**Juvenile Chinook Use of Seasonally Disconnected Habitats – Year 2**

Ten Selected Sites

* Ten selected sites with three backup sites in “Year\_2\_Sites”

Fieldwork

*Equipment*

* Dry suits with neoprene footies and boots (?)
* Waders
  + Neoprene (non-breathable) if deeply submerged
  + Breathable waders if comfortable with mild shocking
* Wading boots
  + Felt or Vibram depending on substrate for that day
* Pontoon (?)
* Pontoon oars and cross-bar (?)
* Pontoon pump (?)
* Inner tubes (?)
* 10’ jon boat
* Oars
* Ratchet straps
* Loppers/machete
* GPS with transects pre-loaded
  + Make sure there is enough battery life – if not replace batteries from battery/SD card box
* Rangefinder
* Stadia rod
* Secchi disc
* YSI with conductivity capabilities
* Distilled water (to calibrate YSI)
  + Put a small amount of distilled water in the YSI boot (but not so much that the probe is wet) and press “Calibrate” for DO%
  + The calibration should be somewhere near 100.00%
  + Accept calibration
* Swoffer (rod with propeller and box reader)
* Red clipboard with datasheets and Rite-in-Rain with logger metadata
* DO logger with PVC shield, boot, and cord
* Time-lapse camera with 6 lithium batteries (there’s an EJECT button on the inside that you push to open the battery compartment) and a cleared SD card (under the screen) installed
* Time-lapse camera t-post mount
* Post pounder
* T-posts
* Backpack e-fisher with electrodes
* E-fisher battery
* 7/16’ wrench
* Rubber gloves
* Sorting tray with ruler
* D-frame net
* Fine-meshed aquarium net
* Macroinvertebrate ID
* Syringe with needle tubing attachment
* Squeeze bottle with attachment
* Coffee filter, coffee filter holder, WhirlPak bags
  + Only if decide to preserve stomach contents
* Scale
  + Use quarter as a calibration
* Measuring board
* Clove oil
* Bubblers
* 5-gallon buckets with lids
* Spring-loaded scissors for fin clips
* Test tubes for genetic material
* Ethanol
* Phone/camera (old iPhone or digital camera in case drop in water)

*Before Going in the Field*

* Make sure that site outlets for the ten sites plus backups are on the GPS unit

*Protocols*

* Getting to the site
  + At the beginning of the field season use loppers and machetes to make clear paths to the sites
  + For sites that are far from the parking location use tracklog on the GPS to record the most efficient path to get to the site (e.g., Sauk Boat Launch)
* Timelapse camera installation
  + Install 2+ cameras per site to maximize outlet coverage
* Record visibility with the Secchi disc
* Electrofishing
  + Two sites visited each day for five days grouped according to similar location
  + Take temperature and DO with YSI upon arrival to determine if conditions too extreme to electrofish without significant mortality
    - > 18°C consider electrofishing at night
  + Take water conductivity and set up e-fisher appropriately
    - Try to dial in settings on e-fisher before get into transect
  + E-fish permanent transects and opportunistic transects if have time
* For each fish
  + Sedate in clove oil
  + Take length (mm)
  + Zero scale and take mass
  + Take fin clip and preserve in ethanol in labeled test tubes
  + Gastric lavage
    - Try to do gastric lavage on 15+ fish of varying sizes at each site
    - Hold the fish upside down belly up
    - Get tubing past the gills and squirt over the sorting tray
      * Stomach looks slightly deflated when no food left in them
    - Put fish in recovery bucket with bubbler
    - Categorize stomach contents into order (e.g., stonefly, mayfly, etc.) and size of each item
      * If not identifiable just write “UNID MACRO”
    - Take a picture of the tray and dump in out
* Macroinvertebrate sampling
  + Visually estimate 6 m2 quadrant
  + Get benthic, pelagic, and edge vegetation represented if possible
  + Record number of each order and average size
    - Take a picture if don’t know what something is
* Collect temperature, DO, water depth, cover, and substrate