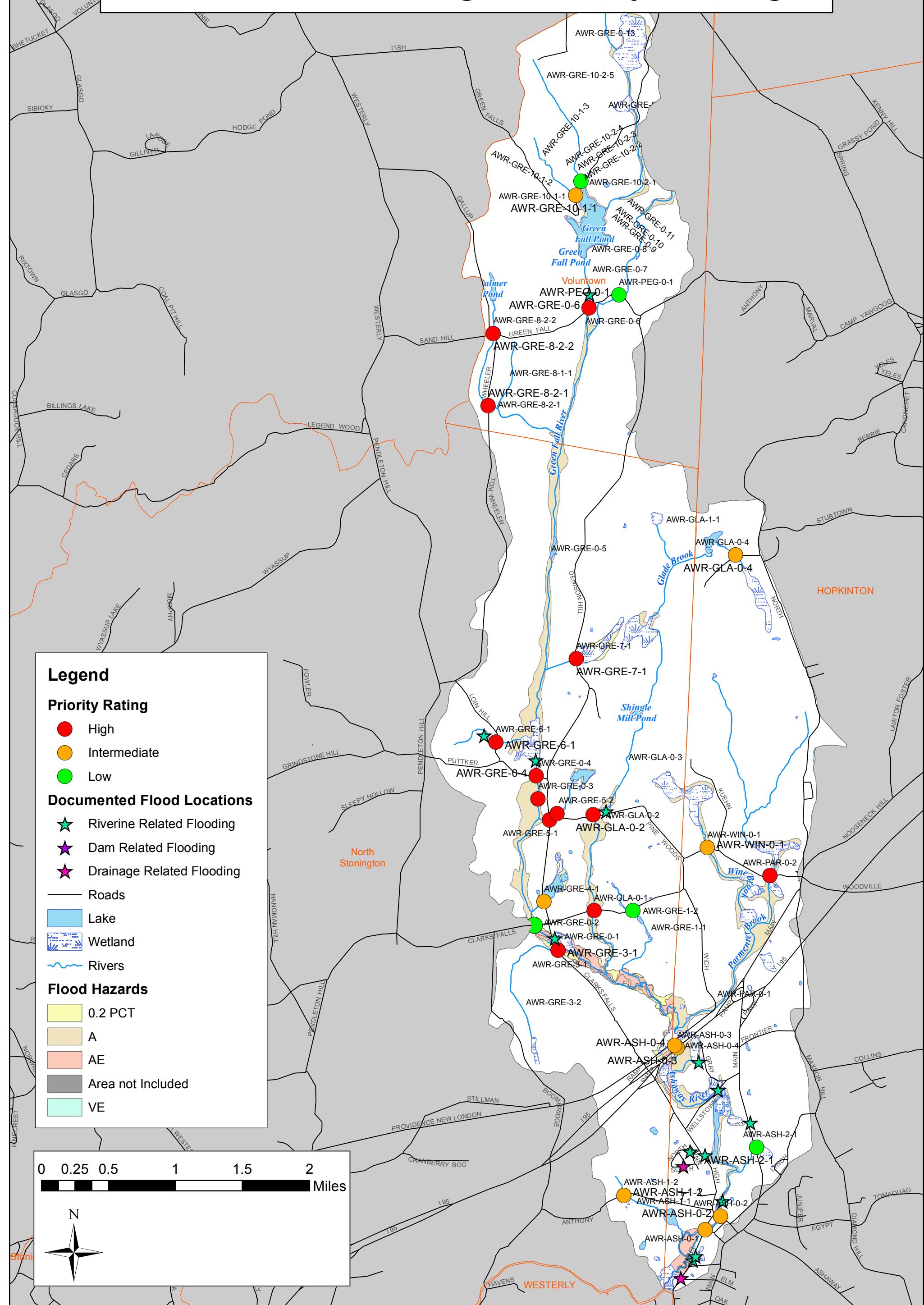
## Aquatic Organism Passage (AOP) Classification By Town

| Town           | Structure Name         | Inlet Grade | Outlet Grade      | Outlet Drop to Water | Outlet Drop to Stream Bottom | Inlet/Outlet Water Depth | Substrate Matches Stream | Structure Substrate Coverage | Physical Barrier Severity | AOP Classification |
|----------------|------------------------|-------------|-------------------|----------------------|------------------------------|--------------------------|--------------------------|------------------------------|---------------------------|--------------------|
| West Greenwich | UWR-WOR-0-14           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | Reduced AOP        |
| West Greenwich | UWR-WOR-22-2           | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Westerly       | LPR-MAS-0-1            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Severe                    | No AOP             |
| Westerly       | LPR-MAS-1-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Westerly       | LPR-PAW-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | LPR-PAW-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | LPR-PAW-0-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | LPR-PAW-0-4            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | LPR-PAW-0-5            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | LPR-PAW-0-6            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | LPR-PAW-0-7            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | LPR-PAW-5-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Westerly       | LPR-PAW-7-1            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | Minor/Moderate            | No AOP             |
| Westerly       | LPR-PAW-7-1-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Westerly       | LPR-PAW-7-2            | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | No AOP             |
| Westerly       | LPR-PAW-7-2-1          | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Westerly       | LPR-PAW-8-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | Dry (Reduced AOP)  |
| Westerly       | LPR-PAW-8-3            | At Grade    | Cascade/Free Fall | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Westerly       | LPR-PAW-8-4            | At Grade    | Cascade/Free Fall | >=1 ft               | >0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| Westerly       | LPR-PAW-8-5            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Westerly       | LPR-PAW-8-6            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | Minor/Moderate            | Dry (Reduced AOP)  |
| Westerly       | MPR-ISO-NE             | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | No AOP             |
| Westerly       | MPR-ISO-SE             | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | MPR-MCG-0-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | MPR-MCG-0-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | MPR-MCG-1-1            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Westerly       | MPR-MCG-1-2            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | <100%                        | None                      | Dry (Reduced AOP)  |
| Westerly       | MPR-PAW-0-11           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | MPR-PAW-0-8            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | MPR-PAW-16-1           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | Minor/Moderate            | Reduced AOP        |
| Westerly       | MPR-PAW-16-1-1         | At Grade    | At Grade          | 0 ft <x<1 ft         | >0.5 ft                      | >0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Westerly       | MPR-PAW-16-2           | At Grade    | Cascade/Free Fall | 0 ft                 | >0.5 ft                      | <0.3 ft                  | Contrasting              | <100%                        | None                      | No AOP             |
| Westerly       | MPR-PAW-16-6           | At Grade    | Cascade/Free Fall | 0 ft <x<1 ft         | >0.5 ft                      | <0.3 ft                  | Contrasting              | 100%                         | None                      | No AOP             |
| Westerly       | MPR-PAW-18-1           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | MPR-PAW-18-1-1         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Westerly       | MPR-PAW-18-2           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | MPR-PAW-18-3           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | 100%                         | None                      | Full AOP           |
| Westerly       | MPR-PAW-23-1-1         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Westerly       | MPR-PAW-23-1-2         | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Westerly       | MPR-PAW-24-1           | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |
| Westerly       | MPR-PAW-FOUND-20150624 | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | <0.3 ft                  | Comparable               | 100%                         | None                      | Dry (Full AOP)     |
| Westerly       | MPR-PER-0-3            | At Grade    | At Grade          | 0 ft                 | <0.5 ft                      | >0.3 ft                  | Comparable               | <100%                        | None                      | Reduced AOP        |

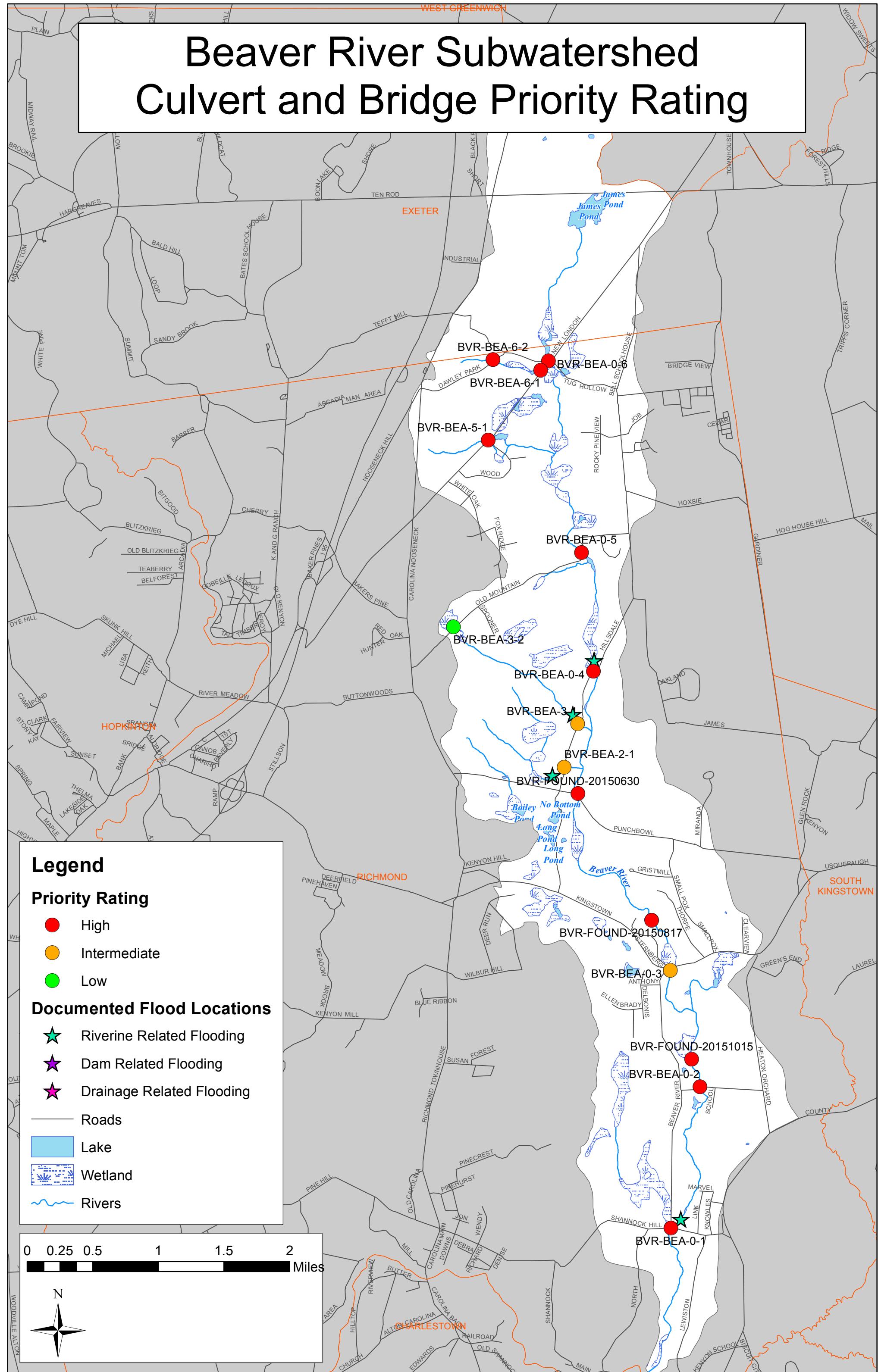
## Appendix F

### Culverts/Bridges - Subwatershed Priority Rating Maps and Summary Tables

# Ashaway River Subwatershed Culvert and Bridge Priority Rating



# Beaver River Subwatershed Culvert and Bridge Priority Rating



# Chickasheen River Subwatershed Culvert and Bridge Priority Rating

## Legend

### Priority Rating

- High (Red)
- Intermediate (Orange)
- Low (Green)

### Documented Flood Locations

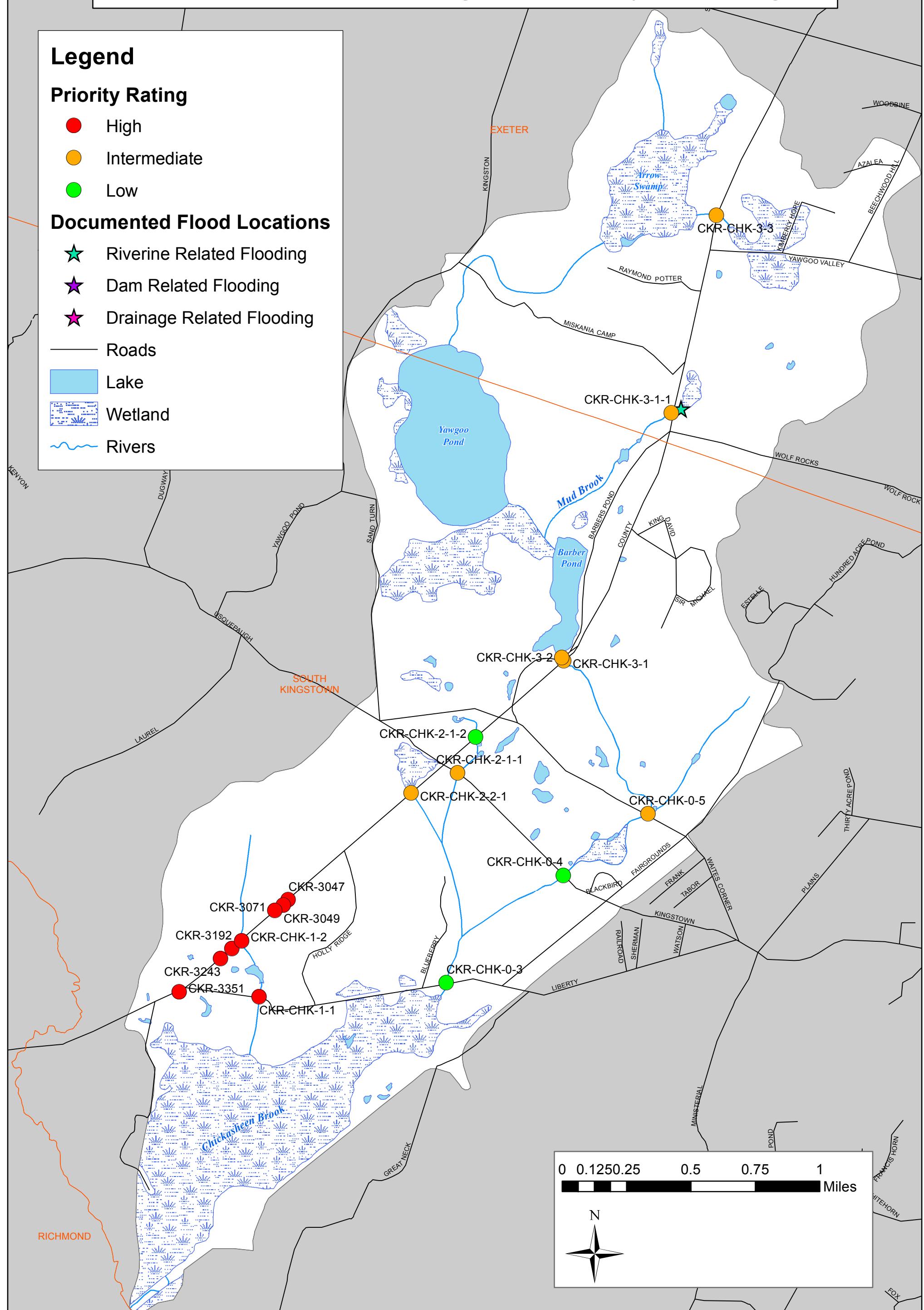
- Riverine Related Flooding (Green Star)
- Dam Related Flooding (Purple Star)
- Drainage Related Flooding (Pink Star)

Roads

Lake

Wetland

Rivers



# Chipuxet River Subwatershed Culvert and Bridge Priority Rating

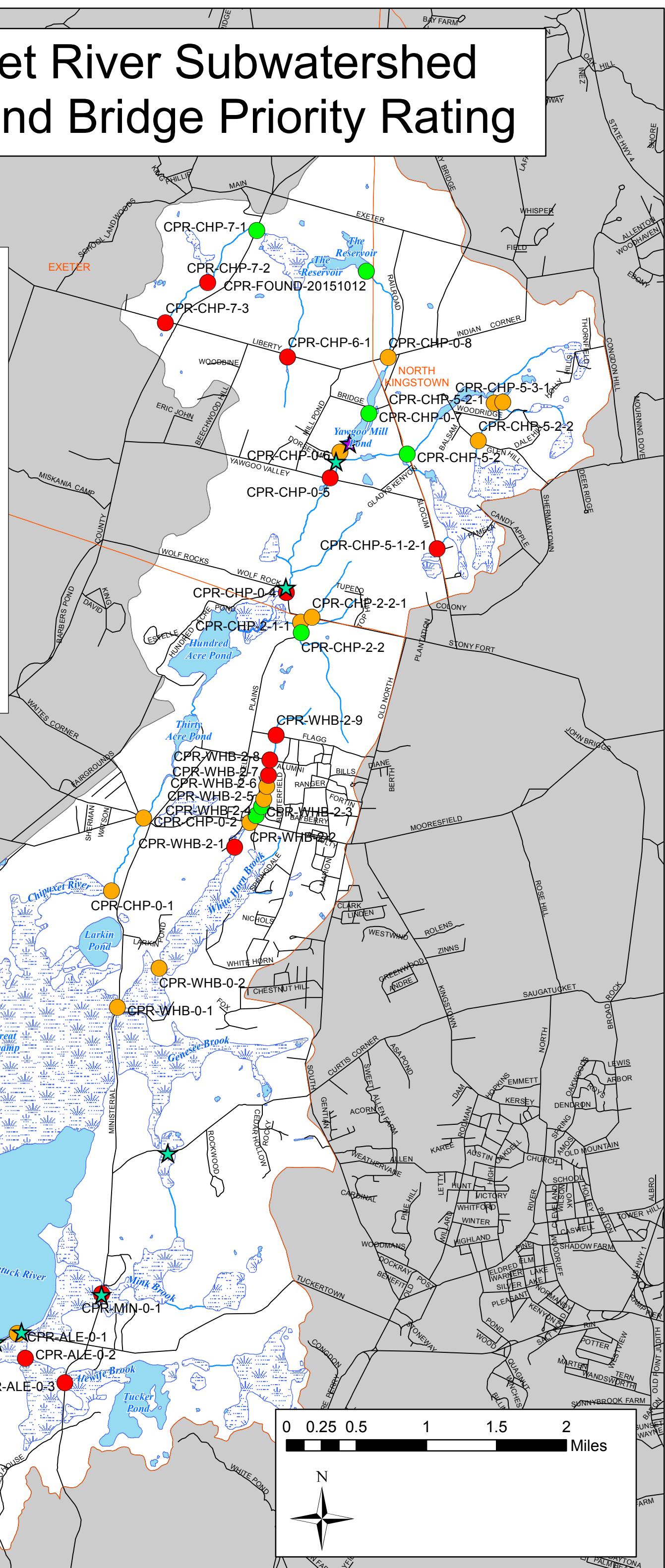
## Legend

### Priority Rating

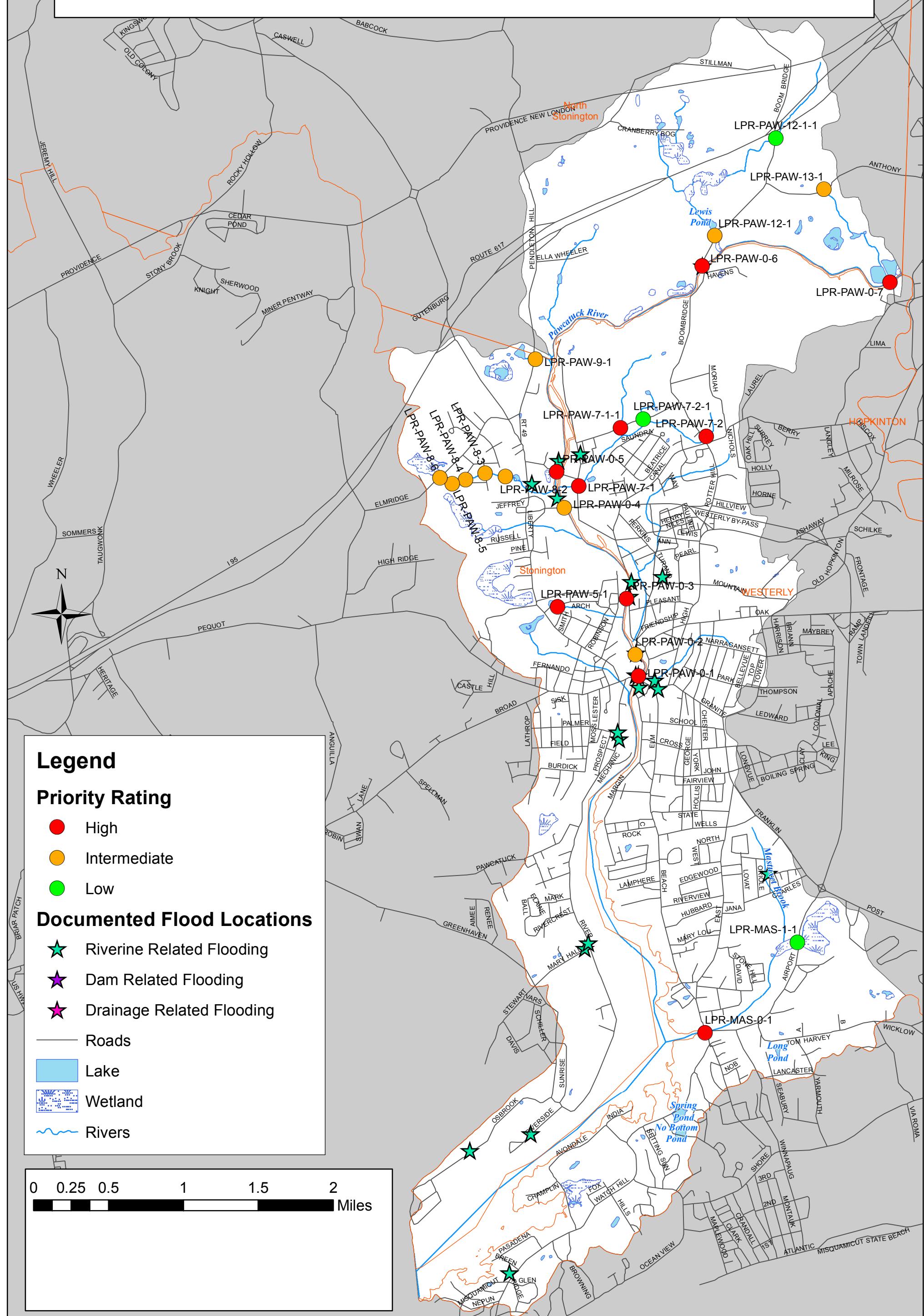
- High
- Intermediate
- Low

### Documented Flood Locations

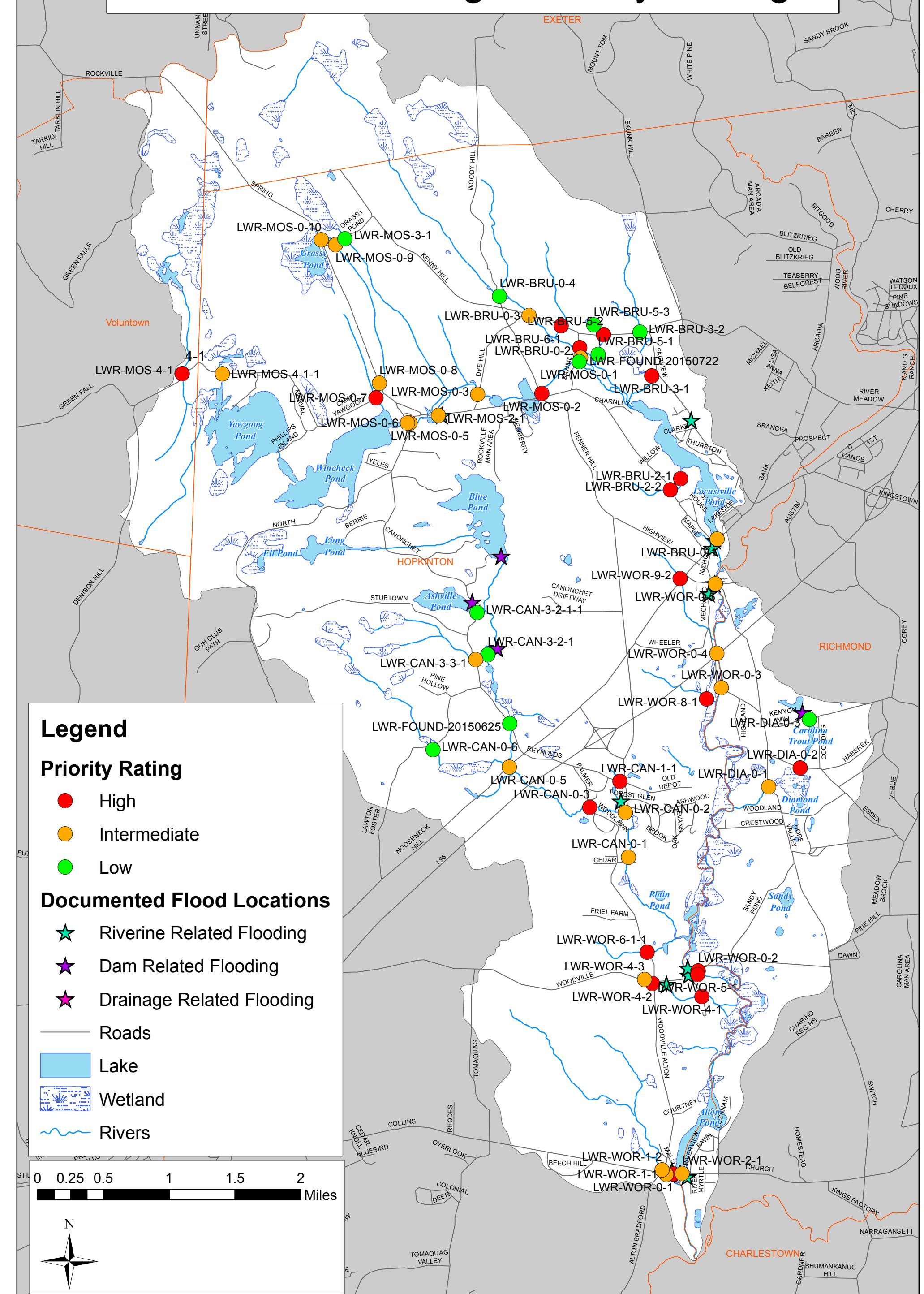
- ★ Riverine Related Flooding
  - ★ Dam Related Flooding
  - ★ Drainage Related Flooding
- Roads
- Lake
- Wetland
- Rivers



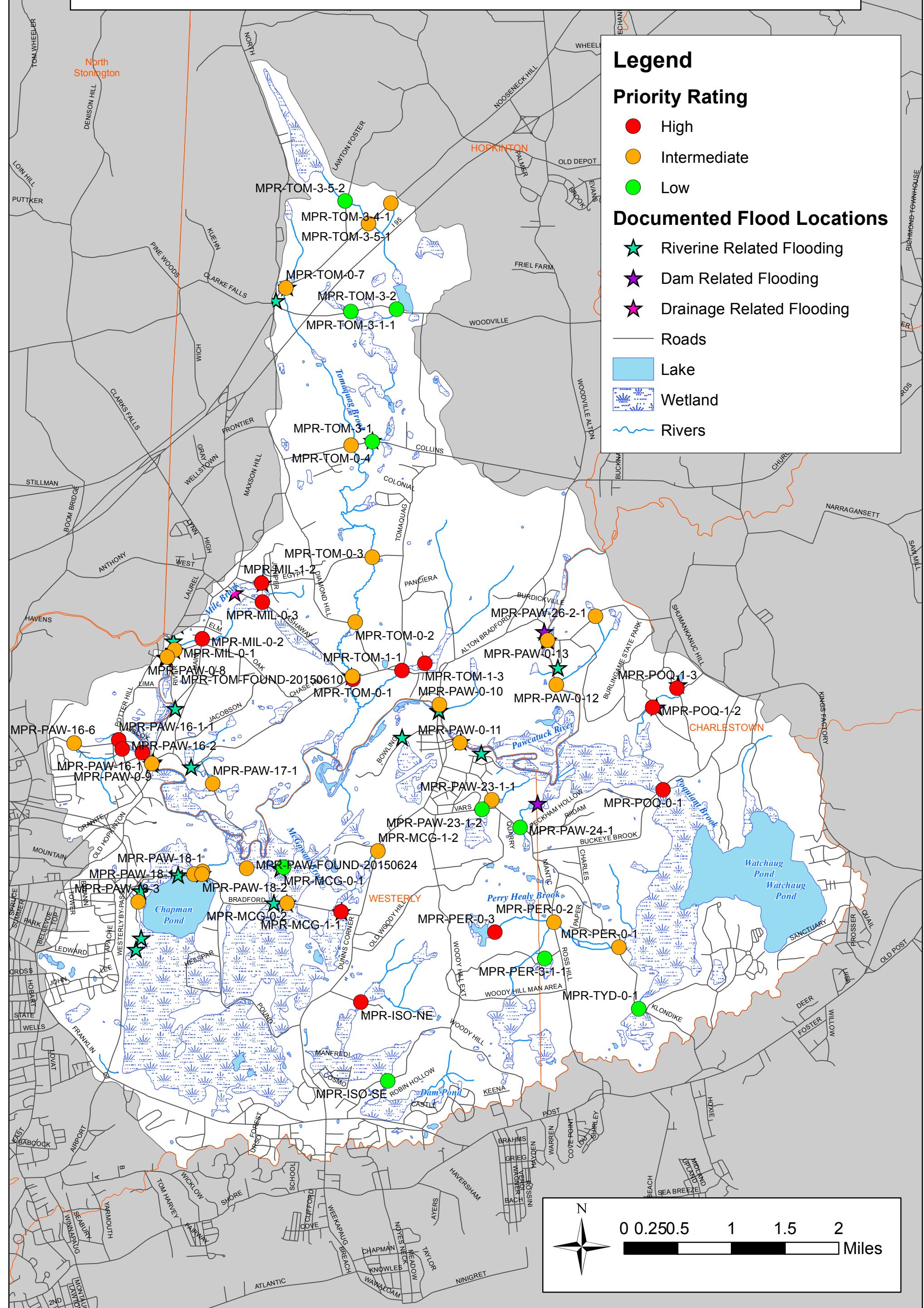
# Lower Pawcatuck River Subwatershed Culvert and Bridge Priority Rating



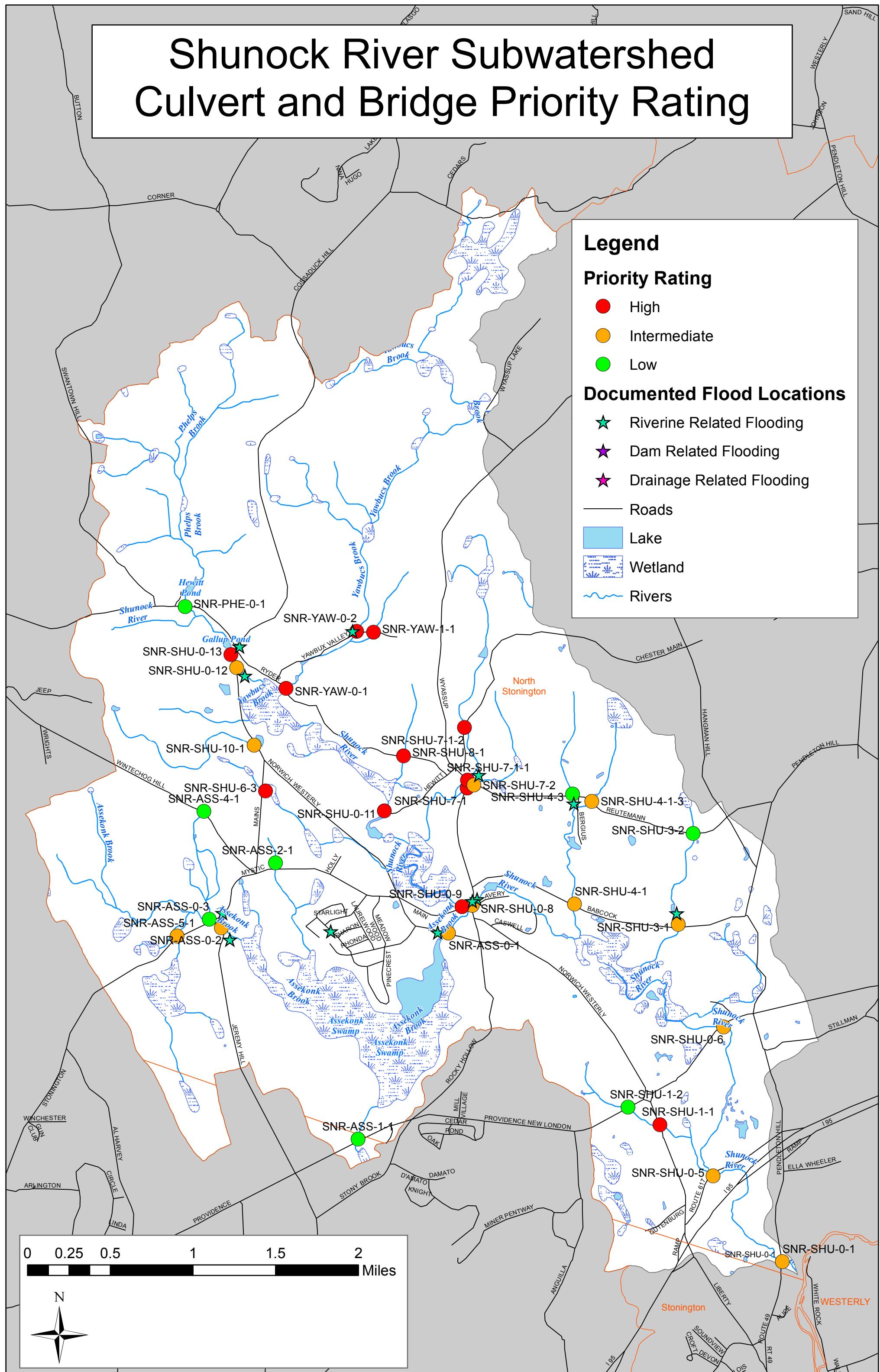
# Lower Wood River Watershed Culvert and Bridge Priority Rating



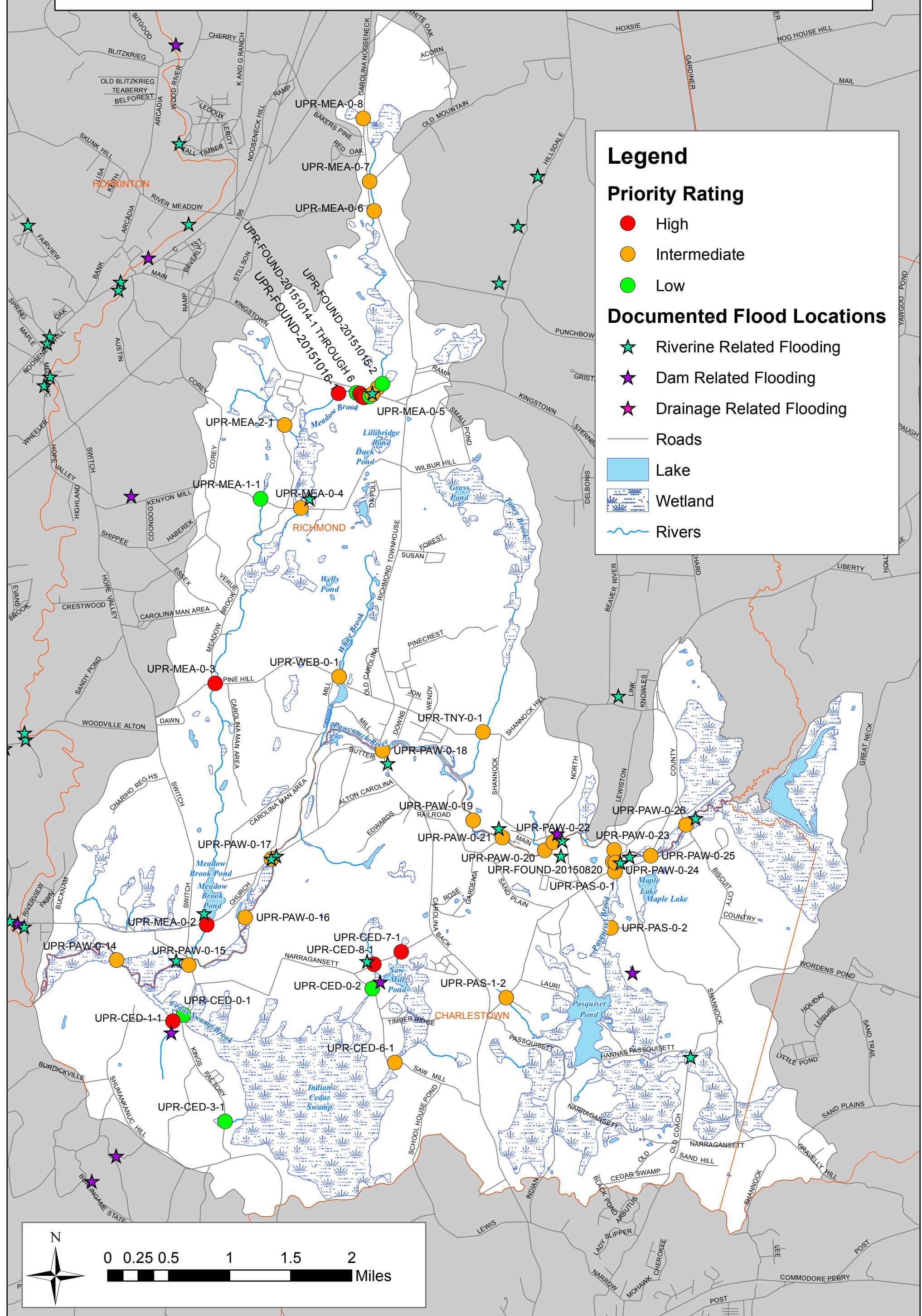
# Middle Pawcatuck River Subwatershed Culvert and Bridge Priority Rating



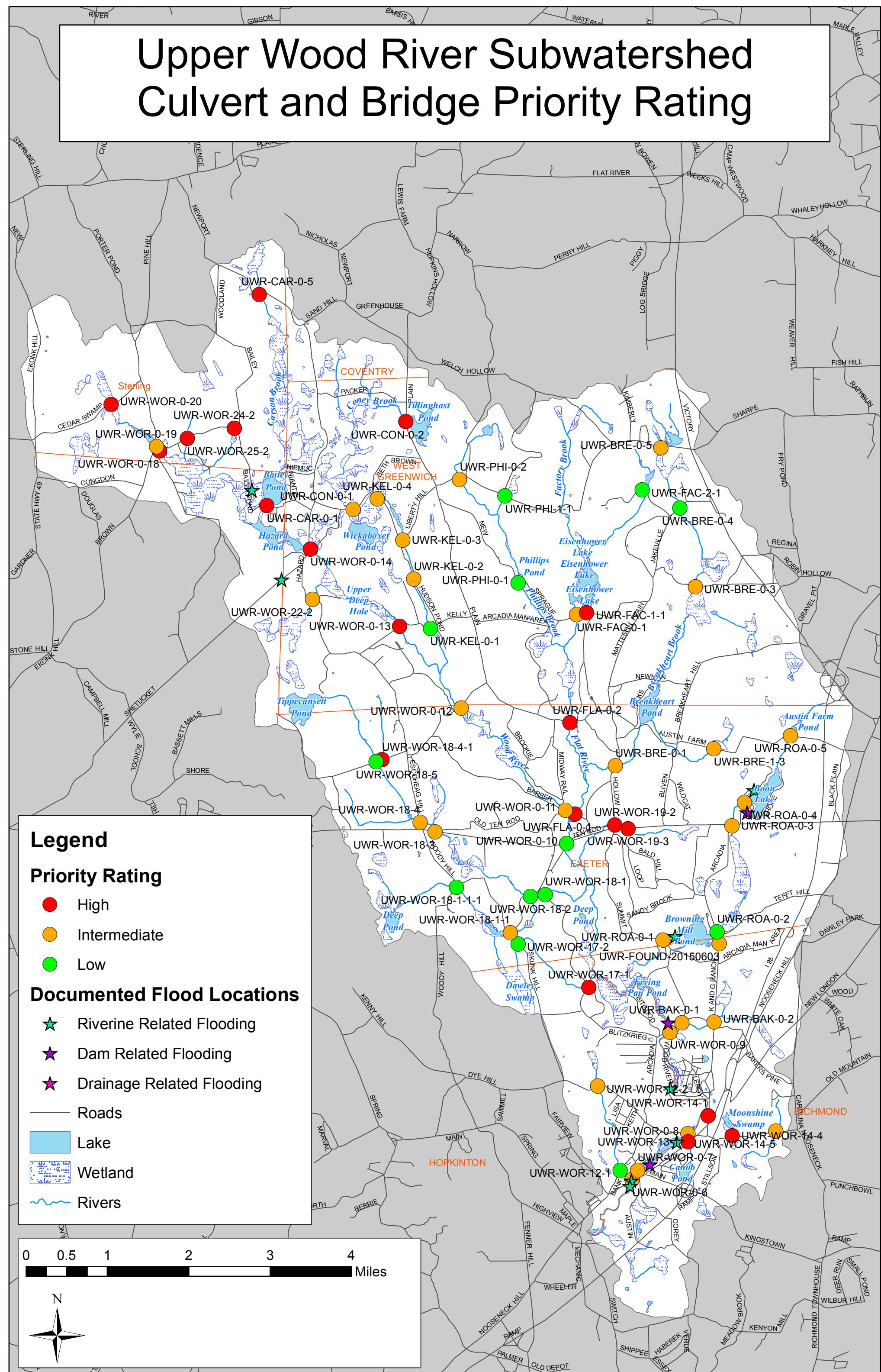
# Shunock River Subwatershed Culvert and Bridge Priority Rating



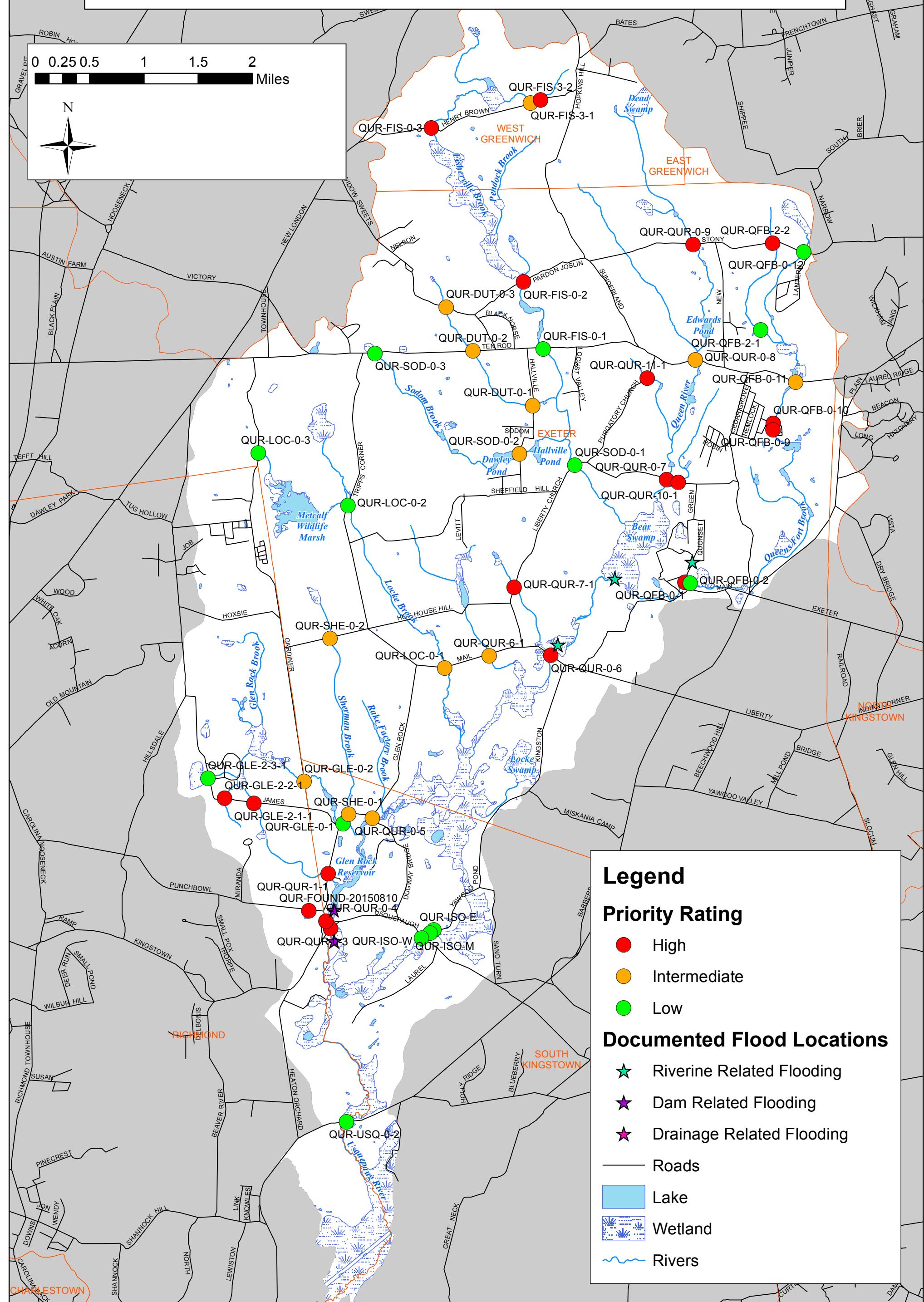
# Upper Pawcatuck River Subwatershed Culvert and Bridge Priority Rating



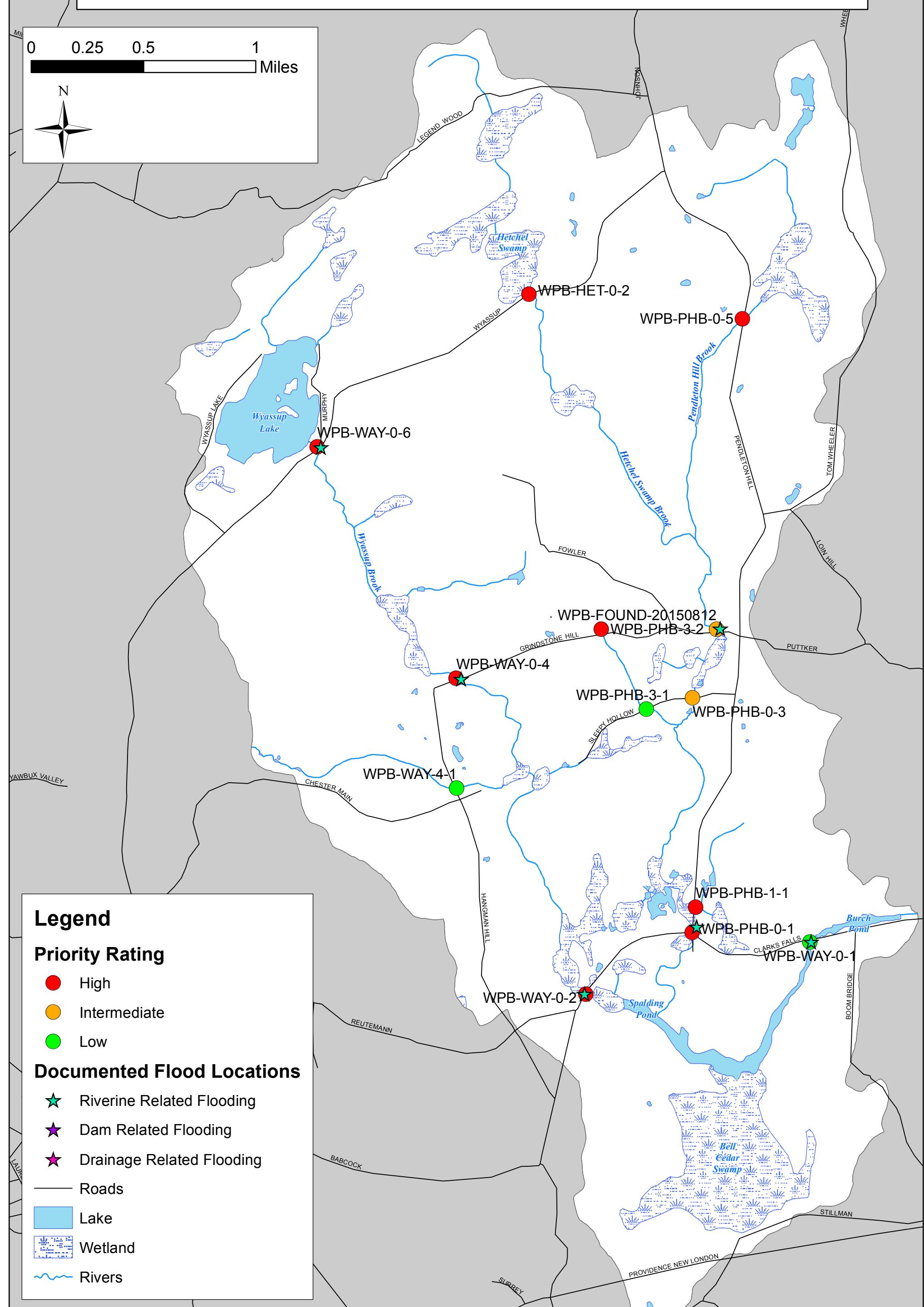
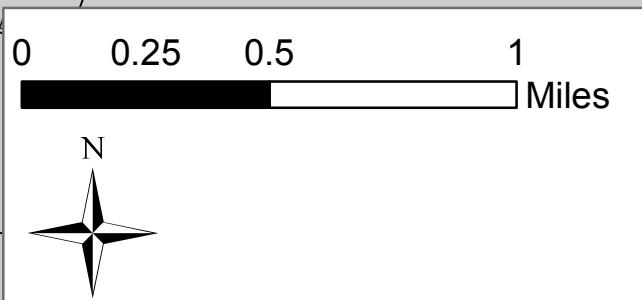
# Upper Wood River Subwatershed Culvert and Bridge Priority Rating



# Usquepaug River Subwatershed Culvert and Bridge Priority Rating



# Wayassup Brook Subwatershed Culvert and Bridge Priority Rating



## Legend

### Priority Rating

- Red circle: High
- Yellow circle: Intermediate
- Green circle: Low

### Documented Flood Locations

- Green star: Riverine Related Flooding
  - Purple star: Dam Related Flooding
  - Pink star: Drainage Related Flooding
- Roads
- Light blue: Lake
- Blue with stipple: Wetland
- Wavy blue line: Rivers

---

## Appendix G

### Dams – Subwatershed Location Maps, Summary Table, and Assessment Matrix

# Ashaway River Subwatershed

## Legend

### Dams

- Inspected
- Not Inspected
- Data from RIDEM/CTDEEP

### Geomorphic Assessment Reach

### Roads

### Lake

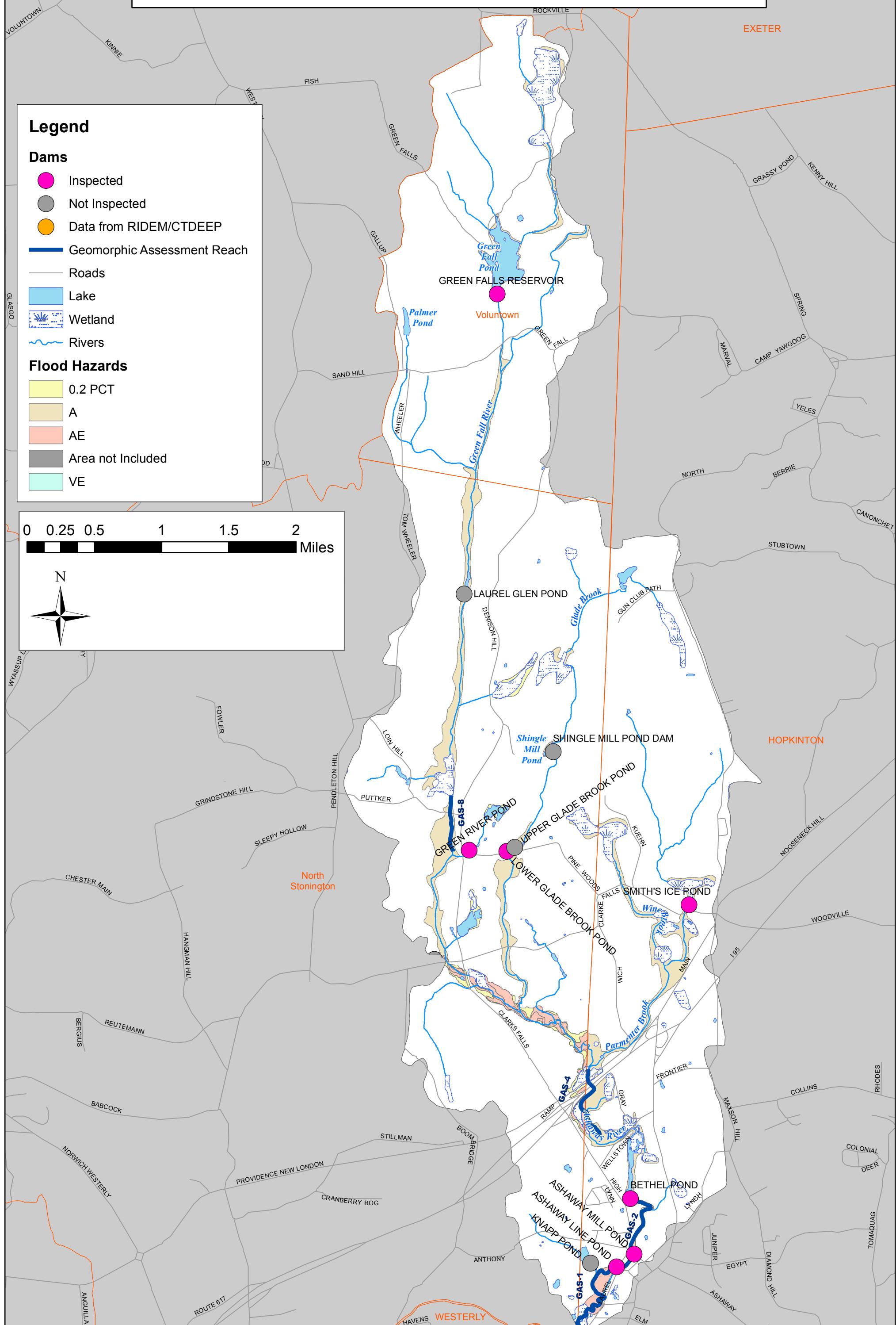
### Wetland

### Rivers

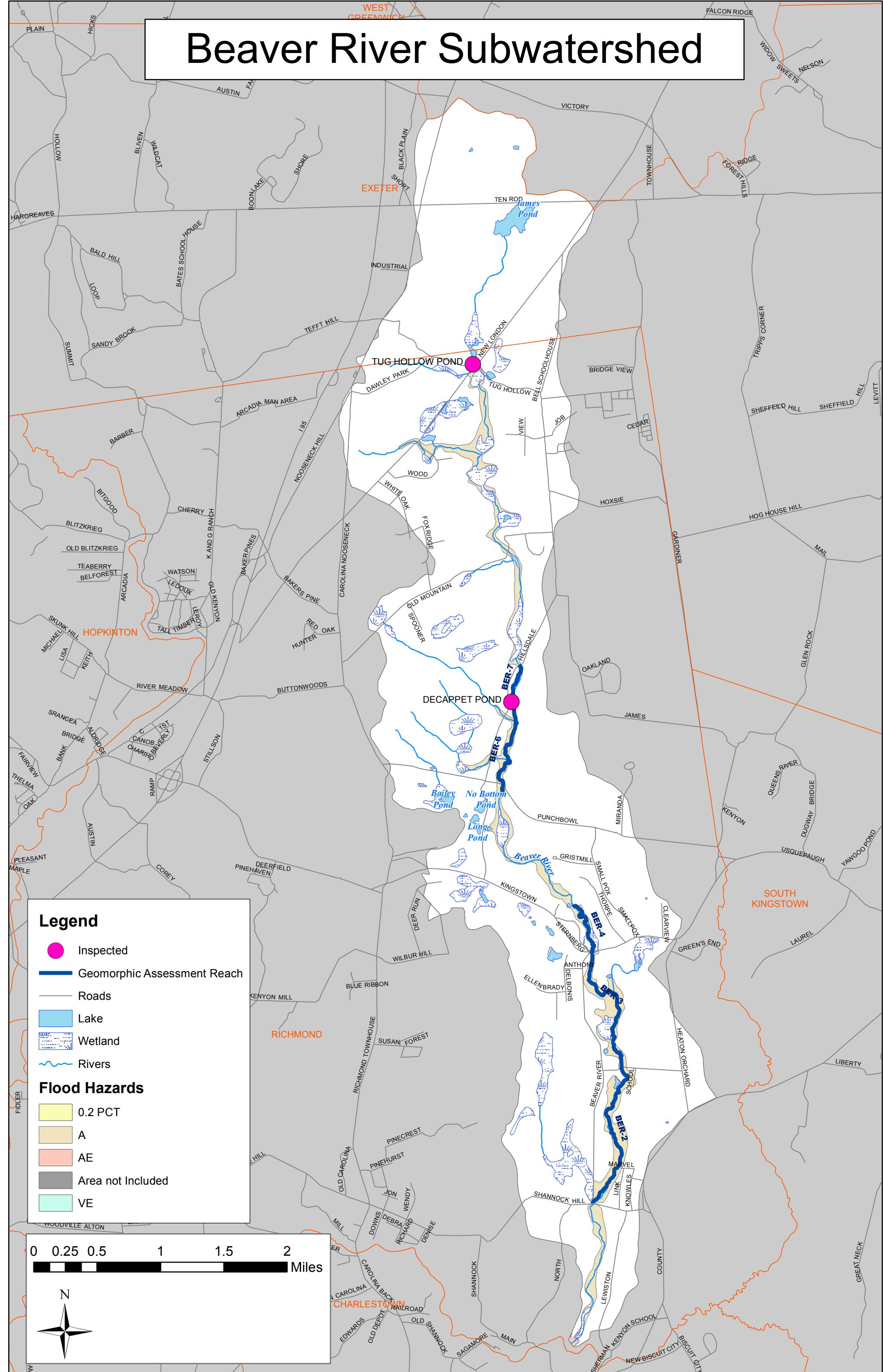
### Flood Hazards

- |                   |
|-------------------|
| 0.2 PCT           |
| A                 |
| AE                |
| Area not Included |
| VE                |

0 0.25 0.5 1 1.5 2 Miles



# Beaver River Subwatershed



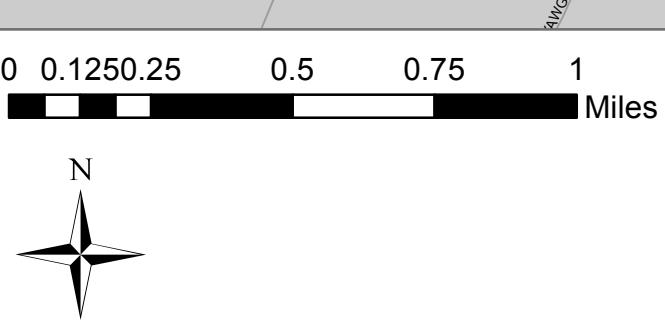
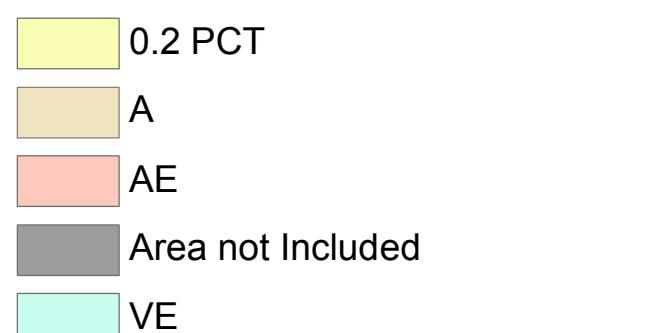
# Chickasheen River Subwatershed

## Legend

# Dams

- Inspected
  - Geomorphic Assessment Reach
  - Roads
  - Lake
  - Wetland
  - ~ Rivers

## Flood Hazards



# Chipuxet River Subwatershed

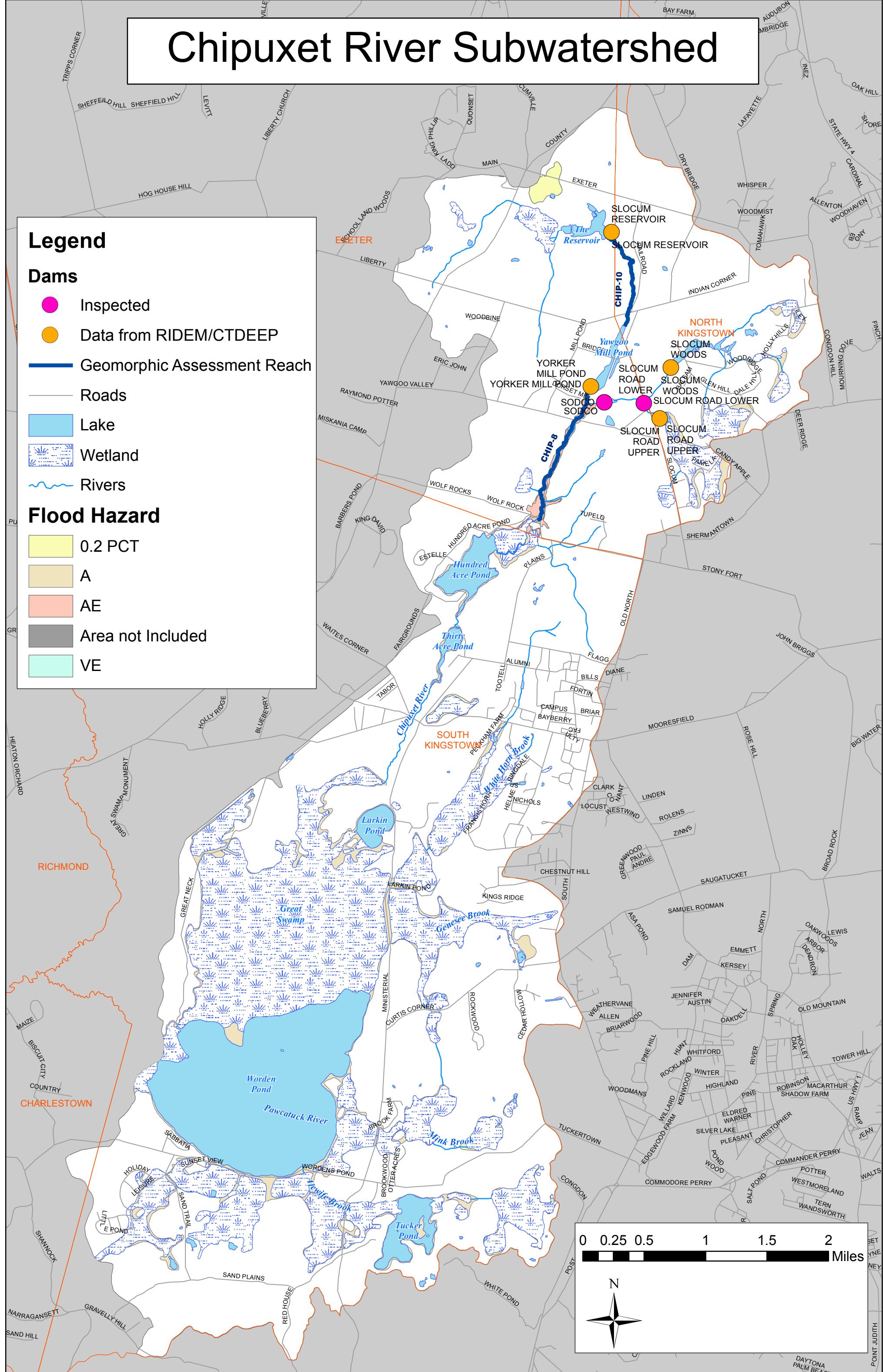
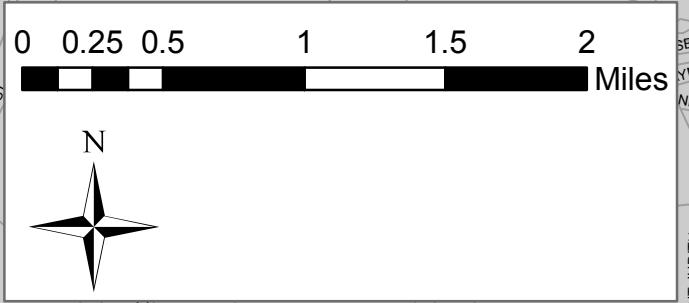
## Legend

### Dams

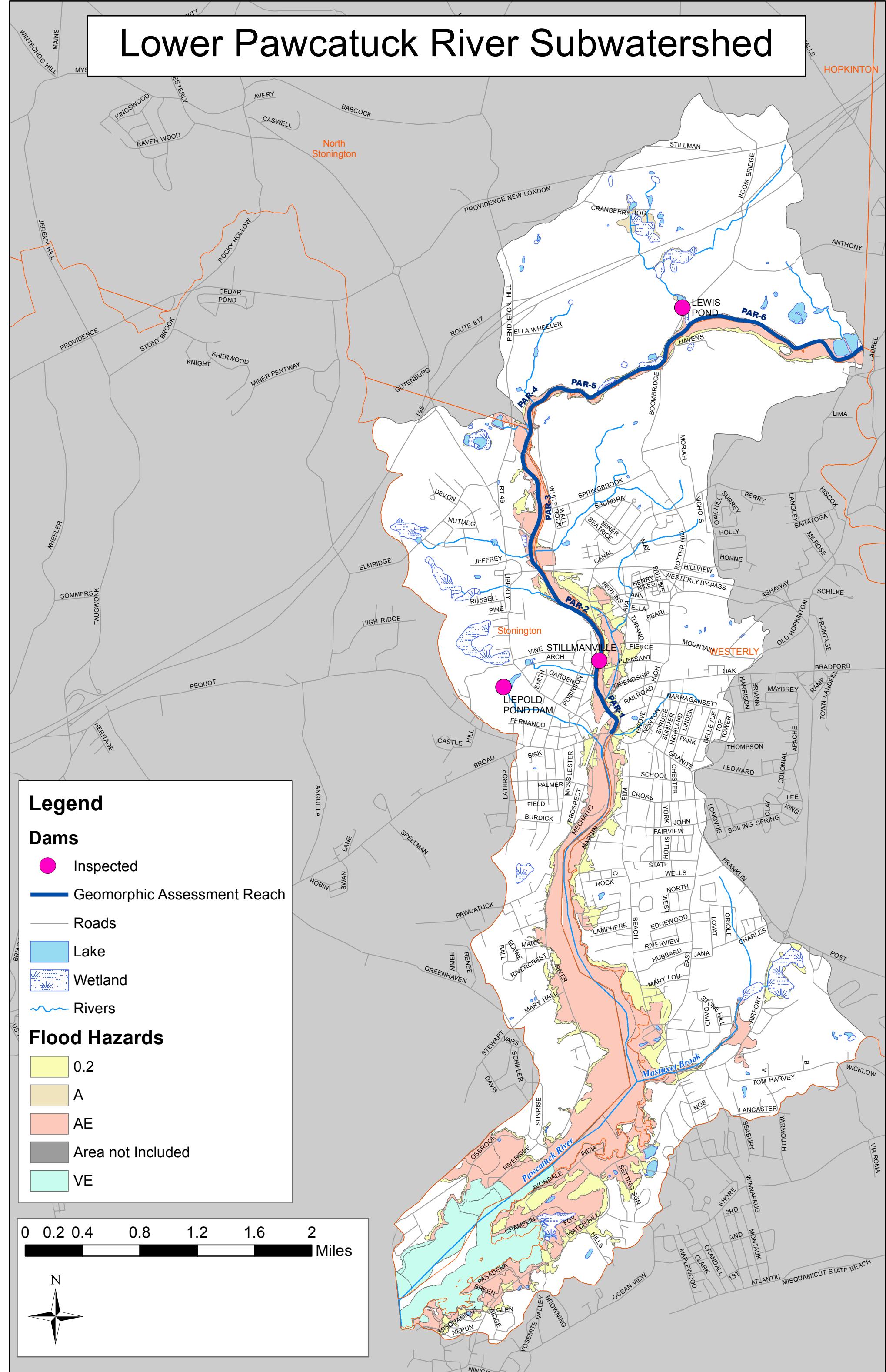
- Inspected
- Data from RIDEM/CTDEEP
- Geomorphic Assessment Reach
- Roads
- Lake
- Wetland
- Rivers

### Flood Hazard

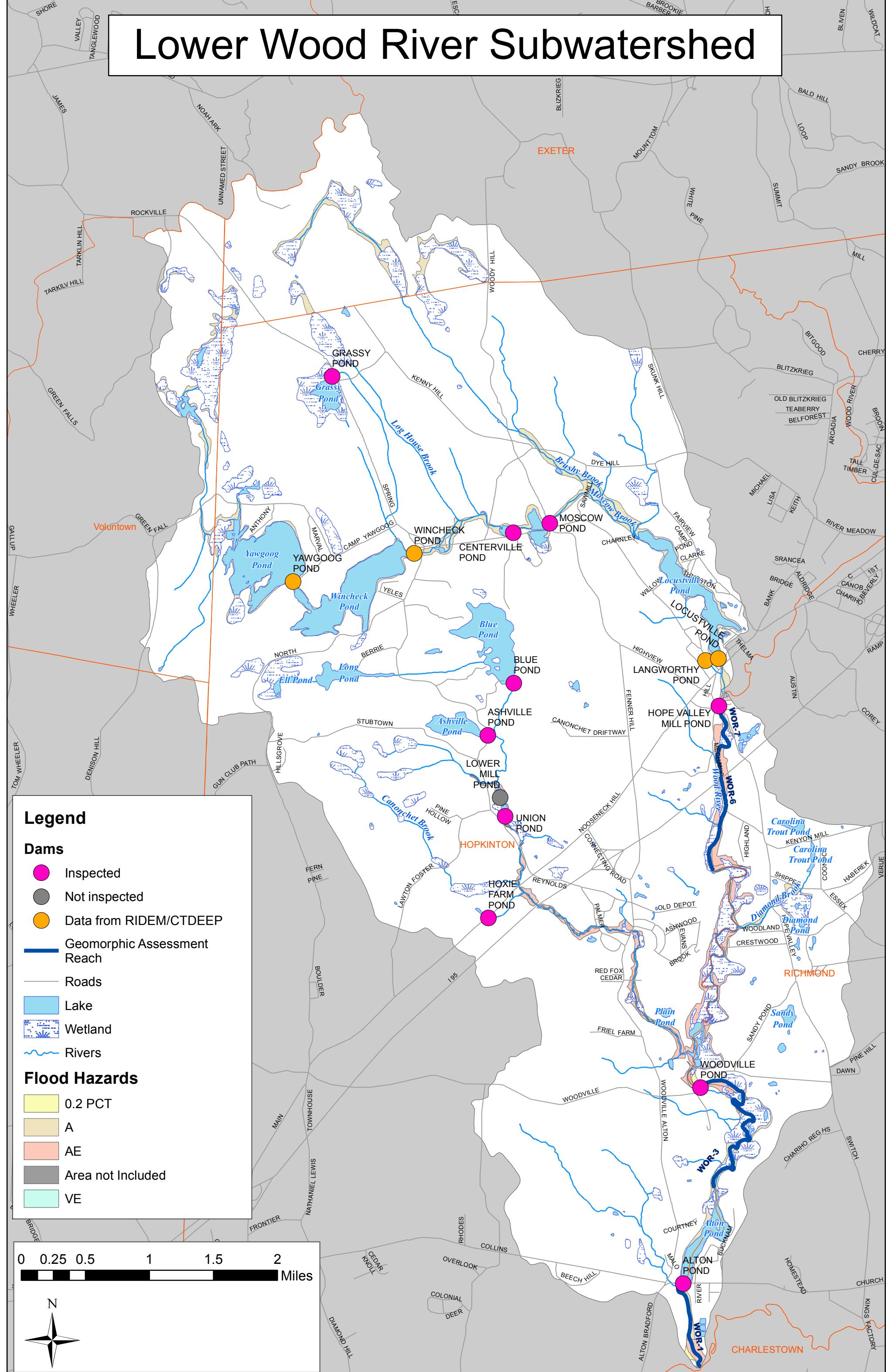
- 0.2 PCT
- A
- AE
- Area not Included
- VE



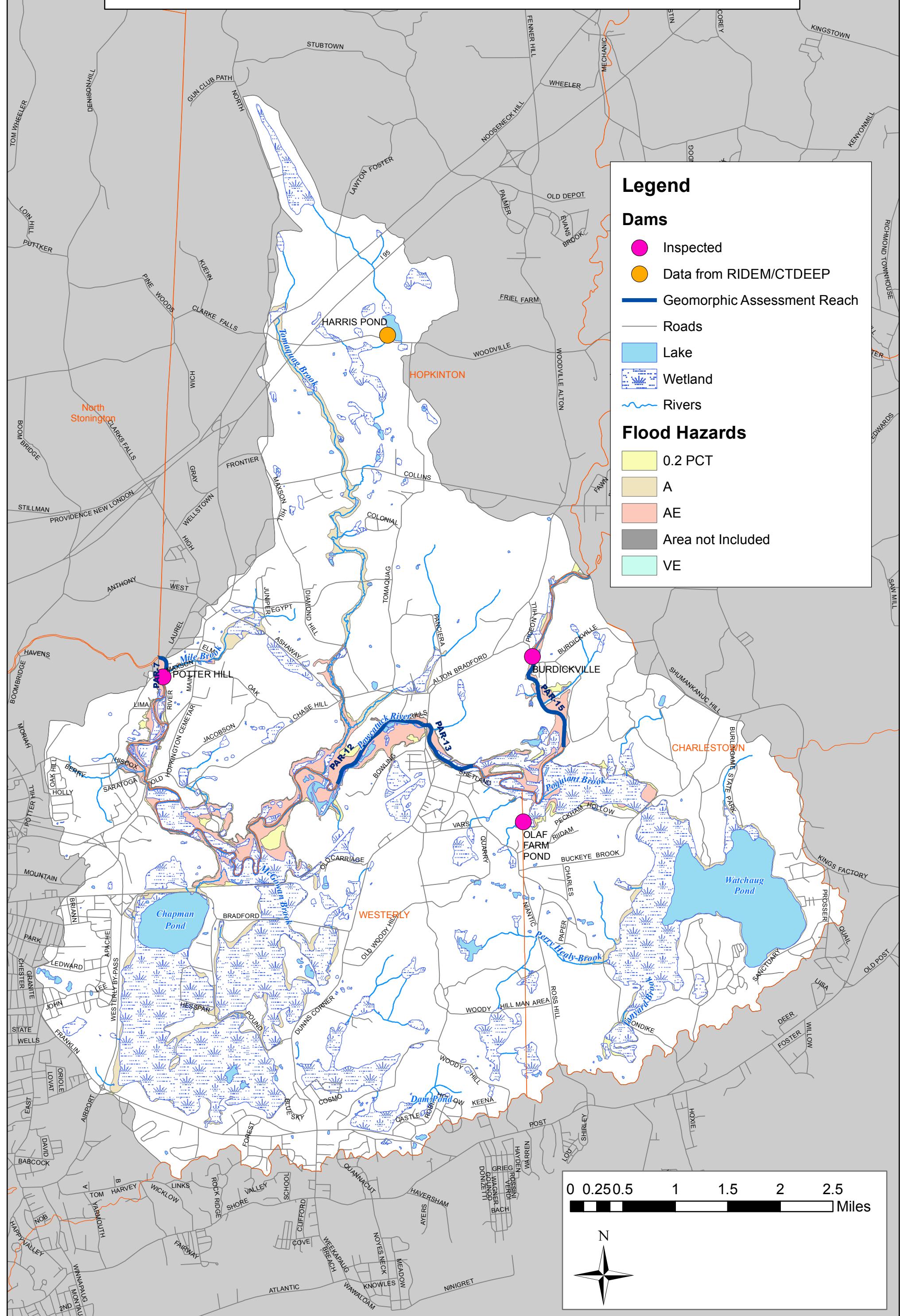
# Lower Pawcatuck River Subwatershed



# Lower Wood River Subwatershed



# Middle Pawcatuck River Subwatershed



# Shunock River Subwatershed

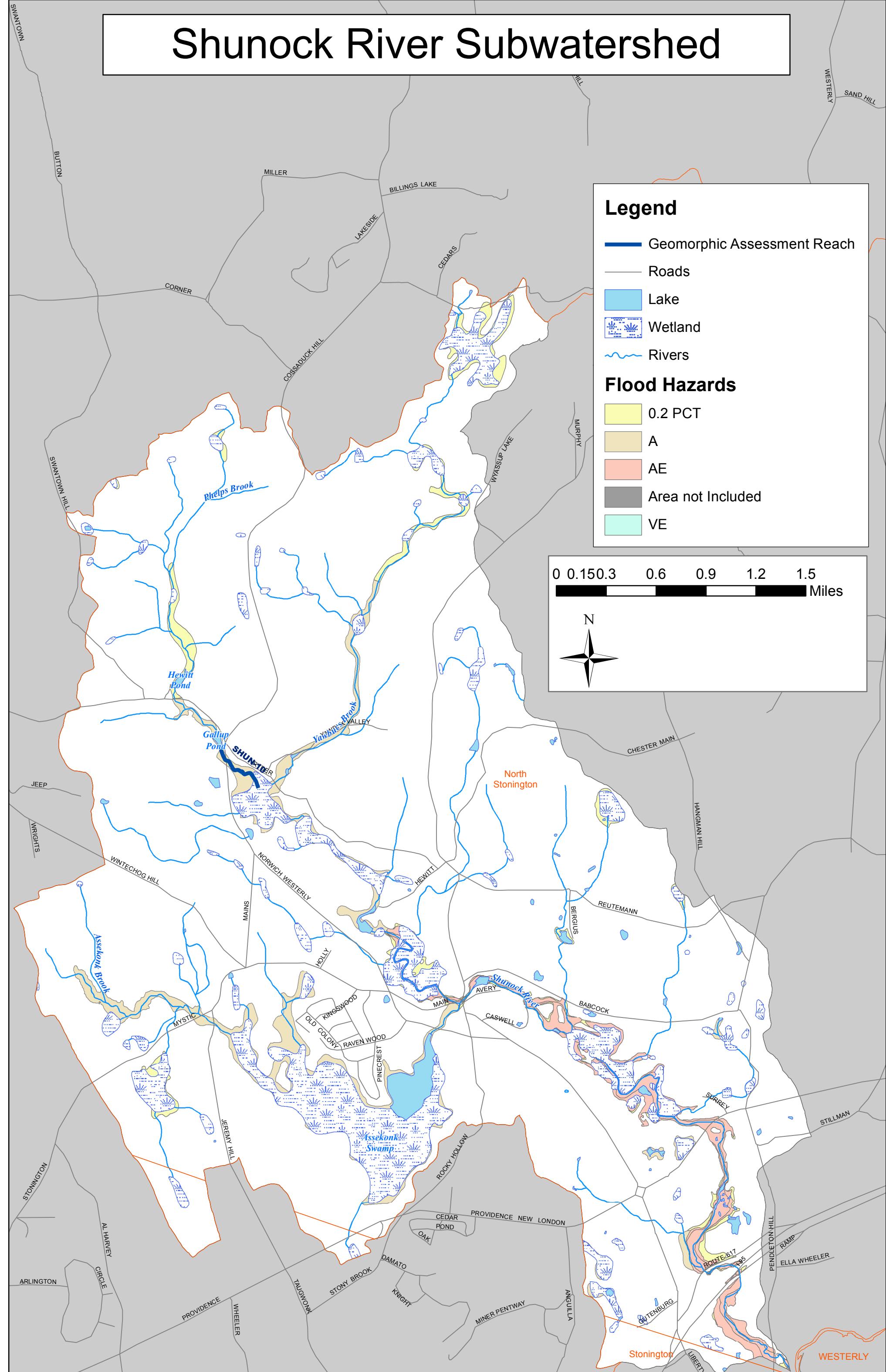
## Legend

- Geomorphic Assessment Reach
- Roads
- Lake
- Wetland
- Rivers

## Flood Hazards

- 0.2 PCT
- A
- AE
- Area not Included
- VE

0 0.1 0.3 0.6 0.9 1.2 1.5 Miles



# Upper Pawcatuck River Subwatershed

## Legend

### Dams

● Inspected

● Not inspected

— Geomorphic Assessment Reach

— Roads

Lake

Wetland

Rivers

### Flood Hazards

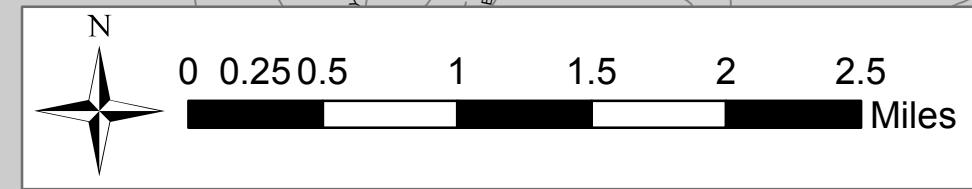
0.2 PCT

A

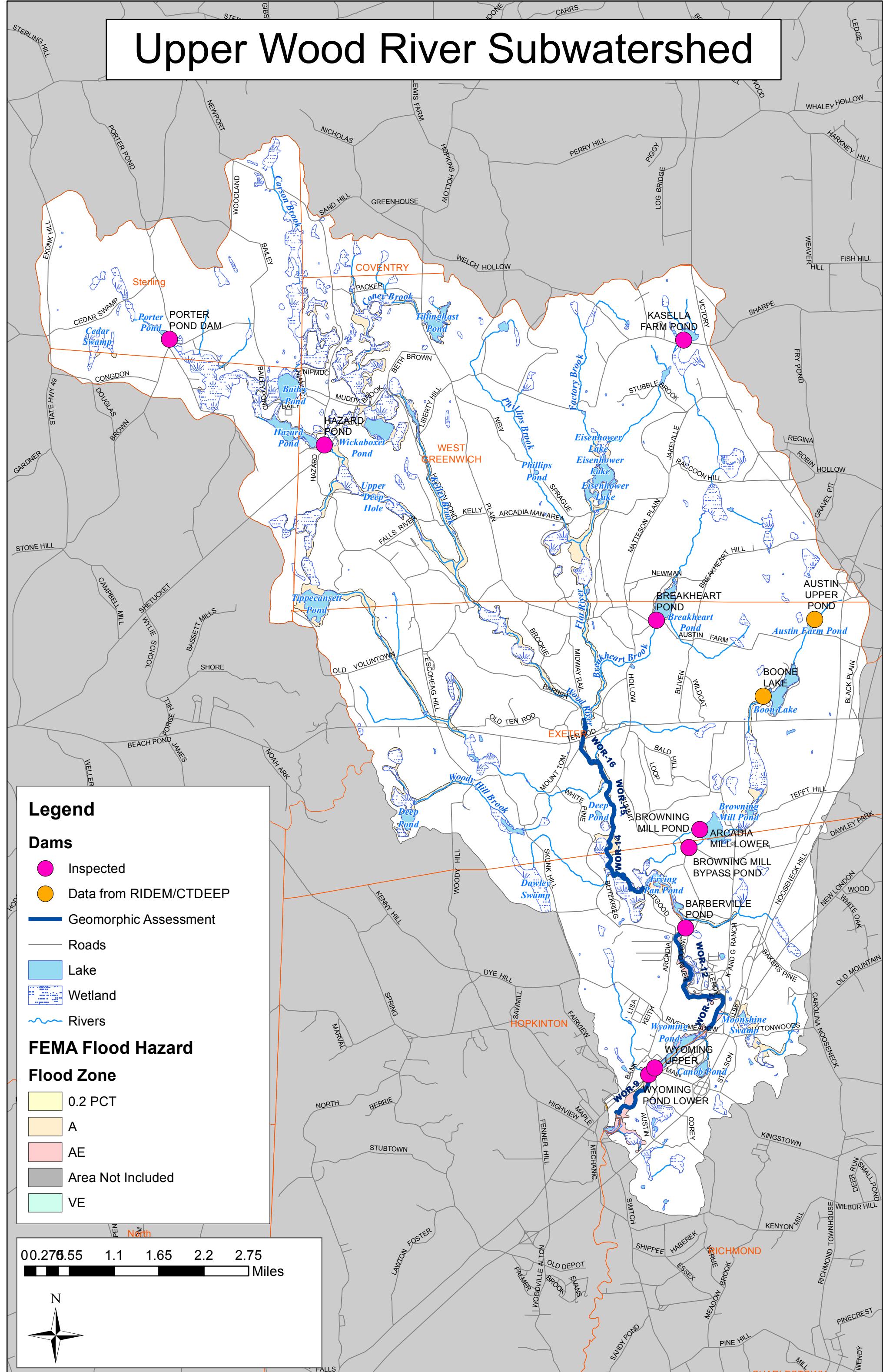
AE

Area not Included

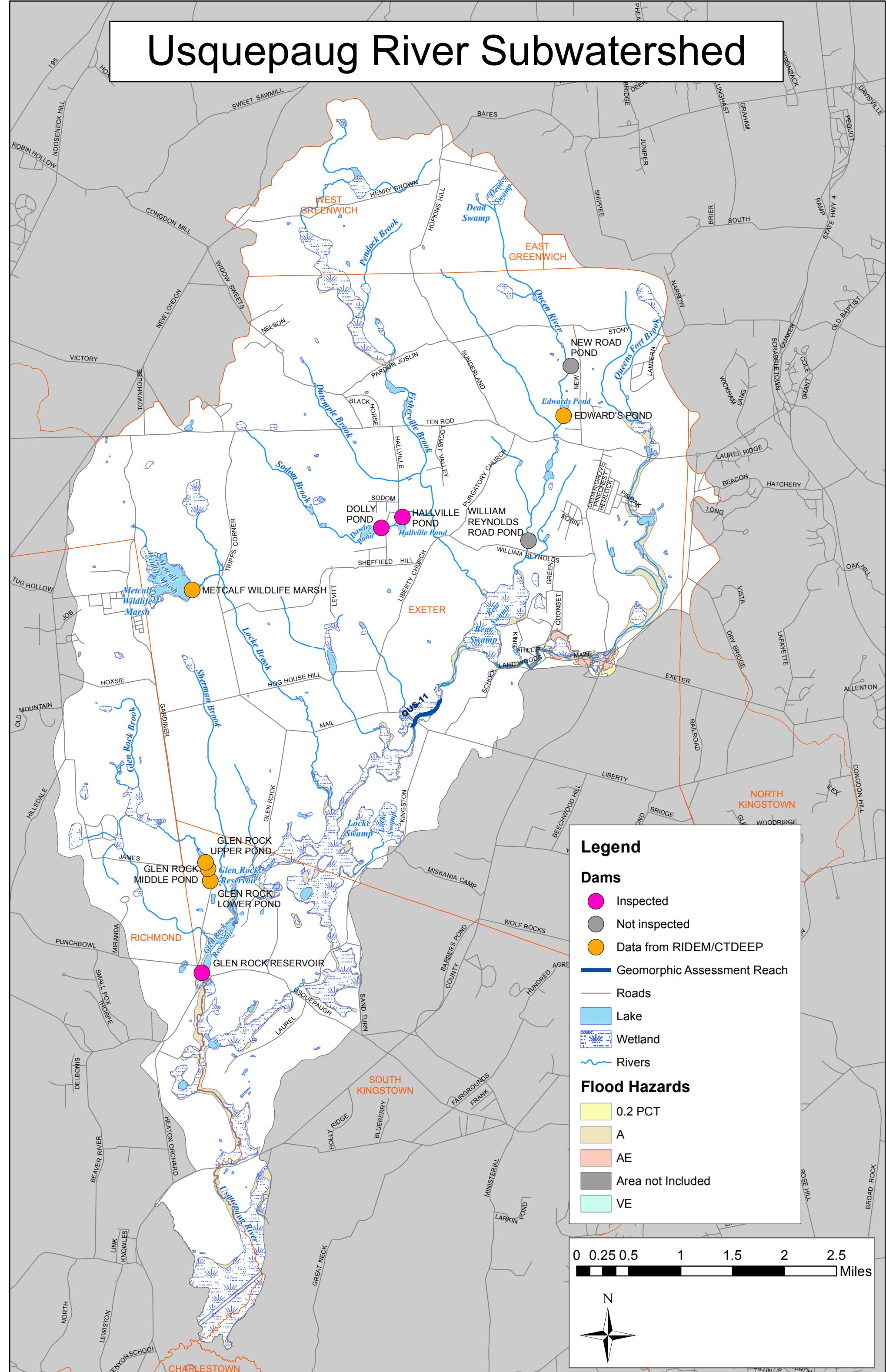
VE



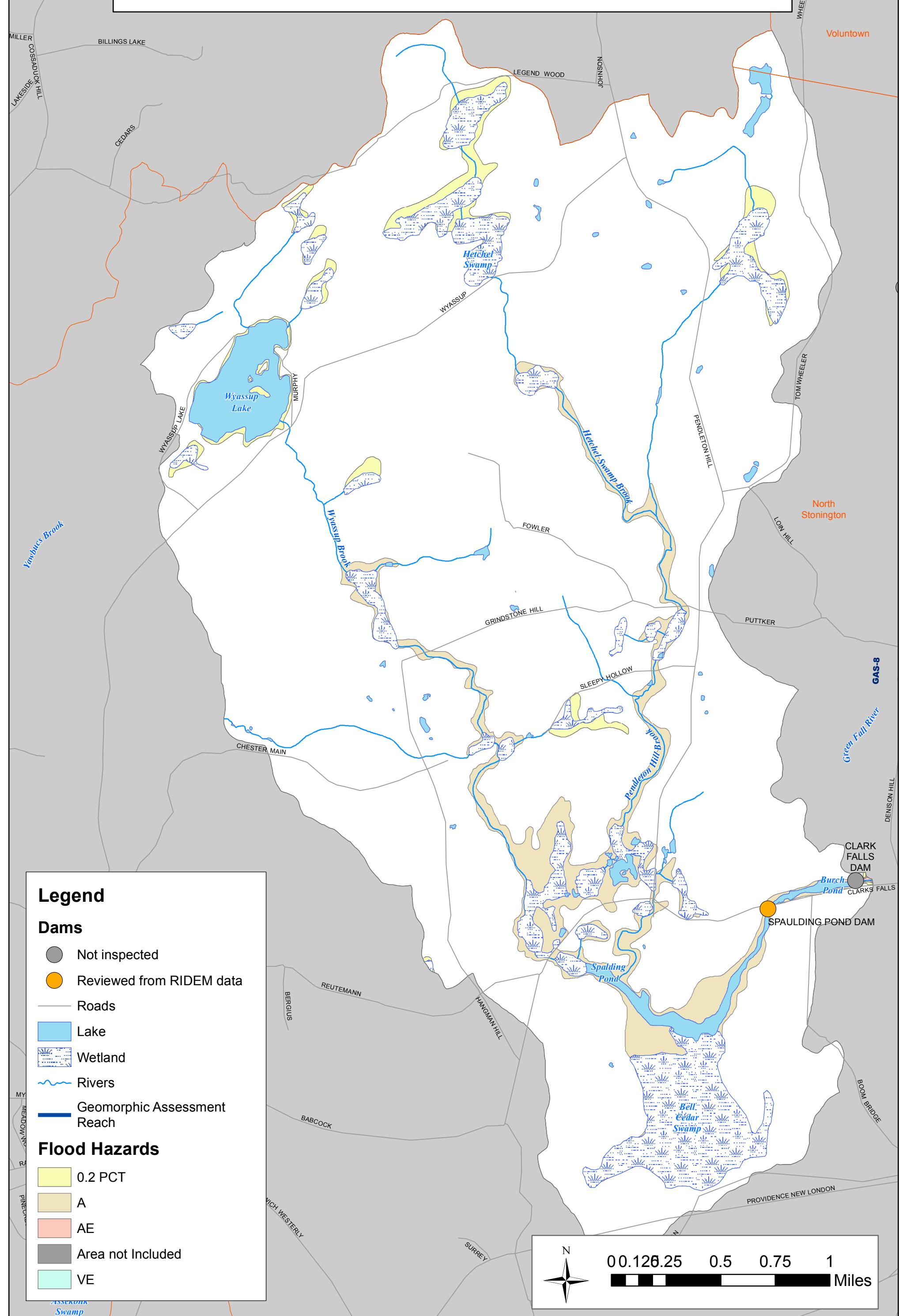
# Upper Wood River Subwatershed



# Usquepaug River Subwatershed



# Wayassup Brook Subwatershed



Dams in the Wood-Pawcatuck Watershed Selected for Assessment

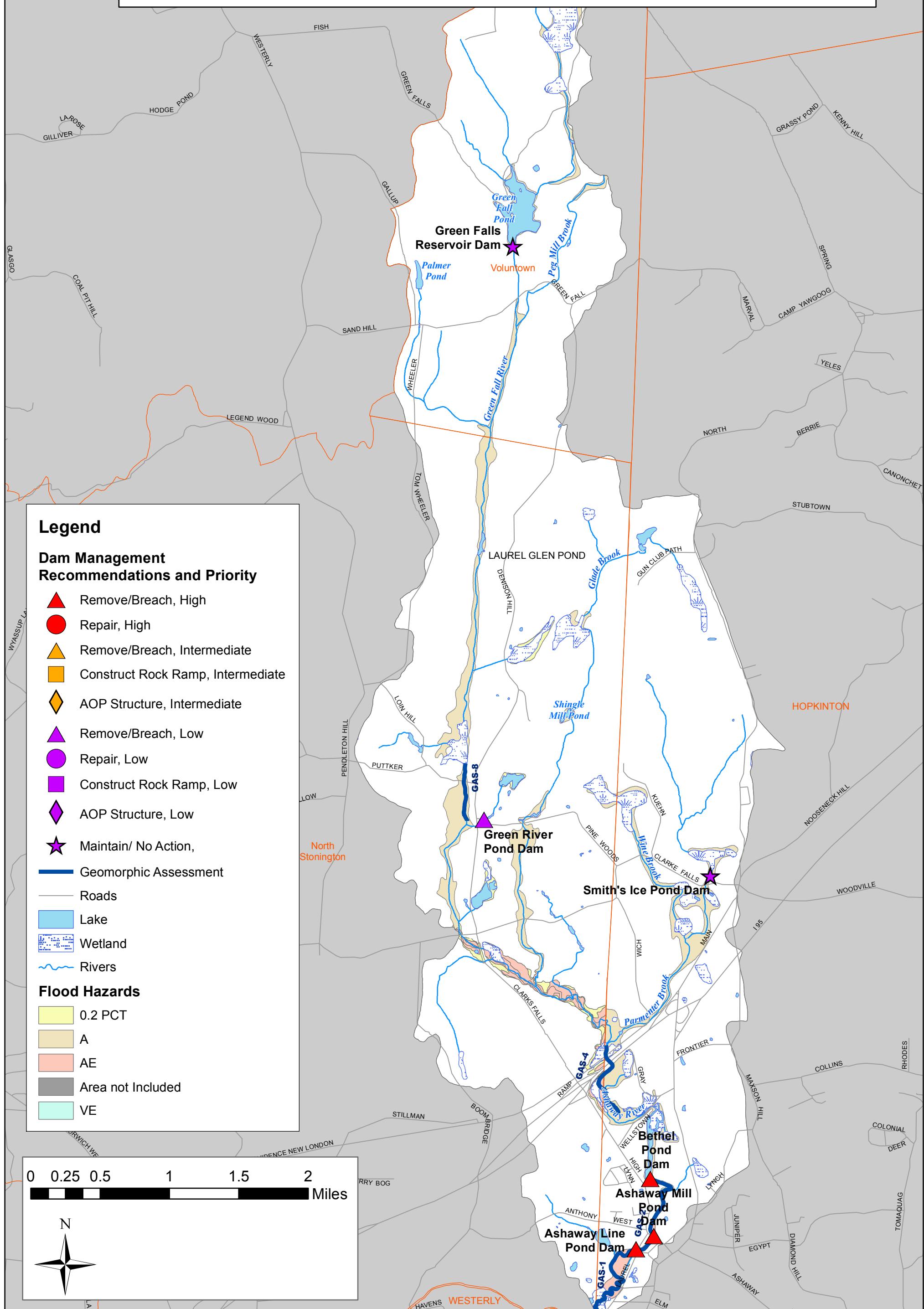
| Dam Name                     | Dam Inspected?        | State | Watershed | Dam ID | Latitude      | Longitude  | Town                   | Owner                              | Date Constructed | Stream Name          | Hazard Class | Watershed Area (mi <sup>2</sup> ) | Impoundment Area (mi <sup>2</sup> ) | Watershed Ratio | Estimated Capacity | 10-Year Storm | 25-Year Storm | 50-Year Storm | 100-Year Storm | SS Parameters Out of Range |
|------------------------------|-----------------------|-------|-----------|--------|---------------|------------|------------------------|------------------------------------|------------------|----------------------|--------------|-----------------------------------|-------------------------------------|-----------------|--------------------|---------------|---------------|---------------|----------------|----------------------------|
| Alton Pond Dam               | Yes                   | RI    | LWR       | 247    | 41.437775     | -71.721497 | HOPKINTON / RICHMOND   | RIDOT                              | 1931 / 1986      | WOOD RIVER           | SIGNIFICANT  | 86.20                             | 0.083                               | 1039            | 6686               | 1980          | 2650          | 3190          | 3790           |                            |
| Arcadia Mill Lower Dam (Brow | Yes                   | RI    | UWR       | 402    | 41.555130     | -71.695450 | HOPKINTON              |                                    | Unknown          | ROARING BROOK        | LOW          | 5.7                               | 0.002                               | 3519            | 51                 | 124           | 169           | 206           | 249            | SD                         |
| Ashaway Line Pond Dam        | Yes                   | RI    | AWR       | 266    | 41.423431     | -71.792191 | HOPKINTON              | Ashaway Line & Twine Mfg. Co.      | Unknown          | ASHAWAY RIVER        | LOW          | 28.30                             | 0.001                               | 37572           | 861                | 1050          | 1430          | 1730          | 2060           |                            |
| Ashaway Mill Pond Dam        | Yes                   | RI    | AWR       | 265    | 41.424810     | -71.789700 | HOPKINTON              | Ashaway Line & Twine Mfg. Co.      | 1926             | ASHAWAY RIVER        | LOW          | 28.20                             | 0.002                               | 12096           | 3332               | 1040          | 1420          | 1720          | 2050           |                            |
| Ashville Pond Dam            | Yes                   | RI    | LWR       | 227    | 41.499764     | -71.751122 | HOPKINTON              |                                    | Unknown          | BLUE POND BROOK      | SIGNIFICANT  | 0.34                              | 0.050                               | 7               | 173                | 5.91          | 8.10          | 9.89          | 12.1           | DA,SD                      |
| Austin Upper Pond Dam        | No                    | RI    | UWR       | 382    | 41.595680     | -71.665817 | EXETER                 | Austin Farm Associates             | Unknown          | ROARING BROOK        | LOW          | -                                 | -                                   | -               | -                  | -             | -             | -             | -              |                            |
| Barberville Pond Dam         | Yes                   | RI    | UWR       | 215    | 41.540840     | -71.696180 | HOPKINTON / RICHMOND   | RIDEM                              | Unknown          | WOOD RIVER           | SIGNIFICANT  | 54.6                              | 0.033                               | 1655            | 1514               | 1270          | 1700          | 2060          | 2450           |                            |
| Bethel Pond Dam              | Yes                   | RI    | AWR       | 264    | 41.430778     | -71.790237 | HOPKINTON              | Bermuda Realty, Inc.               | Unknown          | ASHAWAY RIVER        | LOW          | 27.80                             | 0.008                               | 3396            | 2558               | 1020          | 1390          | 1690          | 2010           |                            |
| Blue Pond Dam                | Yes                   | RI    | LWR       | 229    | 41.505688     | -71.747253 | HOPKINTON              | Ashville Corporation               | Unknown          | BLUE POND BROOK      | SIGNIFICANT  | 1.5                               | 0.144                               | 11              | 5077               | 25.2          | 34.0          | 41.1          | 49.7           | DA                         |
| Boone Lake Dam               | File Review Data Used | RI    | UWR       | 219    | 41.582012     | -71.677994 | EXETER                 | Boone Lake Dam Management District | 1885             | ROARING BROOK        | HIGH         | 2.7                               | 0.073                               | 37              | 425                | 63.5          | 87.3          | 108           | 131            | DA                         |
| Breakheart Pond Dam          | Yes                   | RI    | UWR       | 214    | 41.595459     | -71.703293 | EXETER                 | RIDEM Fish and Wildlife            | Unknown          | BREAKHEART BROOK     | LOW          | 6.1                               | 0.077                               | 79              | 1507               | 18.7          | 24.0          | 27.7          | 33.2           |                            |
| Browning Mill Pond Dam       | Yes                   | RI    | UWR       | 221    | 41.558346     | -71.692909 | EXETER                 | RIDEM                              | 1885             | ROARING BROOK        | HIGH         | 5.7                               | 0.098                               | 58              | 1332               | 123           | 167           | 204           | 247            |                            |
| Burdickville Dam             | Yes                   | RI    | MPR       | 251    | 41.417030     | -71.729150 | CHARLESTOWN/HOPKINTON  | Paul Bloomfield (RIDEM?)           | Unknown          | PAWCATUCK RIVER      | LOW          | 204                               | 0.002                               | 135417          | 3107               | 2800          | 3690          | 4380          | 5170           |                            |
| Carolina Pond Dam            | No                    | RI    | UPR       | 252    | 41.458862     | -71.663590 | CHARLESTOWN / RICHMOND | Atlas Corporation                  | Unknown          | PAWCATUCK RIVER      | LOW          | -                                 | -                                   | -               | -                  | -             | -             | -             | -              |                            |
| Centerville Pond Dam         | Yes                   | RI    | LWR       | 223    | 41.522713     | -71.747383 | HOPKINTON              | Dietrich Baeu                      | Unknown          | MOSCOW BROOK         | LOW          | 5.6                               | 0.003                               | 1860            | 745                | 130           | 176           | 212           | 254            |                            |
| Clark Falls Dam              | No                    | CT    | WPB       | 10205  | 41.456481     | -71.818448 | NORTH STONINGTON       | John Perry Palmer                  | Unknown          | WYASSUP BROOK        | Significant  | -                                 | -                                   | -               | -                  | -             | -             | -             | -              |                            |
| Decappet Pond Dam            | Yes                   | RI    | BVR       | 230    | 41.521328     | -71.640602 | RICHMOND               | RIDEM                              | Unknown          | BEAVER RIVER         | LOW          | 5.25                              | 0.000                               | 16263           | 197                | 244           | 338           | 417           | 502            |                            |
| Dolly Pond Dam               | Yes                   | RI    | QUR       | 243    | 41.565910     | -71.574928 | EXETER                 |                                    | Unknown          | SODOM BROOK          | LOW          | 1.6                               | 0.012                               | 135             | 175                | 131           | 187           | 234           | 284            | DA, SD, PS                 |
| Edward's Pond Dam            | File Review Data Used | RI    | QUR       | 238    | 41.581562     | -71.541122 | EXETER                 | Exeter Country Club                | Unknown          | QUEEN RIVER          | SIGNIFICANT  | 1.8                               | 0.006                               | 307             | 166                | 154           | 218           | 271           | 328            | DA                         |
| Glen Rock Lower Pond Dam     | File Review Data Used | RI    | QUR       | 233    | 41.516640     | -71.606606 | SOUTH KINGSTOWN        | Oliver W. Greene, III              | Unknown          | GLEN ROCK BROOK      | LOW          | 2.8                               | 0.001                               | 2820            | 262                | 194           | 273           | 338           | 407            | DA                         |
| Glen Rock Middle Pond Dam    | File Review Data Used | RI    | QUR       | 234    | 41.518349     | -71.607025 | SOUTH KINGSTOWN        | Oliver W. Greene, III              | Unknown          | GLEN ROCK BROOK      | LOW          | 2.8                               | 0.002                               | 1405            | 11                 | 193           | 271           | 335           | 404            | DA                         |
| Glen Rock Reservoir Dam      | Yes                   | RI    | QUR       | 236    | 41.503860     | -71.608170 | SOUTH KINGSTOWN        | Paul E.T. Drumm III                | 1860             | USQUEPAUG RIVER      | SIGNIFICANT  | 32.8                              | 0.023                               | 1426            | 370                | 1210          | 1660          | 2010          | 2400           |                            |
| Glen Rock Upper Pond Dam     | File Review Data Used | RI    | QUR       | 235    | 41.519253     | -71.607513 | SOUTH KINGSTOWN        | Oliver W. Greene, III              | Unknown          | GLEN ROCK BROOK      | LOW          | 2.8                               | 0.005                               | 560             | 6                  | 193           | 271           | 336           | 405            | DA                         |
| Grassy Pond Dam              | Yes                   | RI    | LWR       | 289    | 41.540325     | -71.774757 | HOPKINTON              | Estate of Arthur Gordon            | Unknown          | WINCHECK POND-TRIB   | LOW          | 0.58                              | 0.030                               | 19              | 132                | 7.25          | 9.83          | 11.9          | 14.5           | DA, PS                     |
| Great Swamp Goose Marsh D    | Yes                   | RI    | UPR       | 531    | 41.448498     | -71.595360 | SOUTH KINGSTOWN        | RIDEM Fish and Wildlife            | Unknown          | PAWCATUCK RIVER      | LOW          | 0.43                              | 0.129                               | 3               | 0                  | 113           | 154           | 187           | 221            | TR-20                      |
| Green Falls Reservoir Dam    | Yes                   | CT    | AWR       | 14701  | 41.528206     | -71.809785 | VOLUNTOWN              | CTDEEP                             | Prior to 1955    | GREEN FALL RIVER     | Moderate     | 1.89                              | 0.072                               | 26              | 988                | 241           | 319           | 384           | 450            | DA                         |
| Green River Pond Dam         | Yes                   | CT    | AWR       | 10220  | 41.468279     | -71.813518 | NORTH STONINGTON       |                                    | Unknown          | GREEN FALL R TRIB    | Low          | 0.19                              | 0.001                               | 221             | Unknown            | 33            | 44            | 53            | 61             | DA                         |
| Hallville Pond Dam           | Yes                   | RI    | QUR       | 571    | 41.567417     | -71.571022 | EXETER                 | Vera A. Muller                     | Unknown          | SODOM BROOK          | LOW          | 1.82                              | 0.012                               | 154             | 3                  | 136           | 192           | 240           | 291            | DA                         |
| Harris Pond Dam              | File Review Data Used | RI    | MPR       | 274    | 41.461311     | -71.755913 | HOPKINTON              | Edward Carapezza                   | Unknown          | TOMAQAG BROOK-TRIB   | SIGNIFICANT  | 1.41                              | 0.030                               | 47              | 105                | 34.7          | 47.4          | 57.6          | 69.6           | DA                         |
| Hazard Pond Dam              | Yes                   | RI    | UWR       | 200    | 41.626453     | -71.782066 | WEST GREENWICH         | Alfred Buckley Jr.                 | Unknown          | FALLS RIVER          | LOW          | 9.3                               | 0.050                               | 185             | 8                  | 129           | 172           | 208           | 250            |                            |
| Hope Valley Mill Pond Dam    | Yes                   | RI    | LWR       | 245    | 41.503132     | -71.716339 | HOPKINTON / RICHMOND   | RIDEM Fish and Wildlife            | Unknown          | WOOD RIVER           | LOW          | 73.3                              | 0.014                               | 5236            | 1590               | 1680          | 2260          | 2720          | 3230           |                            |
| Hoxie Farm Pond Dam          | Yes                   | RI    | LWR       | 440    | 41.479084     | -71.750961 | HOPKINTON              | RIDOT                              | Unknown          | CANONCHET BROOK-TRIB | SIGNIFICANT  | 0.1                               | 0.006                               | 20              | 159                | 16.0          | 23.3          | 29.8          | 36.7           | DA, SD, PS                 |
| Kasella Farm Pond Dam        | Yes                   | RI    | UWR       | 468    | 41.645267     | -71.696991 | WEST GREENWICH         | Carmine D. Oliveri                 | Unknown          | BREAKHEART BROOK     | LOW          | 0.7                               | 0.036                               | 19              | 150                | 45.5          | 64.2          | 79.7          | 96.7           | DA                         |
| Knapp Pond Dam               | No                    | RI    | AWR       | 276    | 41.423805     | -71.795921 | HOPKINTON              | Reginald E. Kenyon                 | Unknown          | KNAPP BROOK          | LOW          | -                                 | -                                   | -               | -                  | -             | -             | -             | -              |                            |
| Langworthy Pond Dam          | File Review Data Used | RI    | LWR       | 285    | 41.508286     | -71.718376 | HOPKINTON              | Richard A. Mann                    | Unknown          | BRUSHY BROOK-TRIB    | SIGNIFICANT  | 0.3                               | 0.003                               | 113             | 25                 | 43.7          | 64.5          | 85.1          | 106            | DA, SD, PS                 |
| Laurel Glen Pond Dam         | No                    | CT    | AWR       | 10232  | 41.495885     | -71.814346 | NORTH STONINGTON       | Richard Chapman                    | Unknown          | GREEN FALL R TRIB    | Unknown      | -                                 | -                                   | -               | -                  | -             | -             | -             | -              |                            |
| Lewis Pond Dam               | Yes                   | CT    | LPR       | 10217  | 41.420731     | -71.822093 | NORTH STONINGTON       |                                    | Unknown          | PAWCATUCK RIVER TRIB | Low          | 1.62                              | 0.003                               | 565             | 498                | 155           | 212           | 258           | 305            | DA                         |
| Liepold Pond Dam             | Yes                   | CT    | LPR       | 13713  | 41.382276     | -71.845918 | STONINGTON             | Warren Liepold                     | Unknown          | PAWCATUCK RIVER      | Moderate     | 0.08                              | 0.007                               | 12              | 171                | 16.1          | 21.6          | 25.9          | 29.7           | DA                         |
| Locustville Pond Dam         | File Review Data Used | RI    | LWR       | 262    | 41.508514     | -71.716446 | HOPKINTON              | Georgia Ure                        | 1885             | BRUSHY BROOK         | HIGH         | 11.8                              | 0.141                               | 84              | 554                | 333           | 451           | 545           | 651            |                            |
| Lower Glade Brook Pond Dam   | No                    | CT    | AWR       | 10219  | 41.468158</td |            |                        |                                    |                  |                      |              |                                   |                                     |                 |                    |               |               |               |                |                            |



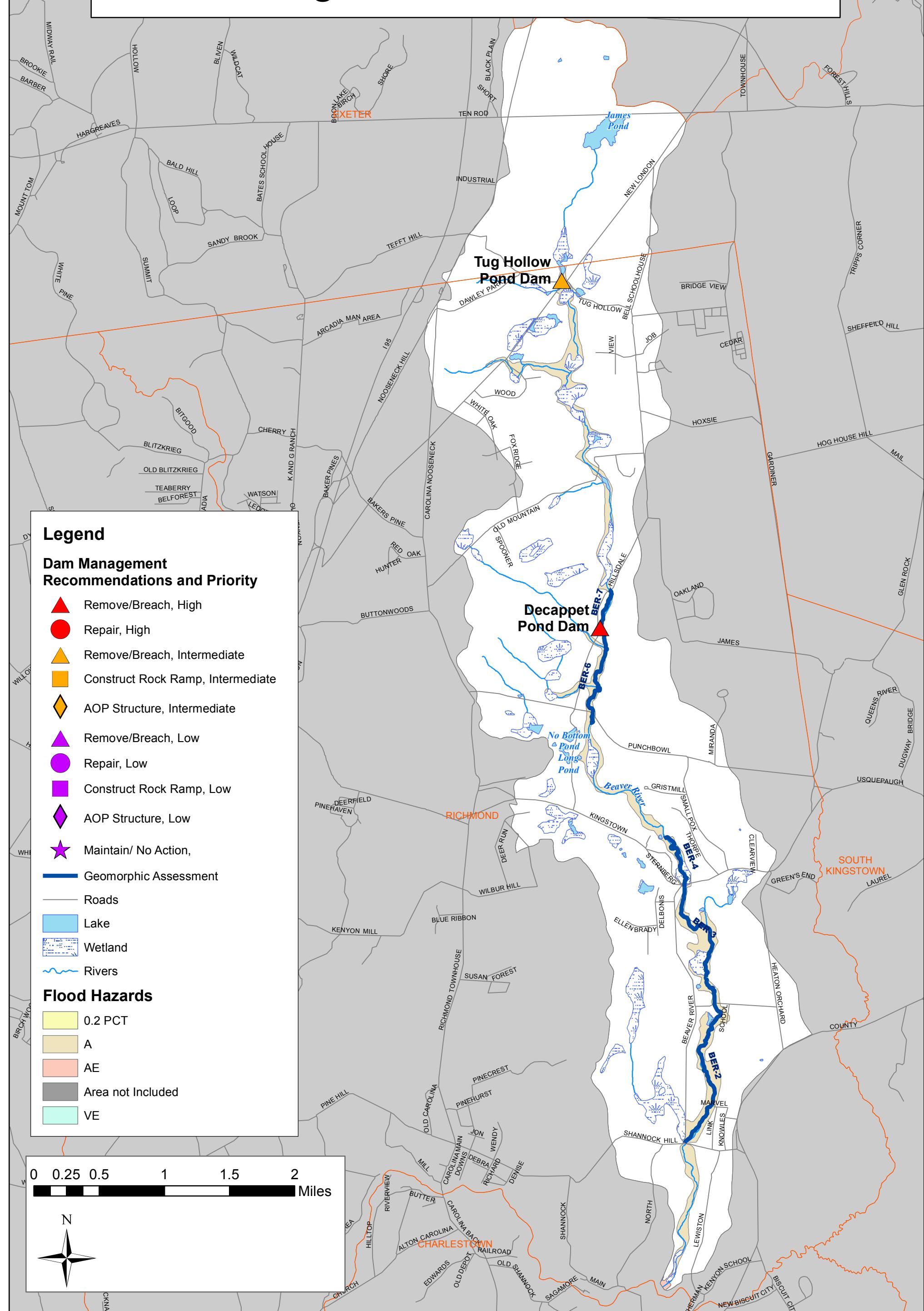
## Appendix H

### Dams – Subwatershed Recommendations Maps

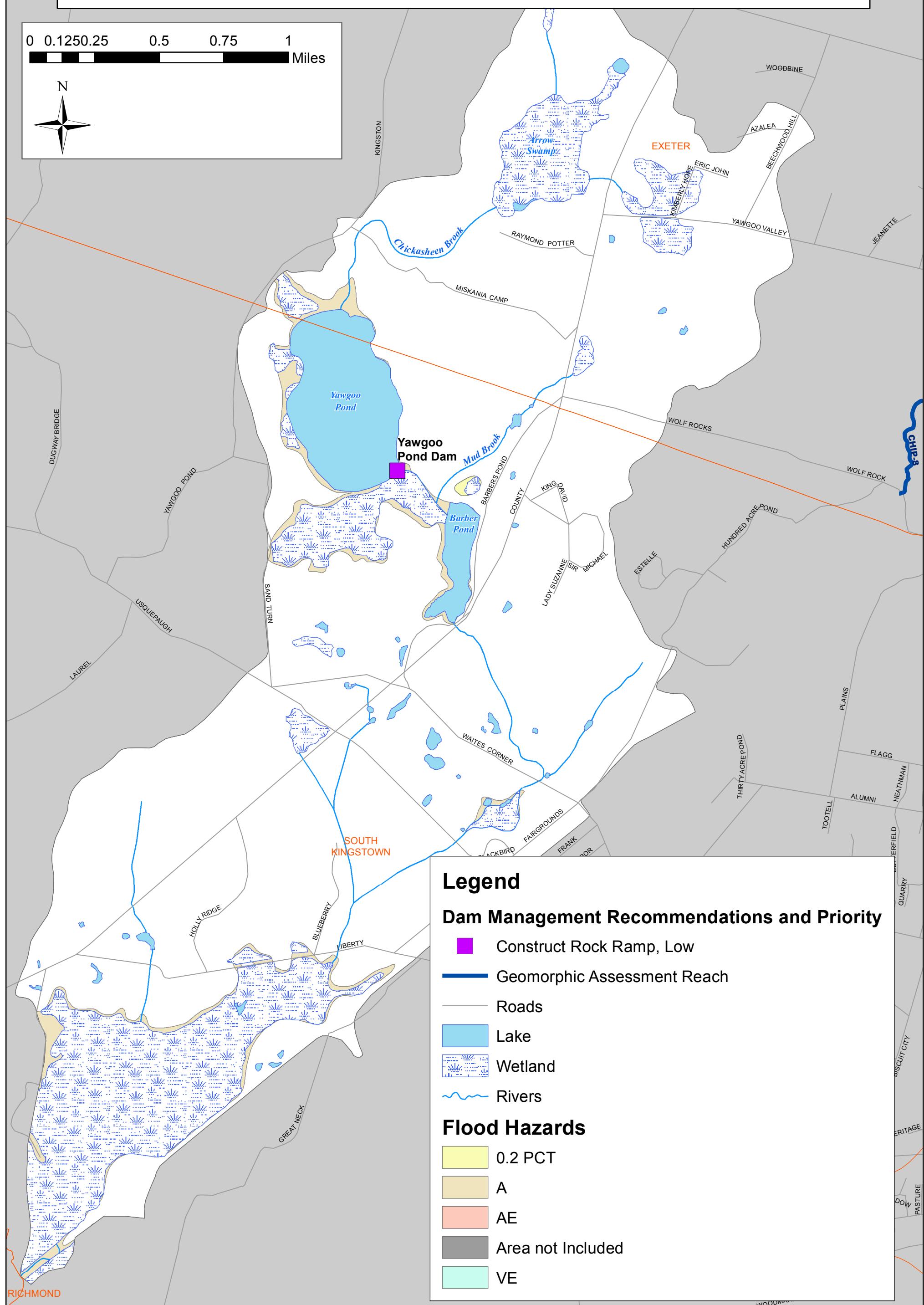
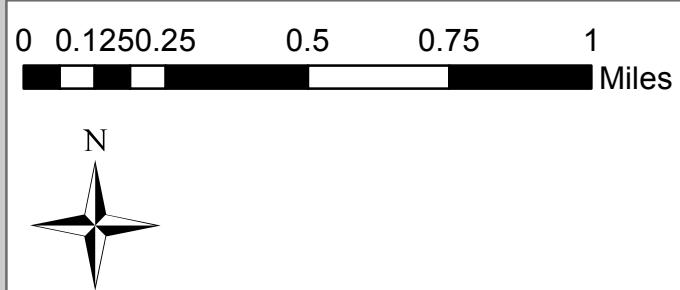
# Ashaway River Subwatershed Dam Management Recommendations



# Beaver River Subwatershed Dam Management Recommendations



# Chickasheen River Subwatershed Dam Management Recommendations



## Legend

### Dam Management Recommendations and Priority

- Construct Rock Ramp, Low
- Geomorphic Assessment Reach
- Roads
- Lake
- Wetland
- Rivers

### Flood Hazards

- 0.2 PCT
- A
- AE
- Area not Included
- VE

# Chipuxet River Subwatershed Dam Management Recommendations

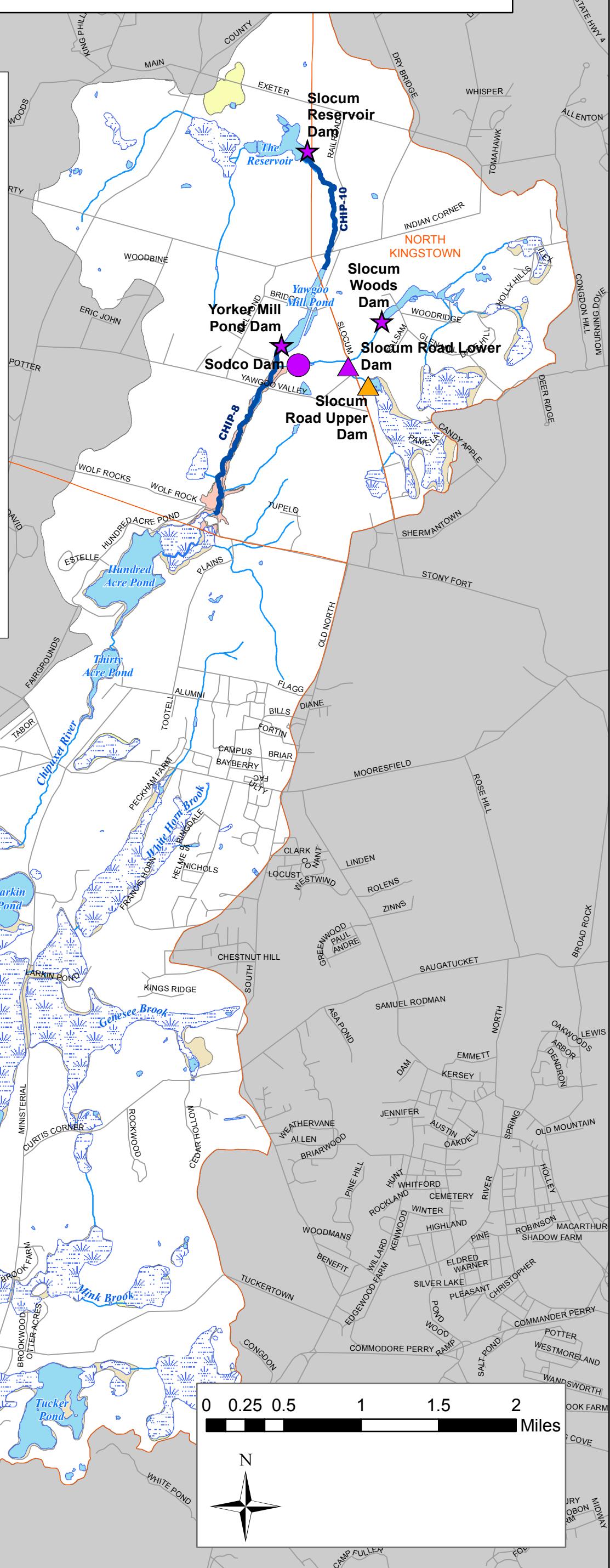
## Legend

### Dam Management Recommendations and Priority

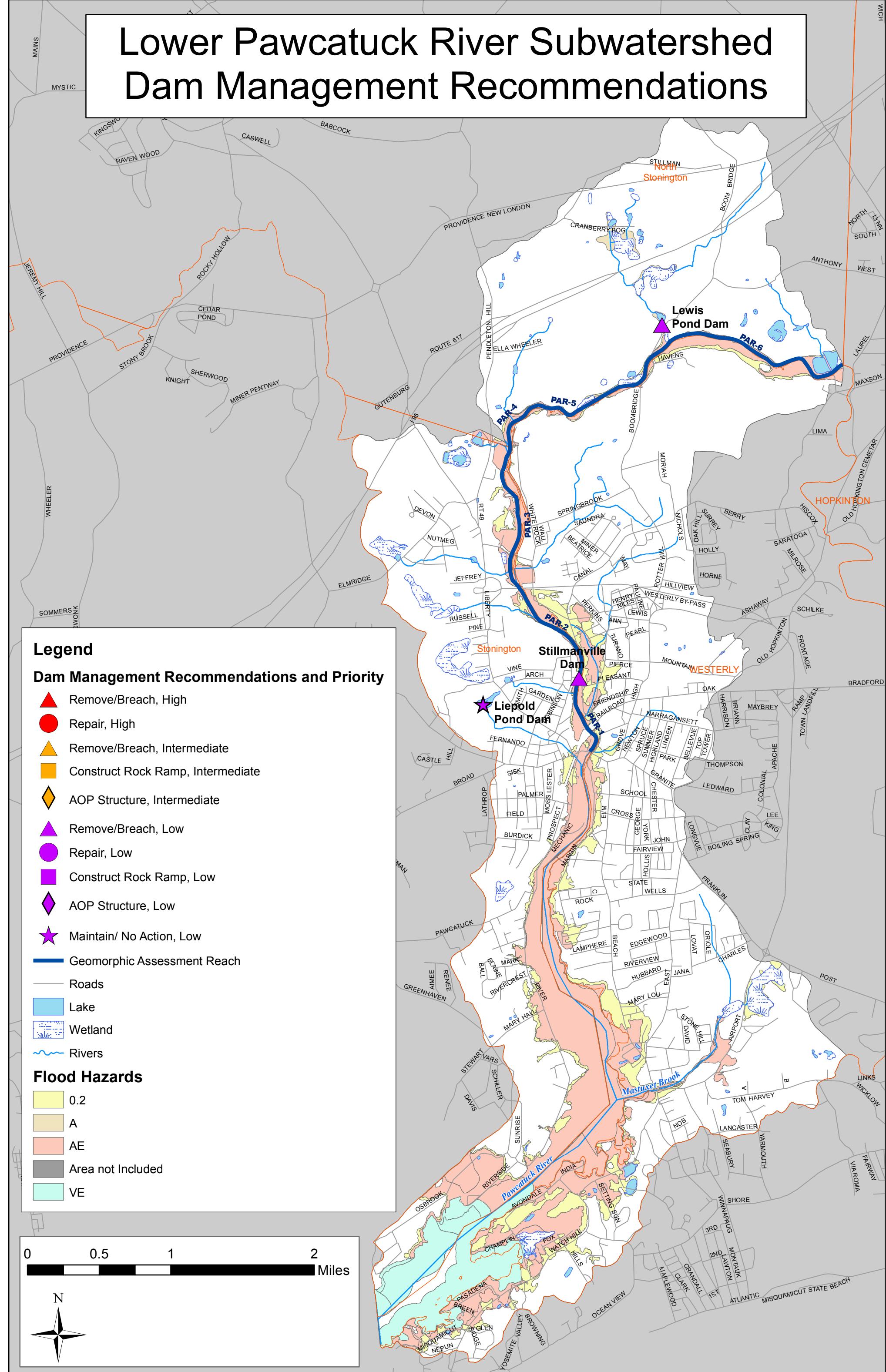
- ▲ Remove/Breach, Intermediate
- ▲ Remove/Breach, Low
- Repair, Low
- ★ Maintain/ No Action, Low
- Geomorphic Assessment Reach
- Roads
- Lake
- Wetland
- Rivers

### Flood Hazard

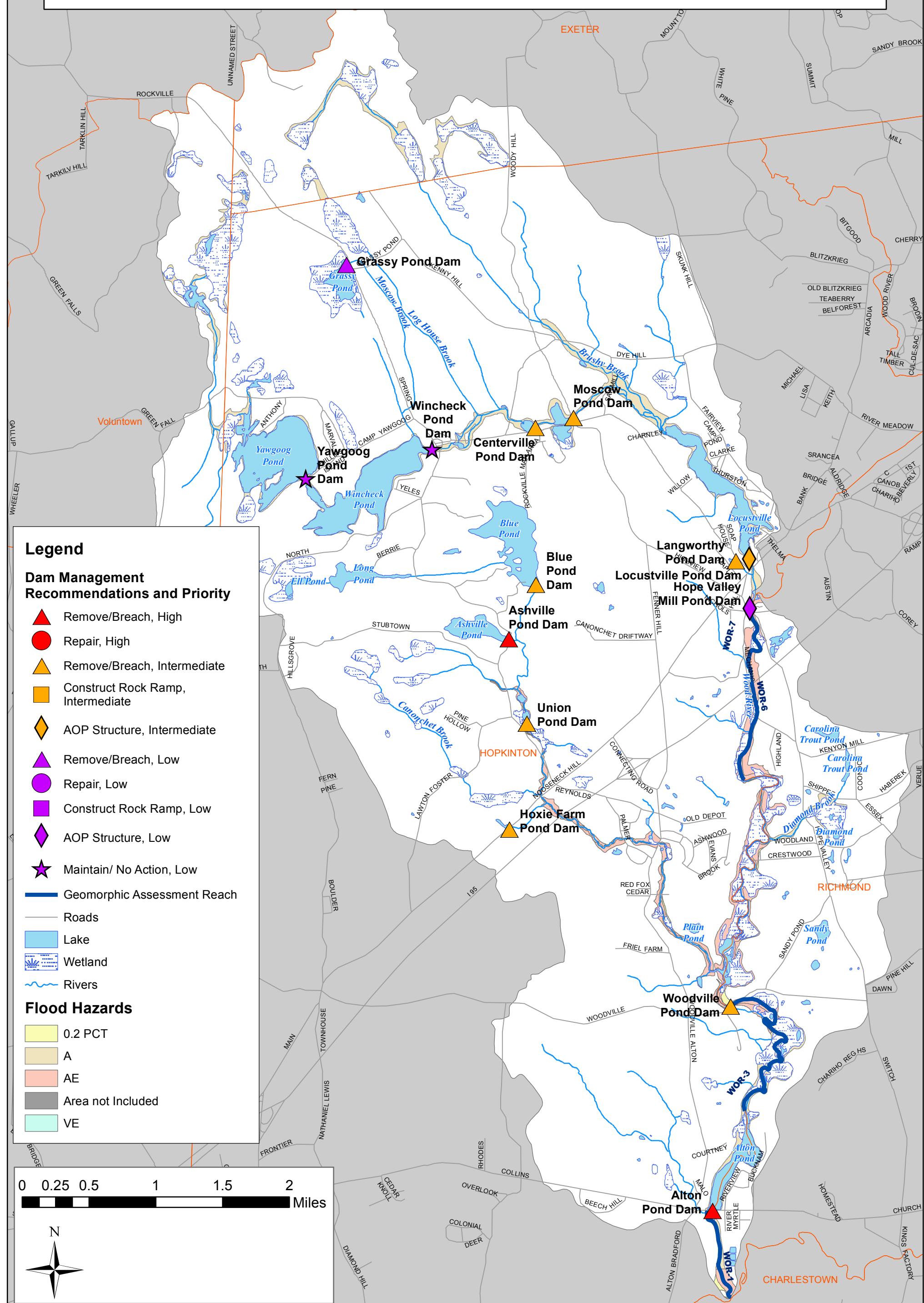
- 0.2 PCT
- A
- AE
- Area not Included
- VE



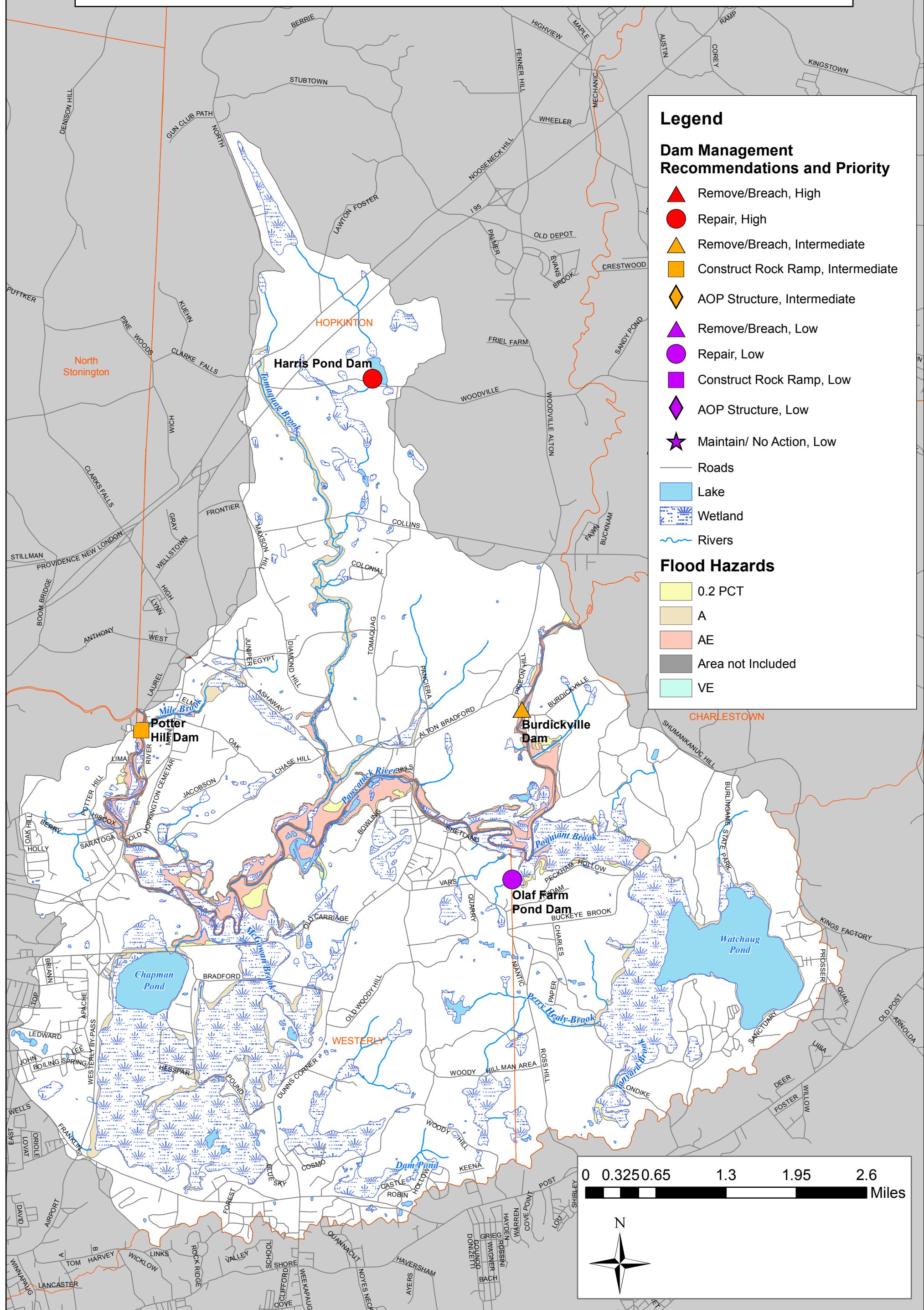
# Lower Pawcatuck River Subwatershed Dam Management Recommendations



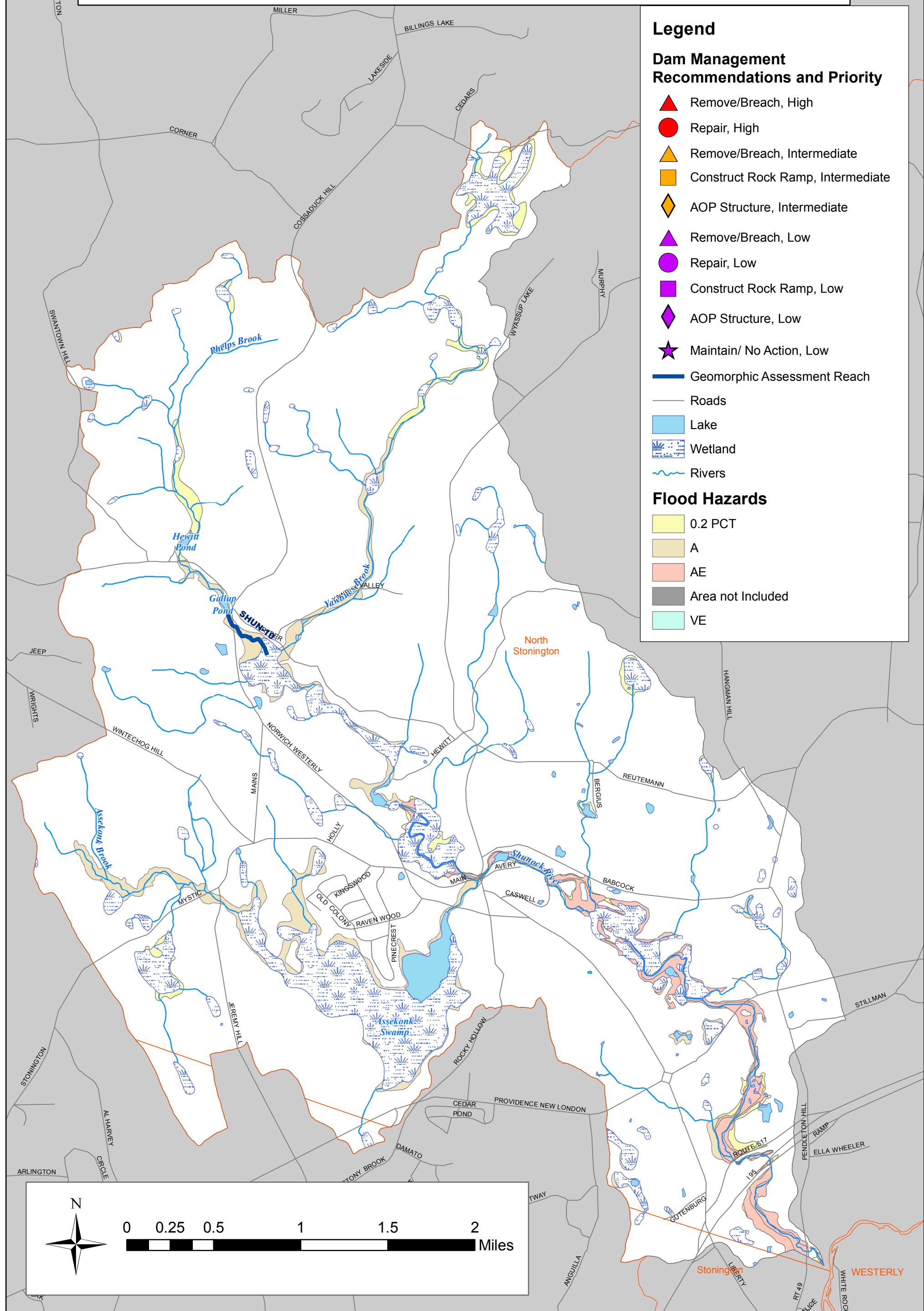
# Lower Wood River Subwatershed Dam Management Recommendations



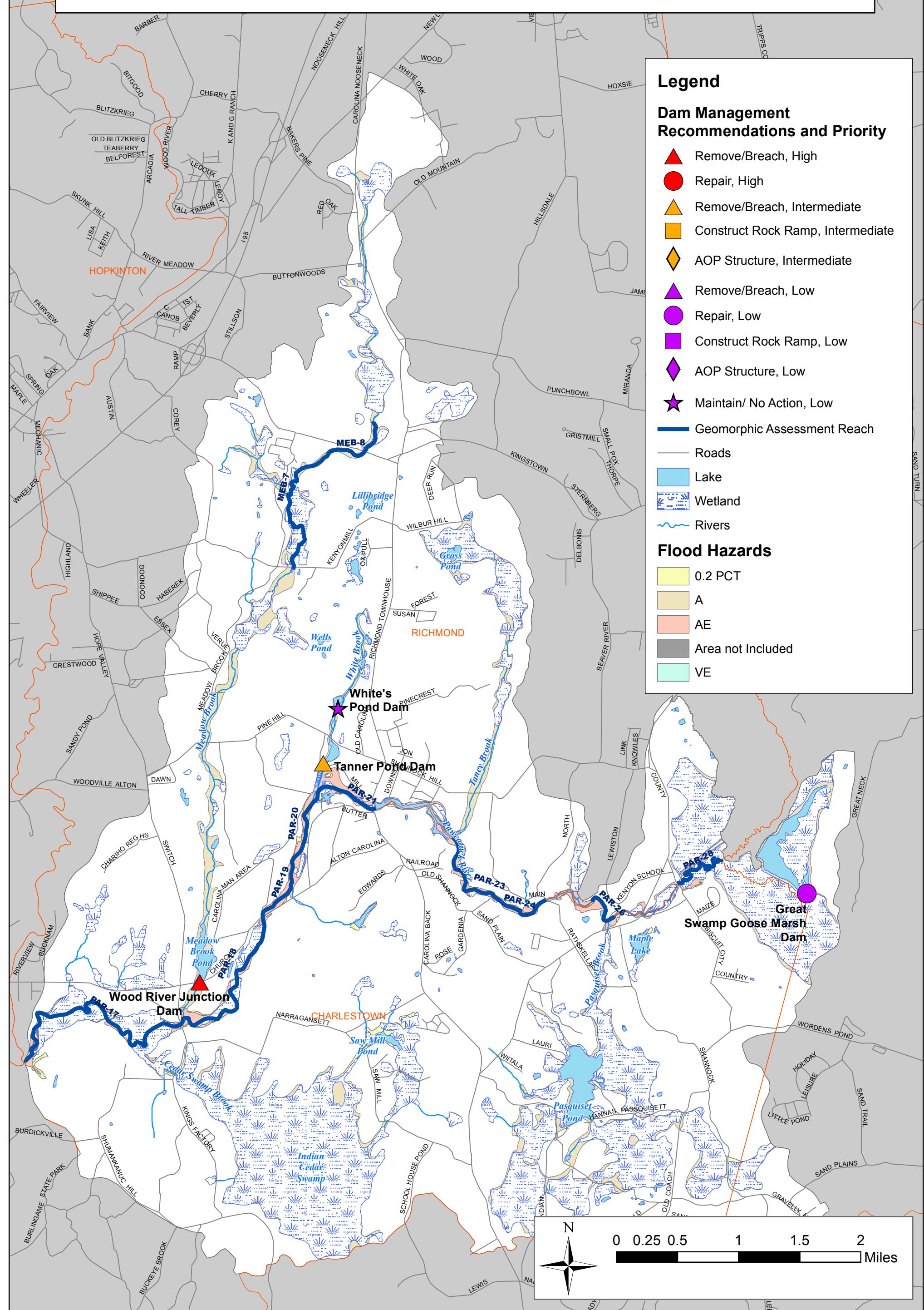
# Middle Pawcatuck River Subwatershed Dam Management Recommendations



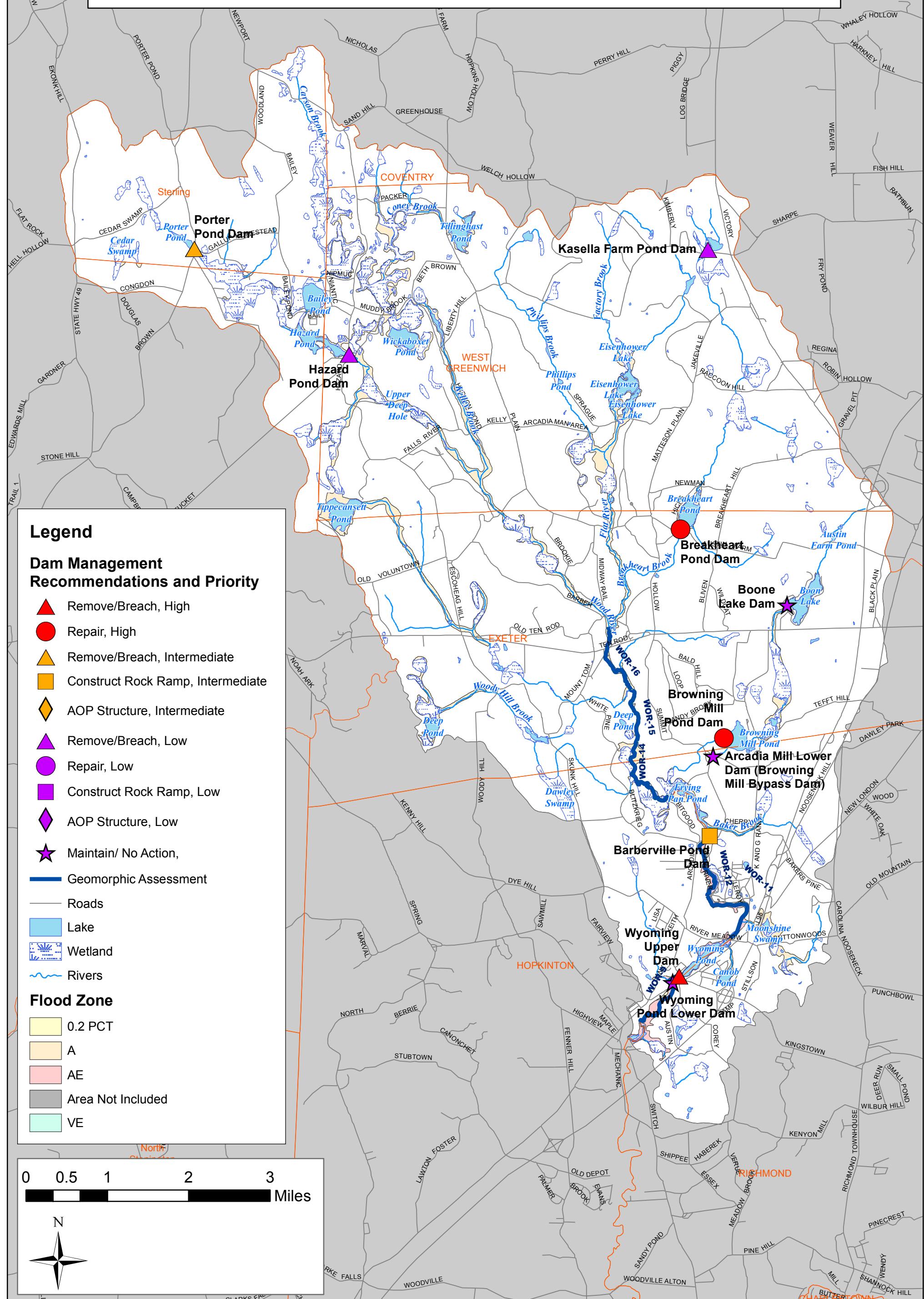
# Shunock River Subwatershed Dam Management Recommendations



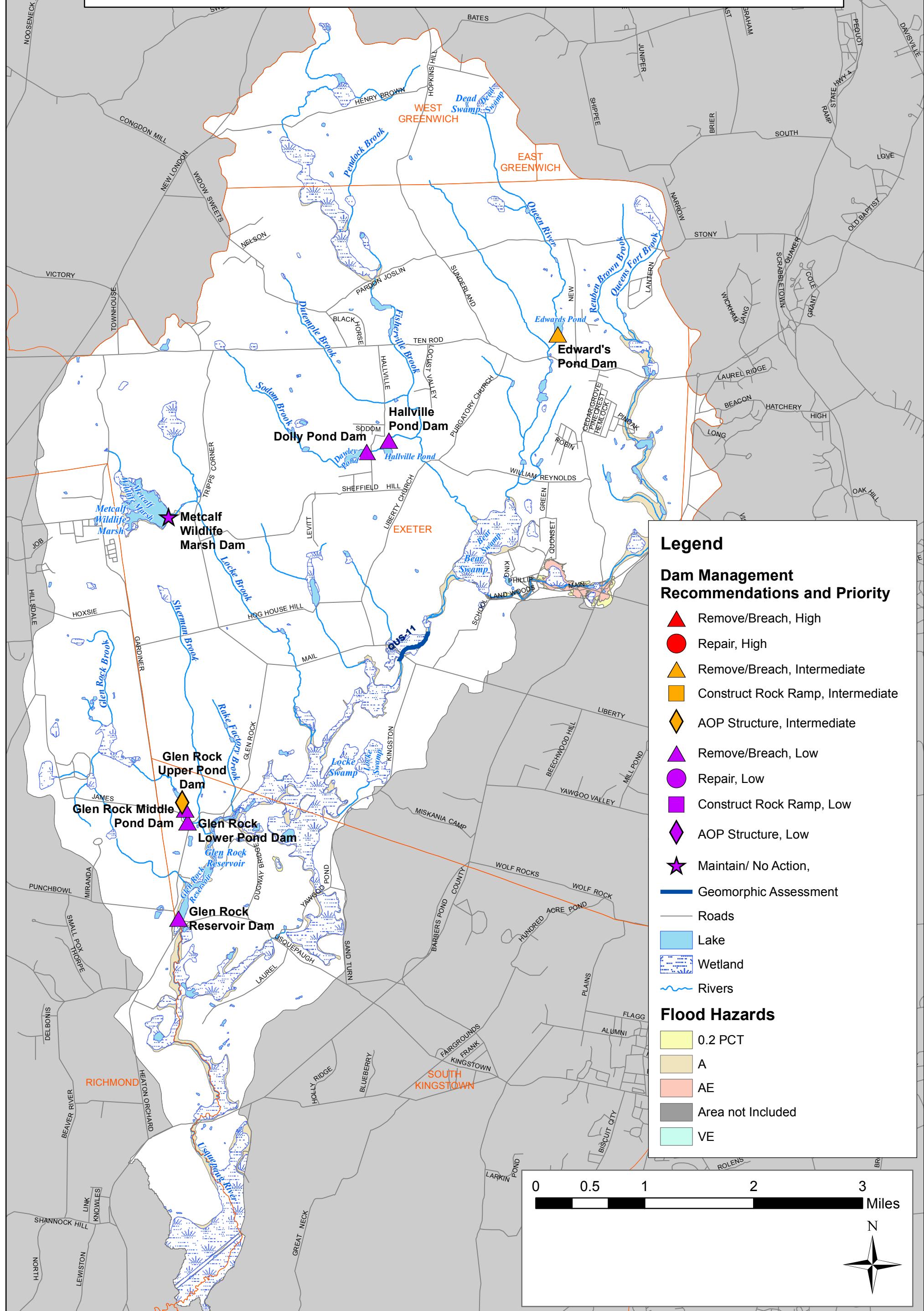
# Upper Pawcatuck River Subwatershed Dam Management Recommendations



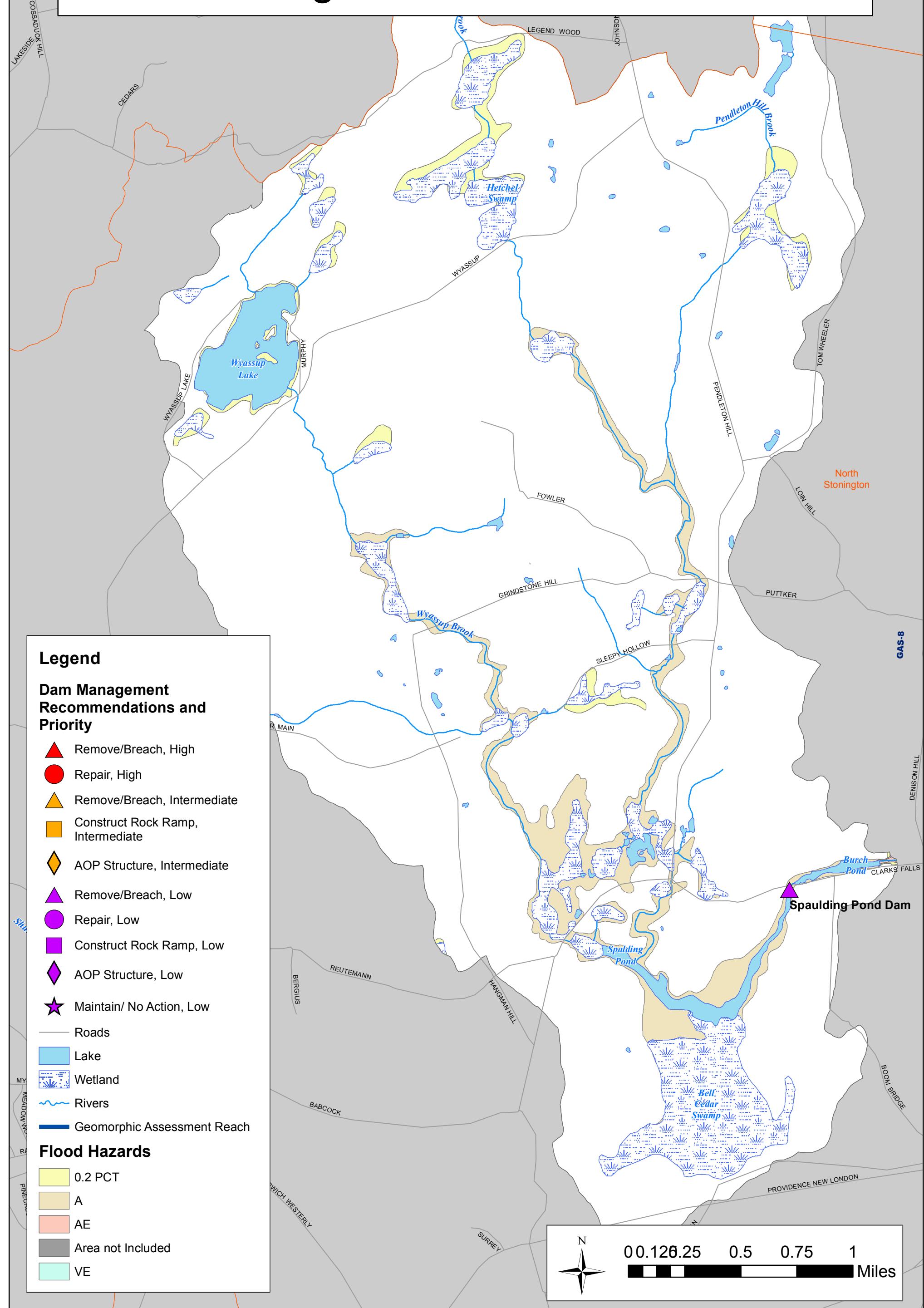
# Upper Wood River Subwatershed Dam Management Recommendations



# Usquepaug River Subwatershed Dam Management Recommendations



# Wayassup Brook Subwatershed Dam Management Recommendations





## Database A

### Culverts and Bridges

Blank Culvert and Bridge Inspection Form  
Completed Culvert and Bridge Inspection Forms and Photographs

## Database B

### Dams

Blank Dam Inspection Form  
File Review Data from CTDEEP and RIDEM  
Completed Dam Inspection Forms and Photographs

## Database C

### Culverts and Bridges Hydraulic Calculations (CulvertMaster)



## Database D

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Culverts, Bridges and Dams Hydrologic Calculations

StreamStats Output Files  
TR-20 Spreadsheet and Hydraflow Files