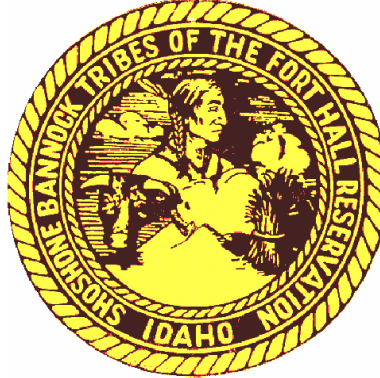


Supplementation, Monitoring, and Evaluation Program (SMEP) Federal Fiscal Year 2018 Annual/Final Progress Report



Prepared by:

Jonathan D. Ebel, Research Biologist
Joshua Jackson, Field Biologist
Lytle P. Denny, Program Manager

Shoshone-Bannock Tribes
Fish and Wildlife Department
3rd and Bannock Avenue
Fort Hall, Idaho
(208) 239-4560

Prepared for:

United States Fish and Wildlife Service
Lower Snake River Compensation Plan – Office
1387 S. Vinnell Way, Suite 343
Boise, Idaho 83709

Cooperative Agreement F16AC00032, Modification# 3
October 1, 2017 – September 30, 2018

December 28, 2018

Introduction

The Lower Snake River Compensation Plan (LSRCP) began with congressional authorization in 1976 and was designed to mitigate for the loss of steelhead and Chinook Salmon resulting from the construction of the hydroelectric dams on the lower Snake River. LSRCP involves numerous cooperating agencies with the Shoshone-Bannock Tribes' involvement beginning in 2003.

The Shoshone-Bannock Tribes (SBT) work with LSRCP and other cooperating agencies to achieve the following goals:

- (1) Increase harvest opportunity for Chinook Salmon and steelhead via traditional methods for tribal members in the Snake River basin,
- (2) Assist LSRCP in attaining project area adult Chinook Salmon and steelhead return goals,
- (3) Work with LSRCP to further the tenets of the Tribes' Snake River Policy.

Specifically, the Shoshone-Bannock Tribes' Supplementation, Monitoring, and Evaluation Program works on the following deliverables to move towards the above goals:

- (1) Participate in LSRCP coordination and production planning,
- (2) Implement the Yankee Fork Chinook Salmon Project,
- (3) Implement the Yankee Fork Steelhead Project,
- (4) Synthesize project results in the form of annual reports.

Objective 1: Participate in LSRCP coordination and production planning

Participation in LSRCP coordination and production planning is critical to a well-functioning multi-agency management strategy that meets the needs of all co-managers and advances our understanding and implementation of hatchery and supplementation reforms. Coordination occurs at many levels in many forums and includes the annual operations of the hatchery system, environmental compliance issues, harvest totals, and monitoring and evaluation planning.

In Fiscal Year 2018, the Shoshone-Bannock Tribes' SMEP participated in the following LSRCP and regional coordination activities (*Task 1.1* and *Task 1.2* in FY 2018 Statement of Work)

- Snake Basin Steelhead Run Reconstruction Report (See Stark et al. 2018 – IDFG report)
- LSRCP Annual Meeting – presentation provided for meeting by L. Denny
- Review, comments, and program-specific revisions to the following Biological Opinions:
 - a. Construction, Maintenance, Monitoring, and Evaluation of the Crystal Springs Spring/Summer Chinook Salmon Hatchery Program,
 - b. Nine Snake River Steelhead Hatchery Programs and one Kelt Reconditioning Program in Idaho,
 - c. Four Salmon River Basin Spring/Summer Chinook Salmon Hatchery Programs in the Upper Salmon River Basin,
 - d. Hells Canyon and Salmon River Steelhead and Spring/Summer Chinook Salmon Programs.
- Provided weekly harvest and trapping data to the SBT Harvest program for inclusion in the weekly Snake Basin Coordination meetings.
- Salmon River Annual Operation Plan meeting

- Ad-hoc LSRCP meetings to discuss future funding and program goals (February, June, and August)
- Comments on each major part of the Columbia River System Operations EIS
- Significant coordination with Idaho Department of Fish and Game to plan and execute a test of the effect of rearing water chemistry on the survival of juvenile hatchery Chinook including release logistics and tagging
- US v. Oregon Production Advisory Committee
- Coordination with the U.S. Fish and Wildlife Service, LSRCP, and IDFG regarding the proposed transfer of Hagerman National Fish Hatchery to the state of Idaho.

Objective 2: Yankee Fork Chinook Salmon Project

The overarching objective of the Yankee Fork Chinook Salmon Project is to contribute to the project area goals of the LSRCP and develop a locally adapted spring Chinook run in the Yankee Fork Salmon River to be propagated at the proposed Crystal Springs Hatchery upon its completion. The project involves implementing and monitoring hatchery smolt releases and hatchery origin adult returns from Sawtooth Fish Hatchery, outplanting hatchery adults for natural spawning when adults are available. We outline our progress on specific tasks within this objective.

Task 2.1 Environmental Compliance Requirements

Activity 2.1.1 Assist in the development of a coordinated monitoring, research, and evaluation plan, including development of a smolt release study.

Completed - SMEP completed a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis with Dan Warren and Associates in preparation for producing a final Research, Monitoring, and Evaluation Plan.

Activity 2.1.2 Work with LSRCP staff to acquire necessary permits to implement the project.

Completed - SMEP worked with LSRCP, BPA, and NMFS to ensure the Yankee Fork Chinook Salmon Project activities were covered under the Biological Opinions issues in December 2017.

Activity 2.1.3 Assist with Environmental Impact Statement and NEPA process regarding the construction of the Yankee Fork Salmon River Satellite Facility.

Completed - SMEP has extensive involvement in informing and working on the EIS and NEPA process for the construction of the Yankee Fork Salmon River Satellite Facility including:

- *Ebel, J. D., K. Conley, and L. Denny. 2018. Evaluation of post-release physiological responses of juvenile Chinook salmon reared at two different hatcheries into the Yankee*

Fork Salmon River. Shoshone-Bannock Tribes' Fish and Wildlife Department, Fort Hall, ID (pp. 5, 20 June 2018, revised 24 Sept 2018)

- Ebel, J. D. 2018. *Analysis of PIT tags required to test for differences in the survival of smolt reared at two different hatcheries. Shoshone-Bannock Tribes' Fish and Wildlife Department. Fort Hall, ID (pp.11, 29 May 2018)*
- Ebel, J. D. 2017. *Migration timing of Chinook salmon in the Yankee Fork Salmon River, ID 2012-2017. Shoshone-Bannock Tribes' Fish and Wildlife Department. Fort Hall, ID (pp.5, 07 November 2017).*
- Ebel, J. D. 2017. *Migration timing of hatchery and natural origin steelhead (Oncorhynchus mykiss) in the Yankee Fork Salmon River, ID 2012-2017. Shoshone-Bannock Tribes' Fish and Wildlife Department. Fort Hall ID (pp. 9, 27 October 2017).*
- *Worked with Dan Warren and Associates and McMillan and Associates to complete the Step 2/3 submittal to the Northwest Power and Conservation Council*

Task 2.2 Operate and Maintain Pole Flat Weir

Activity 2.2.1 Install a picket weir in June and remove weir in mid-September.

Completed – SMEP installed Pole Flat weir on 14 June and removed the weir on 19 September. We trapped 42 natural origin (NOR) Chinook, 4 hatchery origin (HOR) Chinook, and 1 adult bull trout.

Activity 2.2.2 Operate and maintain picket weir on a daily basis. Snorkel the front and back of the weir and trapping device to ensure the device is operating properly. Clean and remove debris from the face of the weir and trapping device daily. Collect fish carcasses from weir daily and sample for biological information and mark-recapture analysis; identify any incidental take and provide summary take reporting to Mark Robertson-LSRCP.

Completed – A summary report of 2018 bull trout will be reported to Mark Robertson in March of 2019.

Activity 2.2.3 Enumerate adult Chinook salmon and all other species trapped in the weir daily. Mark adult Chinook salmon released above the weir with a right operculum punch for genetic and mark-recapture analysis. Collect biological information from all trapped adult Chinook salmon (e.g., length, weight, gender, origin, tissue, scale) and identify pre-existing marks or tags. Collect similar data for other species and mark adult bull trout with right operculum punch and PIT tag.

Completed – The SMEP did not mark adult bull trout with an operculum punch in 2018.

Activity 2.2.4 Collect broodstock according to HGMP and/or MOA and transfer to East Fork Salmon River satellite facility or Sawtooth. If adult Chinook salmon

are collected for broodstock and held at the East Fork Satellite Facility, monitor adults and coordinate with Sawtooth to maximize fish health.

Completed – We transferred 6 NOR Chinook Salmon to Sawtooth Fish Hatchery for spawning (3 males, 3 females). These fish were marked with a blue-dyed caudal punch to differentiate them from other adults in the Sawtooth Fish Hatchery holding facility. No other adults were transferred due to the low returns to Yankee Fork.

Activity 2.2.5 Develop schedule and spawn adult Chinook salmon at East Fork (or Sawtooth) and collect eggs. Transfer fertilized eggs to Sawtooth (if spawned at East Fork Satellite Facility) for egg incubation and final rearing.

Not completed – Sawtooth Fish Hatchery conducted spawning of the 3 adult pairs (see Activity 2.2.4) according to their schedule because of the low numbers of broodstock collected from Yankee Fork.

Task 2.3 Hatchery adult and carcasses outplants

Activity 2.3.1 Coordinate live adult Chinook salmon outplanting activities including the numbers to be outplanted, dates of outplanting, release locations, truck logistics, and sampling requirements.

Not completed – The SMEP coordinated weekly with IDFG but insufficient returns to Sawtooth Fish Hatchery precluded live adult releases in the Yankee Fork.

Activity 2.3.2 During each live adult outplanting event, sample tissue from the left operculum of each fish and store in 95% ethanol. Operculum punch will be used to verify whether a spawned out carcass is a Sawtooth outplant and to provide future genetic analysis options. Collect phenotypic characteristics including fork length and gender.

Not completed – The SMEP coordinated weekly with IDFG but insufficient returns to Sawtooth Fish Hatchery precluded live adult releases in the Yankee Fork.

Activity 2.3.3 Outplant live hatchery adult Chinook salmon in agreed to locations; record transfer time, release location, mortalities, and total fish outplanted.

Not completed – The SMEP coordinated weekly with IDFG but insufficient returns to Sawtooth Fish Hatchery precluded live adult releases in the Yankee Fork.

Activity 2.3.4 Coordinate carcass outplanting activities including the numbers to be outplanted, dates of outplanting, release locations, truck logistics, and sampling requirements.

Completed

Activity 2.3.5 During each carcass outplanting event, collect phenotypic characteristics including fork length, weight, and gender and remove the caudal fin.

Completed – The SMEP has reached agreement with IDFG whereby Sawtooth Fish Hatchery personnel completes this activity at Sawtooth Fish Hatchery during spawning.

Activity 2.3.6 Outplant salmon carcasses in agreed to locations; record transfer time, release location, and total carcasses outplanted.

Completed

Task 2.4 Hatchery juvenile Chinook salmon smolt releases

Activity 2.4.1 Coordinate hatchery smolt outplanting activities, including the numbers to be outplanted, dates of outplanting, release locations, and truck logistics.

Completed

Activity 2.4.2 Snow plow smolt release sites, acquire additional pipes from East Fork and set-up and take-down smolt pipes at agreed to locations.

Completed

Activity 2.4.3 Assist with all aspect associated with loading smolts at Sawtooth and releasing smolts in Yankee Fork. Set-up and maintain block nets at the acclimation release site for at least 72 hours.

Completed – Sawtooth Fish Hatchery personnel did not need assistance with loading smolts at Sawtooth. The SMEP setup smolts pipes, helped release smolts, and maintained acclimation block nets for six days.

Task 2.5 Operate and maintain the instream PIT tag array

Activity 2.5.1 Check on the site periodically, snorkel the array panels, check for damages, and maintain infrastructure and equipment.

Completed – The SMEP identified that the decking needs to be replaced during FY 2019.

Activity 2.5.2 Download and manage PIT tag detection files daily; upload PIT tag detection files to PTAGIS.

Completed – The SMEP also began working through all previous years tag uploads to ensure they are accurate and precise.

Task 2.6 Estimate natural production at the rotary screw trap

Activity 2.6.1 Continue to operate rotary screw trap through the 2017 field season (October 1 – November 15, 2017) to estimate BY 2016 pre-smolt production. Quantify out-migrating juvenile salmonids daily and identify all fish to species. Sample at least 25 Chinook salmon daily and collect length (mm), weight (± 0.01 g), and tissue sample. PIT tag all juvenile Chinook salmon >70 mm fork length and bismarck brown stain fish smaller <70 mm fork length. PIT tag bull trout and other species, as necessary. Calibrate rotary screw trap to accurately estimate juvenile migrants using PIT tagged fish and/or bismarck brown stain fish.

Completed

Activity 2.6.2 Remove, clean, and winterize the rotary screw trap in November 2017.

Completed

Activity 2.6.3 Install permanent anchors and a cable/pulley system.

Not completed – The USFS has not been willing to process any Tribal permits in the Yankee Fork included a permit to install a permanent cable/pulley system. The rotary screw trap continues to be anchored to a lodgepole pine and large boulders.

Activity 2.6.4 Install the rotary screw trap as soon as conditions permit in 2018.

Completed

Activity 2.6.5 Operate the rotary screw trap from April 1 – September 30, 2018 to estimate BY 16 smolt production and BY 17 fry, parr and pre-smolt production. Quantify out-migrating juvenile salmonids daily and identify all fish to species. Sample at least 25 Chinook salmon daily and collect length (mm), weight (g), and tissue sample. PIT tag all juvenile Chinook salmon >70 mm fork length and bismarck brown stain fish smaller <70 mm fork length. PIT tag bull trout and other species, as necessary. Calibrate rotary screw trap to accurately estimate juvenile migrants using PIT tagged fish and/or bismarck brown stain fish.

Completed

Activity 2.6.6 Estimate broodyear 2016 and 2017 production by life stage (e.g., fry, parr, pre-smolt, and smolt); estimate mean survival, mean passage date, mean length, mean weight and condition.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Activity 2.6.7 Use PIT tagged juveniles to estimate mean survival, mean travel time, mean passage date from the rotary screw trap to 1) Yankee Fork instream array; 2) Lower Granite Dam; and 3) through FCRPS hydro-power system.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Task 2.7 Conduct juvenile electrofishing surveys to estimate juvenile distribution, abundance, density, and overwinter survival

Activity 2.7.1 Conduct single-pass electrofishing at identified sample sites. Collect juvenile Chinook salmon and non-target species. PIT tag all juvenile Chinook salmon > 55 mm fork length, and collect biological data from all fish.

Completed – Electrofishing surveys of the Yankee Fork are being phased out. SMEP assisted other SBT programs with electrofishing efforts to correct snorkel-based estimates with electrofishing estimates.

Activity 2.7.2 Estimate the number of PIT tagged juvenile Chinook salmon detected at the rotary screw trap and/or Yankee Fork array and estimate overwinter survival, movement post screw trap operations, and relate survival to mechanistic factors (e.g., length, weight, distance upstream, etc).

Not completed – see Activity 2.7.1

Task 2.8 Monitor and evaluate hatchery juvenile Chinook salmon broodyear release

Activity 2.8.1 Use PIT tags to estimate hatchery Chinook salmon smolt survival from release to: 1) Yankee Fork array and 2) Lower Granite Dam. Estimate mean passage date and mean travel time to each detection point.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Task 2.9 Conduct creel survey of Tribal fisherman in Yankee Fork

Activity 2.9.1 Conduct statistically valid creel survey on Tribal fisherman in Yankee Fork Salmon River.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Activity 2.9.2 Estimate total hatchery and natural Chinook salmon harvested.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Task 2.10 Conduct weekly spawning ground surveys in Yankee Fork

Activity 2.10.1 Develop spawning ground survey protocol and conduct redd count training.

Completed

Activity 2.10.2 GPS, ribbon-mark, and record the location and number of Chinook salmon redds on a weekly basis.

Completed

Activity 2.10.3 Collect spawned-out carcasses for mark-recapture estimate and percent spawned.

Completed

Activity 2.10.4 Collect genotypic and phenotypic information from all carcasses.

Completed

Activity 2.10.5 Develop fish/redd estimate for area upstream of Pole Flat Weir.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Task 2.11 Estimate total hatchery and natural adult Chinook salmon escapement to Yankee Fork

Activity 2.11.1 Utilize mark-recapture data to estimate adult Chinook salmon escapement above Pole Flat weir. Estimate the natural and hatchery contributions from carcasses recovered above Pole Flat weir. If insufficient carcasses are obtained, use the hatchery and natural fraction observed at Pole Flat weir to estimate contributions by origin.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Activity 2.11.2 Utilize fish/redd expansion factor to estimate the number of adult Chinook salmon escaping to the area below Pole Flat weir. Estimate the natural and hatchery contributions from carcasses recovered below Pole Flat weir. If insufficient carcasses are obtained, use the hatchery and natural fraction observed at Pole Flat weir to estimate contributions by origin.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Activity 2.11.3 Estimate adult Chinook salmon escapement to the Yankee Fork array using PIT tagging efforts at Lower Granite Dam; coordinate estimates with ISEMP.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Activity 2.11.4 Compare and contrast the estimated hatchery and natural adult Chinook salmon escapement estimates to the escapement estimate derived at the instream PIT tag array utilizing PIT tags.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Objective 3: Yankee Fork Steelhead Project

The primary goal of the Yankee Fork Steelhead Project is to provide fishing opportunities in the upper Salmon River for B-run steelhead for tribal members and sportsman. The project shifted from Sawtooth A-run stock to Upper Salmon River B-run stock in 2012 and contributes to the LSRCP mandate to return 25,000 steelhead to project area upstream from Lower Granite Dam.

Operations and Maintenance Tasks

Task 3.1 Program Planning and Environmental Compliance Requirements

Activity 3.1.1 Assist in the development of a coordinated monitoring, research, and evaluation plan, including development of a smolt release study.

Completed – The SMEP completed a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis with Dan Warren and Associates in preparation for producing a final Research, Monitoring, and Evaluation Plan. However, SMEP is still working with IDFG to solidify the tagging requirements to address smolt release questions.

Activity 3.1.2 Work with LSRCP staff to acquire necessary permits to implement the project.

Completed - SMEP worked with LSRCP, BPA, and NMFS to ensure the Yankee Fork Steelhead Project activities were covered under the Biological Opinions issues in December 2017.

Activity 3.1.3 Assist with Environmental Impact Statement and NEPA process regarding the construction of the Yankee Fork Salmon River Satellite Facility.

Completed - SMEP has extensive involvement in informing and working on the EIS and NEPA process for the construction of the Yankee Fork Salmon River Satellite Facility including:

- Ebel, J. D., K. Conley, and L. Denny. 2018. *Evaluation of post-release physiological responses of juvenile Chinook salmon reared at two different hatcheries into the Yankee Fork Salmon River. Shoshone-Bannock Tribes' Fish and Wildlife Department, Fort Hall, ID (pp. 5, 20 June 2018, revised 24 Sept 2018)*
- Ebel, J. D. 2018. *Analysis of PIT tags required to test for differences in the survival of smolt reared at two different hatcheries. Shoshone-Bannock Tribes' Fish and Wildlife Department. Fort Hall, ID (pp.11, 29 May 2018)*
- Ebel, J. D. 2017. *Migration timing of Chinook salmon in the Yankee Fork Salmon River, ID 2012-2017. Shoshone-Bannock Tribes' Fish and Wildlife Department. Fort Hall, ID (pp.5, 07 November 2017).*
- Ebel, J. D. 2017. *Migration timing of hatchery and natural origin steelhead (Oncorhynchus mykiss) in the Yankee Fork Salmon River, ID 2012-2017. Shoshone-Bannock Tribes' Fish and Wildlife Department. Fort Hall ID (pp. 9, 27 October 2017).*
- *Worked with Dan Warren & Associates and McMillan & Associates to complete the Step 2/3 submittal to the Northwest Power and Conservation Council to support the Crystal Springs Hatchery Program and hence, a permanent weir on Yankee Fork*
- *Worked extensively with NMFS to allocate take to the permanent weir design to address concerns about through-picket velocity*

Task 3.2 Hatchery juvenile B-run steelhead smolt out-planting

Activity 3.2.1 Coordinate hatchery smolt outplanting activities, including the dates of outplanting, release locations, and truck logistics.

Completed

Activity 3.2.2 Prepare smolt release sites; snow removal, pipe installation, and pipe removal.

Completed

Activity 3.2.3 Help unload smolts at desired release locations.

Completed

Task 3.3 Conduct creel survey of Tribal fisherman in Yankee Fork

Activity 3.3.1 Conduct statistically valid creel survey on Tribal fisherman in Yankee Fork Salmon River.

Completed - In FY 2018, we extended creel surveys to include East Fork Salmon River, Yankee Fork Salmon River, and the mainstem Salmon River from East Fork to Sawtooth Fish Hatchery to improve Shoshone-Bannock Tribal harvest estimates and assist with improving the steelhead run reconstruction effort.

Activity 3.3.2 Estimate total hatchery and natural steelhead harvested.

Completed

Activity 3.3.3 Participate in the Annual Kids Steelhead fishing trip to the Yankee Fork; estimate harvest.

Not completed – The Shoshone-Bannock kids fishing trip was cancelled due to inadequate returns of summer steelhead to Yankee Fork Salmon River.

Task 3.4 Operate and Maintain Pond Series 1 and 3 Weirs

Activity 3.4.1 Install a temporary picket weir near the outlet of Pond Series 1 and 3 and operate until the steelhead runs ceases.

Completed

Activity 3.4.2 Operate and maintain temporary picket weir on a daily basis. Ensure the trapping device is operating properly by cleaning and removing debris and ensuring pickets are secured the streambed interface. Collect fish carcasses from weir daily and sample for biological information and mark-recapture analysis.

Completed

Activity 3.4.3 Enumerate adult steelhead and all other species trapped in the weir daily. Mark steelhead released above the weir with a right operculum punch for genetic analyses and mark-recapture analysis. Collect biological information from all trapped steelhead (e.g., length, weight, gender, origin, tissue, scale) and identify pre-existing marks or tags.

Completed

Activity 3.4.4 Collect broodstock according to HGMP and/or MOA and transfer to Pahsimeroi Fish Hatchery.

Not completed – The SMEP did not capture any adult steelhead that met the > 70 cm requirement for broodstock collection.

Activity 3.4.5 Assist Pahsimeroi Fish Hatchery with developing spawn schedule and spawning. Transfer fertilized eggs to Sawtooth for egg incubation and final rearing.

Not completed – The SMEP did not capture any adult steelhead that met the > 70 cm requirement for broodstock collection.

Monitoring and Evaluation Tasks:

Task 3.5 Monitor and evaluate hatchery smolt releases

Activity 3.5.1 Use PIT tags to estimate hatchery steelhead smolt survival from release to: 1) Yankee Fork array and 2) Lower Granite Dam. Estimate mean passage date and mean travel time to each detection point.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Task 3.6 Estimate total hatchery and natural adult steelhead escapement to Yankee Fork.

Activity 3.6.1 Estimate the number of hatchery (by release group) and natural adults that return to the Yankee Fork PIT array.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Activity 3.6.2 Record the number of hatchery (by release group) and natural adults that are trapped at the picket weir.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Task 3.7 Estimate natural production at the rotary screw trap

Activity 3.7.1 Continue to operate rotary screw trap through the 2017 field season (October 1 – November 15, 2017) to estimate juvenile production. Quantify out-migrating juvenile salmonids daily and identify all fish to species. Sample at least 25 steelhead daily and collect length (mm), weight (± 0.01 g), and tissue sample. PIT tag all juvenile steelhead >70 mm fork length and bismarck brown stain fish smaller <70 mm fork length. PIT tag bull trout and other species, as necessary. Calibrate rotary screw trap to accurately estimate juvenile migrants using PIT tagged fish and/or bismarck brown stain fish.

Completed

Activity 3.7.2 Remove, clean, and winterize the rotary screw trap in November 2017.

Completed

Activity 3.7.3 Install permanent anchors and a cable/pulley system.

Not completed – The USFS has not been willing to process any Tribal permits in the Yankee Fork included a permit to install a permanent cable/pulley system. The rotary screw trap continues to be anchored to a lodgepole pine and large boulders.

Activity 3.7.4 Install the rotary screw trap as soon as conditions permit in 2018.

Completed

Activity 3.7.5 Operate the rotary screw trap from April 1 – September 30, 2018 to estimate juvenile. Quantify out-migrating juvenile salmonids daily and identify all fish to species. Sample at least 25 steelhead daily and collect length (mm), weight (g), and tissue sample. PIT tag all juvenile steelhead >70 mm fork length and bismarck brown stain fish smaller <70 mm fork length. PIT tag bull trout and other species, as necessary. Calibrate rotary screw trap to accurately estimate juvenile migrants using PIT tagged fish and/or bismarck brown stain fish.

Completed

Activity 3.7.6 Estimate production by broodyear.

Not completed – The SMEP is coordinating with IDFG to get juvenile steelhead scale samples analyzed for ages. This information will be used to identify production by age class.

Activity 3.7.7 Use PIT tagged juveniles to estimate mean survival, mean travel time, mean passage date from the rotary screw trap to 1) Yankee Fork instream array; 2) Lower Granite Dam; and 3) through FCRPS hydro-power system for each broodyear.

Completed – To be included in FY 2019 Yankee Fork 10 year summary report

Task 3.8 Conduct juvenile electrofishing surveys to estimate juvenile distribution, abundance, density, and overwinter survival

Activity 3.8.1 Conduct single-pass electrofishing at identified sample sites. Collect juvenile steelhead and non-target species. PIT tag all juvenile steelhead > 70 mm fork length, and collect biological data from all fish.

Completed – Electrofishing surveys of the Yankee Fork are being phased out. SMEP assisted other SBT programs with electrofishing efforts to correct snorkel-based estimates with electrofishing estimates.

Activity 3.8.2 Estimate the number of PIT tagged juvenile steelhead detected at the rotary screw trap and/or Yankee Fork array and estimate overwinter

survival, movement post screw trap operations, and relate survival to mechanistic factors (e.g., length, weight, distance upstream, etc).

Not completed – see Activity 3.8.1

Objective 4: Synthesize project results in the form of annual reports

Task 4.1 Provide Annual/Final Progress Report for Fiscal Year 2017 Statement of Work.

Activity 4.1.1 Develop and submit a final 2017 Annual/Final Progress Report by December 31, 2017.

Completed

Task 4.2 Provide summary reports for applicable permits

Activity 4.2.1 Develop and submit a final 2017 Summary Report for the IDFG Scientific Collecting Permit by January 31, 2018.

Completed

Activity 4.2.2 Develop and submit the final 2017 Summary Report for the NOAA Fisheries ESA Section 10 – 1127 Scientific Research Permit by January 31, 2018.

Completed

Activity 4.2.3 Coordinate with LSRCPO (Mark Robertson) on an ESA related reporting or permit development for LSRCP funded salmon or steelhead program activities, including monitoring and evaluation activities.

Completed

Task 4.3 Provide 2017 Yankee Fork Chinook Salmon Run Report

Activity 4.3.1 Develop and submit the draft 2017 Yankee Fork Salmon River Chinook Salmon Run Report by February 28, 2018.

In progress – The SMEP is re-analyzed data beginning with the projects inception. An early draft which includes 2017 data was provided to R. Engle in April 2018.

Activity 4.3.2 Develop and submit the final 2017 Yankee Fork Salmon River Chinook Salmon Run Report by March 31, 2018.

Not fully completed – Research biologist has re-analyzed data beginning with the projects inception. Early draft sent to R. Engle in April 2018.

Task 4.4 *Provide 2017 Yankee Fork Steelhead Run Report*

Activity 4.4.1 Develop and submit the draft 2017 Yankee Fork Salmon River Steelhead Run Report by February 28, 2018.

In progress – The SMEP is re-analyzed data beginning with the projects inception. An early draft which includes 2017 data was provided to R. Engle in April 2018. This will culminate in a full, internally consistent time series for Yankee Fork projects.

Activity 4.4.2 Develop and submit the final 2016 Yankee Fork Salmon River Steelhead Salmon Run Report by March 31, 2018.

In progress – The SMEP is re-analyzed data beginning with the projects inception. An early draft which includes 2016 data was provided to R. Engle in April 2018. This will culminate in a full, internally consistent time series for Yankee Fork projects.

Task 4.5 *Provide Fiscal Year 2019 Statement of Work and Budget.*

Activity 4.5.1 Develop and submit the draft FY 2019 Statement of Work and Budget according to LSRCP timeline.

Completed

Task 4.6 Participation and Use of FINS Database

Activity 4.6.1 Attend FINS introduction/training session by PFMFC staff and other FINS group participants (location to be determined) and provide input on implementation of SBT data on LSRCP program into FINS.

Completed – SMEP staff participated in FINS current version – highlight review.

Activity 4.6.1 Start transitioning SBT data collections into FINS that are LSRCP funded program activities.

Completed – SMEP created “facilities” for Yankee Fork for steelhead and Chinook salmon received or transferred. All adult trapping data has been uploaded to FINS.