**Backwater LBK Skagit (Site AN)**

Seasonally Disconnected Floodplain Habitat Project: Year 1 (2021) Reconnaissance Report

Maddie Hicks, Jonathan Armstrong (Oregon State University)

Catherine Austin (Skagit River System Cooperative)

Site Map

* AN1 – site outlet
* WPT 306 – channel that connects side channel and pond
* WPT 309 – western side channel point of disconnect at small berm
* WPT 307 – habitat measurements taken in side channel 9/23/2021
* WPT 308 – habitat measurements taken in side channel 9/23/2021
* WPT 436 – habitat measurements taken in pond 11/4/2021
* WPT 437 – habitat measurements taken in pond 11/4/2021
* WPT 438 – habitat measurements taken in pond 11/4/2021
* WPT 439 – habitat measurements taken in pond 11/4/2021

**Map

Description automatically generated**

Figure 1: Map of Site AN with Relative Elevation Model (REM) showing elevation (ft) relative to the mainstem at base flows. REM developed by NSD from USGS 2016 LiDAR and provided by SRSC.

Temperature, Water Level, and Connectivity Trends

* No equipment installed at the site because not able to access until late in the field season
* It is unclear what the connectivity threshold is because no timelapse camera installed and only able to access site outlet for one visit
* Skagit discharge less than 6,000 cfs site likely disconnected
* Given the low relative elevation of the side channel to the Skagit mainstem, site connectivity is likely primarily influenced by mainstem discharge
* Connectivity between the pond and side channel is likely also primarily driven by Skagit discharge although flow needs to be much higher to flow over the berm separating the two
* It is possible that the water in the pond comes primarily from rainfall and runoff with only occasional inundation from the mainstem during high flood events

9/23/2021

* Boat reconnaissance
* Site disconnected at WPT 309 where there is a small berm on the western side of the side channel (Figure 2)

A picture containing outdoor, nature, plant, tree

Description automatically generated

Figure 2. Looking downstream at small berm on western end of side channel that acts as disconnection point from mainstem Skagit

* WPT 307 – took habitat measurements in side channel
  + Depth: 0.38 m
  + Temperature: 10.5°C
  + DO: 3.95 mg/L
* WPT 308 – took habitat measurements in side channel
  + Depth: 0.30 m
  + Temperature: 11.7°C
  + DO: 4.10 mg/L
* Adult pink carcass observed in side channel so river able to inundate recently
* 60-70 mm juvenile salmonids observed
* Very clear visibility with cobble bottom (Figure 3)
* WPT 306 – channel branches off from side channel to the pond but there’s a large berm and wall of blackberry that not able to pass through (Figure 4)
* Pond disconnected from side channel

A person fishing in a river

Description automatically generated with medium confidence

Figure 3. Looking upstream at side channel with clear visibility and cobble substrate

A picture containing grass, outdoor, plant, tree

Description automatically generated

Figure 4. Looking upstream at dry channel that connects side channel to pond

11/4/2021

* Land reconnaissance from Fred’s Lane by Illabot Creek
* Unsure of side channel connectivity because not able to access AN1 from entry point but pond disconnected from side channel just west of WPT 439
* WPT 436 – took habitat measurements in pond
  + Depth: 0.1 m
  + Temperature: 10.2 °C
  + DO: 4.79 mg/L
* Channel is narrow with silt substrate in eastern part of the pond
* WPT 437 – took habitat measurements in pond
  + Depth: 0.3 m
  + Temperature: 9.6 °C
  + DO: 3.55 mg/L
* WPT 438 – took habitat measurements in pond
  + Depth: 1.0 m
  + Temperature: 9.3 °C
  + DO: 3.68 mg/L
* As move west in the pond the substrate becomes mixed gravel and opens into wider channel that looks more suitable for fish but no fish observed
* Poor visibility so could be fish but not able to see
* WPT 439 – took habitat measurements in pond
  + Depth: 0.6 m
  + Temperature: 9.0 °C
  + DO: 4.62 mg/L
* Pond becomes dry and reaches disconnection point with side channel about 20 m west of WPT 439