
PROJECT: 17-1304 MON, ASOTIN IMW MONITORING 2017

Sponsor: Asotin Co Conservation Dist Program: Salmon Federal Activities Status: Active
Project Start Date: 01/19/2018 Agreement End Date: 12/31/2019

Progress Report Status: Accepted 01/25/2019

Progress Report, Project 17-1304

Report Period

From 01/19/2018 To 12/31/2018

Questions

#1: Describe the work accomplished during this reporting period.

Description is required

Asotin IMW highlights -

Outreach

- presented in Wenatchee, WA, January 26, 2018 at the Upper Columbia River Science Symposium - title of presentation "Can we stretch restoration funds to address the wood deficit? A high-density LWD case study",
- presented March 22, 2018 at the American Fisheries Society Washington and British Columbia meeting in Kelowna, BC - title of presentation "Lessons from large-scale experiments testing the effectiveness of stream restoration: Are we there yet?"
- presented November 21, 2018 at the Snake River Salmon Recovery Board Regional Technical meeting in Dayton, WA - title of the presentations "Intensively Monitored Watersheds 10 year review: Are we there yet?" and "Progress and challenges testing the effectiveness of process-based low-tech restoration: Asotin Creek IMW."

Data Collection

- Mobile PIT tag surveys of 12 fish sites (350-550 m long) in January (winter) and April (spring)
- Fish capture and PIT tagging at 12 fish sites (350-550 m long) in July (summer) and September/October (fall)
- PIT tagged 6,693 steelhead, 4 bull trout, and 0 chinook and recaptured 5,669 steelhead, 0 bull trout, and 0 chinook (total steelhead tagged for project 2008-2018 = 47,230)
- Rapid habitat surveys of 36 habitat sites (120-200 m long) in July and August
- LWD structure surveys at 36 habitat sites (120-200 m long) in July and August
- Download and redeployment of 25 temperature probes
- Download and redeployment of two water height gauges and estimates of discharge to build rating curve

Restoration maintenance

- added 30 alder, 10 birch, 8 Douglas-fir trees, and several truck loads of brush to treatment sections in Charley Creek, North Fork and South Fork Asotin Creeks to maintain wood density in October
- Used direct tree falling and grip-hoists to pull naturally downed material into the streams

Databases and Analysis

- uploaded all 2018 fish capture and PIT tag data to PTAGIS website (publicly accessible website)
- maintained fish, habitat, temperature, and discharge databases with IMW data
- Ran all Columbia Habitat Monitoring Protocol data (CHaMP) collected in Asotin from 2011-2017 through the Geomorphic Unit delineation Tool (GUT - https://www.researchgate.net/publication/322368898_The_GUTs_of_the_Geomorphic_Unit_Tool_GUT_What_is_under_the_hood) to identify and quantify (number and area) geomorphic units in treatment and control sections pre and post restoration
- Ran all the CHaMP data (2011-2017) through the Net Rate of Energy Intake model (NREI - https://www.researchgate.net/publication/286481968_Net_rate_of_energy_intake_predicts_reach-level_steelhead_Oncorhynchus_mykiss_densities_in_diverse_basins_from_a_large_monitoring_program) to estimate the carrying capacity of treatment and control sections pre and post restoration
- Ran all of the mark-recapture PIT tag data in the Barker Model (<http://www.phidot.org/software/mark/>) from 2008-2016 to calculate seasonal survival for juvenile steelhead in treatment and control sections pre and post restoration
- Assigned ages of all PIT tagged juvenile steelhead captured in 2017 using a Bayesian mixed model based on the known age-length of a subsample of scales collected (~10%)
- Estimated the seasonal growth of each PIT tagged juvenile steelhead recaptured at a later date up to 2017

In addition, funds and priority activities were switched around between grants to allow for WDFW to purchase/build the arrays.

#2: Are there any significant challenges that might hinder progress or keep you from meeting your project milestones? If so, please tell us about them.

Choice No

#3: Tell us about work planned for the next reporting period.

Description is required

- Update abundance estimates for 2018
- Update age analysis of 2018 juvenile captures
- Update brood year productivity to 2018
- Further refine adult escapement in IMW creeks using array and red count data
- Reevaluate survival analysis methods and update survival estimate to 2018
- Update temperature and discharge databases so we can build models to explain variability in population parameters
- Publish experimental design using hierarchical-staircase approach (need to resubmit manuscript)
- Publish life history of juvenile steelhead in Asotin Creek

#4: Do you anticipate you will need to request a modification to your project agreement in the next six months (time extension, cost change, scope change, etc.)? If yes, please explain:

Choice No

Progress Report, Project 17-1304

Milestones

| Milestone | Target Date | Completed | Delayed | New Target Date | Progress/Reason for Delay |
|---|-------------|-----------|---------|--------------------------|---------------------------|
| Special Conditions Met <i>annual report due to the Monitoring Panel by this date (report can also be progress report for same time frame for PSMFC)</i> | 12/31/2018 | ✓ | | | |
| Agreement End Date | 12/31/2019 | | | | |
| | | | | Need amendment to change | |
| Special Conditions Met <i>annual report due to the Monitoring Panel by this date (report can also be progress report for same time frame for PSMFC) AND Final Report for PRISM</i> | 12/31/2019 | | | | |
| Final Report Due | 01/15/2020 | | | | |
| Final Billing Due | 01/30/2020 | | | | |

Special Conditions

None

Attachments

PHOTOS (JPG, GIF)

FILES AND PHOTOS

| File Type | Attach Date | Attachment Type | Title | Person | File Name, Number Associations | Shared |
|--------------------------------------|-------------|-----------------|-------|--------|--------------------------------|--------|
| No attachments match filter criteria | | | | | | |

Certify & Submit

Status History

| Report Status | Date | User | Note |
|---------------|------------|-----------------|--|
| Accepted | 01/25/2019 | Keith Dublanica | thanks for submitting progress report on this project. -kd |
| Submitted | 01/17/2019 | Megan Stewart | |
| Draft | 01/17/2019 | Megan Stewart | |