



Overview of BLM's Western Rivers and Streams Assessment

April 2013

WRSA Purpose

Report regionally and nationally on the condition of BLM's streams and rivers

Identify priority stressors affecting the health of BLM flowing waters

Establish unbiased baseline conditions from which future conditions can be compared

Integrate BLM's aquatic monitoring programs with existing state and federal efforts

What is the BLM's Western Rivers and Streams Assessment?

The Western Rivers and Streams Assessment (WRSA) is a survey of the condition of BLM streams and rivers throughout the contiguous western U.S. The objective of this effort is to generate unbiased, quantitative condition estimates from which regional and national aquatic priorities can be established and future conditions can be compared. The BLM will partner with the U.S. Environmental Protection Agencies' (EPA) National, Rivers and Streams Assessment (NRSA) to intensify sampling for BLM perennial streams and rivers to accomplish this task. WRSA will provide the first-ever, statistically valid estimates of the chemical, physical and biological condition of streams and rivers managed by the BLM.

The WRSA is a component of the BLM's Assessment, Inventory and Monitoring (AIM) strategy designed to standardize aquatic data collection and facilitate science-based decision making. Under the Landscape Approach, it is the BLM's policy to use large-scale assessments in the preparation of land use plans, conduct cumulative impact analyses and establish development, restoration and conservation priorities.

What management questions does the BLM's WRSA address?

The WRSA will answer three central questions:

1. What percentage of BLM's streams and rivers are in good, fair or poor biological condition?
2. What is the linear extent of streams and rivers experiencing stressors such as nutrient, salinity and fine sediment loading and invasive invertebrates?
3. What is the risk posed by the observed stressors to biological condition?

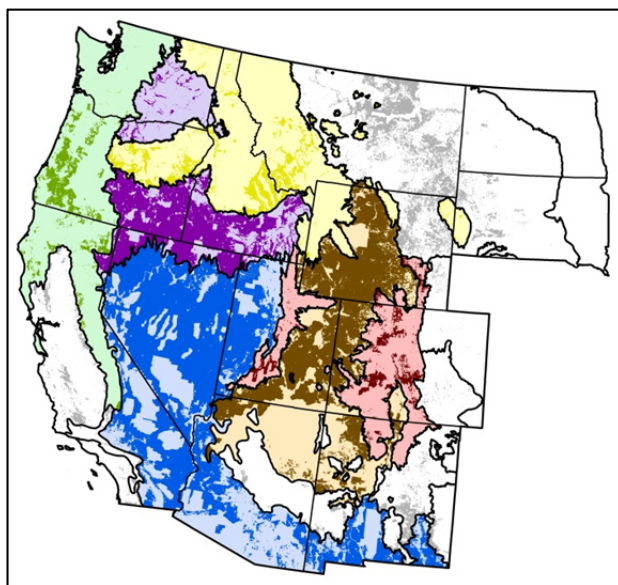
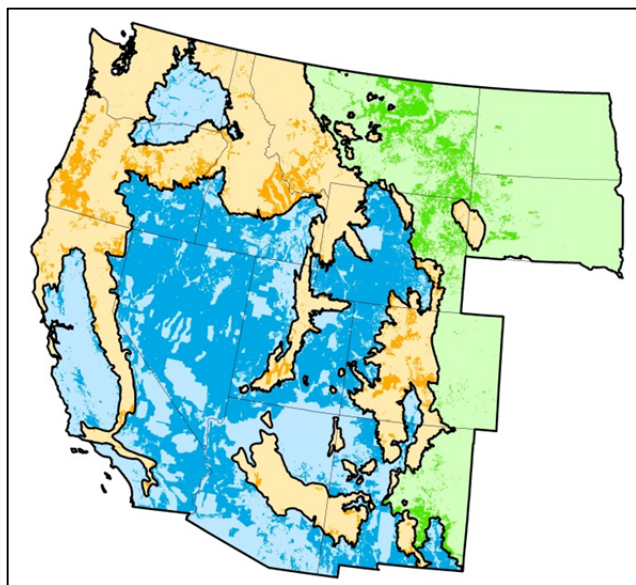
When and where will sampling occur?

The BLM will sample approximately 300 sites between 2013 and 2015, in collaboration with the USEPA and western states. Both wadeable and non-wadeable perennial streams and rivers on BLM lands throughout the contiguous western U.S. will be sampled. Sampling dates will vary by latitude, but will generally occur from May through October during summer low flow conditions.



How will the WRSA sites be selected?

The sampling design for the WRSA survey is a probability-based selection of stream and river reaches from the National Hydrography Dataset. The random selection of sample reaches will result in unbiased or statistically-valid estimates of the chemical, physical and biological condition of all BLM streams and river with known levels of confidence. Site selection will be stratified such that condition estimates will be made for at least three different spatial scales: 1. West-wide; 2. Three EPA western climatic regions (left map below) and 3. Six hybrid Level III Ecoregions (right map below) that encompass 95% of the linear extent of BLM's rivers and streams in the contiguous western U.S.



What will the WRSA measure?

Data collection will be conducted by specialized field crews managed by the BLM/USU National Aquatic Monitoring Center. The field crews will take a variety of field measurements to characterize the chemical, physical and biological condition of BLM's streams and rivers following a subset of EPA's NRSA protocols (<http://water.epa.gov/type/rsl/monitoring/riverssurvey/>). Example indicators that can be computed from field measurements include excessive nutrient, salinity and sediment loading; instream and riparian habitat complexity; the degree of floodplain interaction and biological condition as determined by aquatic macroinvertebrates.

What can you expect as a local BLM field office?

The study design for the WRSA is expected to be completed in April, 2013; field offices will be notified of the sample sites that fall within their regions. Assistance will be sought by the BLM/USU National Aquatic Monitoring Center regarding the accessibility and appropriateness of the selected sites for sampling. It is important to remember that waterbodies selected in any given field office are not being targeted for specific problems or conditions, but are randomly selected to allow inference to all BLM streams and rivers. Field offices will also be notified as to the approximate time for sampling and will be invited to interact with the field crews. We anticipate having a final report, raw data and associated metadata available by 2017, with an intermittent report available in 2015.

For more information on the BLM's WRSA, e-mail us at swmiller@blm.gov.