Lower Snake River Compensation Plan FY2018 Performance Report
Idaho Department of Fish and Game – Sawtooth Fish Hatchery

The LSRCP goals for the SFH are to return 13,600 adult summer steelhead trout (A-run and B-run) and 19,445 adult (spring/summer) Chinook Salmon above Lower Granite Dam annually. In addition to managing SFH the staff also oversees operations at one satellite facility, East Fork Salmon River, to achieve the LSRCP goals. Pertinent physical and biological data associated with all aspects of program operations are also collected. Program operations are detailed in the Salmon River Basin Annual Operating Plan.

FY2018 OBJECTIVES:

Objective 1: Manage all operations and maintenance at the Sawtooth Fish Hatchery and the East Fork Satellite facility, to achieve LSRCP goals. This also includes overseeing spending, all fish marking, fish transportation, and fish health activities associated with this program.

Report:
A. Provided administrative oversight, developed and managed budgets, and met reporting requirements. This included overseeing spending, fish marking, fish transportation and fish health activities associated with this program.
B. Adult Trapping and Broodstock Development
    1. Pertinent physical and biological data associated with all aspects of program operations were collected.
    2. Steelhead Trout
       a. The broodstock goal for A-run Steelhead Trout is 888 adults at SFH and 26 natural pairs at the East Fork.
          i. In 2018, there were 1,675 adult Steelhead Trout trapped at the SFH weir [(1,658 Hatchery Origin (HO) and 17 Natural Origin (NO)].
          ii. In 2018, there were 77 adult Steelhead Trout trapped at the East Fork weir (65 HO and 12 NO).
    3. Chinook Salmon
       a. The broodstock goal for spring Chinook Salmon is 1,054 adults.
          i. In 2018, there were 1,241 Chinook Salmon trapped [1,123 HO, 59 Integrated Origin (IO) and 59 NO].
C. Spawning
    1. Pertinent physical and biological data associated with all aspects of program operations were collected. Program operations are detailed in the Salmon River Basin Annual Operating Plan.
    2. Steelhead Trout
       a. The 2018 AOP egg collection target for the SFH A-run Steelhead Trout was 2,225,268 with a broodstock goal of 894 adults.
          i. In 2018, there were 447 A-run Steelhead Trout females spawned at SFH producing 2,275,807 green eggs.
       b. The 2018 AOP East Fork natural stock egg collection target was 84,364 green eggs with a broodstock target of 14 NO females and 14 NO males.
          i. In 2018, there were 8 females spawned (6 HO and 2 NO) with 8 males
(5 HO and 3 NO) producing 39,582 green eggs.
c. The SFH received approximately 993,000 A-run green eggs from the Pahsimeroi Fish Hatchery (PFH) to be incubated to eye-up. From those, a total of 215,298 eyed eggs were shipped to Magic Valley Fish Hatchery (MVFH) and 549,199 were shipped to the Shoshone Bannock Tribe Egg Box Program. Additionally, a surplus of approximately 139,000 non-enumerated eyed eggs had to be discarded, in part because fecundity ended up being higher than originally forecasted in the AOP.

3. Chinook Salmon
   a. The 2018 AOP smolt release target is 2,000,000 spring Chinook Salmon with a green egg collection target of 2,437,851 and a broodstock target of 1,074 adults.
      i. In 2018, there were 442 spring Chinook Salmon females spawned for the SFH program producing 1,714,759 green eggs. Eggs from 8 females were culled due to high Bacterial Kidney Disease (BKD).

D. Incubation and Rearing
   1. Steelhead Trout
      a. Incubate to eye up A- and B-run Steelhead Trout eggs and ship to their designated rearing hatchery; Hagerman National Fish Hatchery (HNFH) and MVFH.
         i. In 2018, the SFH incubated approximately 2,327,000 green eggs to eye-up. Enumerated trays averaged 94.9% eye up. SFH shipped 1,661,480 Sawtooth stock eyed eggs to HNFH and 327,685 to MVFH. Additionally, a surplus of approximately 219,000 eyed eggs had to be discarded, in part because fecundity ended up being higher than originally forecasted in the AOP.
         ii. The SFH received approximately 993,000 A-run green eggs from the Pahsimeroi Fish Hatchery (PFH) to be incubated to eye-up. Enumerated trays averaged 90.7% eye-up rate. A total of 215,298 eyed eggs were shipped to Magic Valley Fish Hatchery (MVFH) and 549,199 were shipped to the Shoshone Bannock Tribe Egg Box Program. Additionally, a surplus of approximately 139,000 non-enumerated eyed eggs had to be discarded, in part because fecundity ended up being higher than originally forecasted in the AOP.
         iii. In 2018, SFH shipped 33,794 East Fork stock eyed eggs to HNFH.
   b. Collected and recorded appropriate physical and biological data during incubation and transfers.

2. Chinook Salmon
   a. Incubated and reared spring Chinook Salmon eggs and fish at appropriate lot levels.
   b. Collected and recorded appropriate physical and biological data during incubation and rearing.
      i. Brood Year 2016 spring Chinook Salmon survival from eyed egg to release was 98.5%. A total of 128,236 pounds of feed was fed for a weight gain of 139,055 pounds resulting in a feed conversion of 1.26. The final hatchery rearing densities ranged from 0.24 to 0.30 and averaged 0.26 Density Index (D.I).
ii. Brood Year 2017 spring Chinook salmon number on hand at the SFH is 1,101,575 presmolts at 29.2 fpp. This group of fish will overwinter in eight large outside raceways. Smolts will be released in the spring of 2019 at the Sawtooth Weir, 14 river-miles above the Sawtooth Weir, and at the Yankee Fork River. Brood Year 2017 spring Chinook salmon number on hand at the Springfield Fish Hatchery is 103,216 presmolts at 40.3 fpp, which are to be released at the Yankee Fork River.

iii. Brood Year 2018 spring Chinook Salmon number of females spawned was 442. There were 8 females culled due to high BKD, resulting in 434 females that produced 1,714,759 green eggs. The eyed egg number totaled 1,631,507 with a 95.1% eye up rate.

c. Addressed objectives for Shoshone Bannock Tribe programs and worked cooperatively.

3. Sockeye Salmon

The SFH received 354,543 BY17 Sockeye Salmon eyed eggs from the Eagle Fish Hatchery in December 2017. Resulting fish have been reared at the SFH. The current BY17 sockeye inventory at the SFH is 333,735 juveniles at a size of 42.7 fpp.

E. Juvenile Fish Releases

1. Chinook Salmon

a. Annual release plans.

Distribution of most Brood Year 2016 spring Chinook Salmon smolts occurred on March 28th, 2018. A total of 1,918,998 segregated smolts were direct released at the Sawtooth weir on March 28th and 15,884 were direct released on March 30th, 2018. A total of 168,301 integrated smolts were direct released at the Sawtooth weir on March 30th, 2018. On April 6th, 2018, a total of 138,810 SFH stock Chinook salmon smolt were transported by Neil Ring Trucking and released into the Yankee Fork River. On April 18th, the remaining 133,988 SFH stock Chinook salmon smolts were transported by Niel Ring Trucking and released into the Yankee Fork River.

b. Fish loading and hauling information.

Fish hauling services for the releases to the Yankee Fork River were contracted through Niel Ring Trucking. Unusual mortality occurred during fish loading on April 17th due to what appeared to be a pump malfunction. Fish were released back into the raceway and loading was postponed to the following day. No unusual mortality was observed during fish hauling.

2. Sockeye Salmon

In October 2017, the SFH received 239,423 BY16 sockeye pre-smolts to be acclimated in SFH raceways with Salmon River water prior to release in Redfish Lake two weeks later. In April 2018, the SFH received 615,988 BY16 sockeye smolts from the Springfield Fish Hatchery to be acclimated in SFH raceways with Salmon River water prior to release at Redfish Lake Creek and below the Sawtooth weir in May 2018.

Objective 2: Develop the facility annual operating budget; to be submitted to the LSRCP office
by June 15. The FY2018 proposed operating budget was $863,735 (excluding fish feed and utilities paid directly by LSRCP office). A separate maintenance and equipment needs list will be submitted with the annual operating budget. Major maintenance and improvement projects will be coordinated with the LSRCP office.

Report:
A. The FY2019 Annual Operating Budget was submitted to the LSRCP office on June 25th, 2018.
B. A capital improvement project list was submitted along with the budget.
C. All major maintenance and improvement projects were coordinated with the LSRCP office. During FY 2018, the following Facility and Equipment Maintenance, Repair, and Replacement projects were completed:

1. Wickam Pipeline Construction Inc. built dormers on the roof of the spawn building to divert snow from the ramp and raceway-crowder tracks.
2. A SI-5 Fish Stunner was acquired to assist with fish spawning.
3. Wickham Pipeline Construction Inc. installed new control valves for each of the vats inside the hatchery. The original valves were old and were not closing properly.
4. Frontier Fence Company repaired damage to the fence around the small raceways and installed new fencing around the backyard of residence #3 and around well #5 and its generator.
5. The chimneys of all residences were inspected and cleaned in preparation for the winter.
6. The water heater for the vat wash-water was moved to the headbox room. All of the original construction failing PVC piping, not meant for hot water, was replaced with Pex and then insulated.
7. Potable water supply lines were painted for visual identification.
8. Rays Heating, Plumbing, Electric Inc. replaced water heaters in all five hatchery residences as preventive maintenance.
9. The old booster pump from wells 6 and 7 was connected to the potable system as an emergency back-up if well 4 failed.
10. Chester Heating and Plumbing, of Challis, installed new electric furnaces in all five residences.
11. A failed main breaker panel for the hatchery HVAC was replaced.
12. The Kawasaki Ranger received recall maintenance in Boise.
13. Emergency lighting was installed in key locations. These were wired to the emergency generator and will only turn on when the power is off.
14. A 6” pvc line is being installed in the vat room to run water from the headbox pumps to the small raceways or run Well 5 water to the headbox well riser.
15. Flashing was installed on the south roof line of the small’s structure to block sunlight.
16. Residence 4 received paint and repairs while it remains empty.
17. A 2” pvc pipeline was installed from the domestic system to a vat-room exterior wall. From there, a 2” fire hose carries water along the top end of the
raceways as a water source for the pressure washers.
18. Fleet truck # 48444 was replaced by # 51077.
19. Aluminum belt-feeder stands were fabricated for the small raceways.
20. New carpet installed in residence #1.

**Objective 3:** Develop an annual facility Statement of Work, to be submitted to the LSRCP office by June 15.

The LSRCP office requested SOWs be submitted by July 2 in 2018. The Sawtooth Fish Hatchery had its FY2019 Annual Statement of Work submitted to the LSRCP office on 06/25/2018.

**Objective 4:** Conduct annual safety inspections and submit findings to the LSRCP office by August 1 (checklist to be provided by LSRCP).

**Report:**
A. An inspection of the Sawtooth Fish Hatchery and dormitory fire and smoke detectors and alarm system was conducted in December, 2017, by TYCO Simplex Grinnell.
B. In May 2018, Johnson Controls performed an annual inspection and maintenance of all fire extinguishers at the SFH and residences.
C. Idaho Division of Building Safety conducted an inspection of the East Fork Facility on May 8, 2018 and all reported findings were addressed and corrected.
D. Idaho Division of Building Safety conducted an inspection of the Sawtooth Fish Hatchery on August 7, 2018 and no unsafe or hazardous conditions were noted.

**Objective 5:** Conduct annual facility condition assessments and submit findings to the LSRCP office by August 1 (checklist to be provided by LSRCP).

**Report:** A Comprehensive Condition Assessment of the Sawtooth Fish Hatchery was conducted by Chris Starr in September 2018.

**Objective 6:** Conduct annual real property and personal property inventories; coordinated with LSRCP personnel.

**Report:**
A. LSRCP annual property inventory for vehicles and equipment at the Sawtooth Fish Hatchery was conducted by Anna Ray in September 2017.
B. IDFG Annual Inventory submitted to the Fisheries Bureau on January 19, 2018.
C. IDFG Fiscal Year End Inventory was submitted to the Fisheries Bureau on June 22, 2018.

**Objective 7:** Contribute to the development of the Salmon River Basin AOP.

**Report:** Sawtooth Fish Hatchery personnel attended the Salmon River AOP meeting on February 6, 2018. All SFH data was entered into the Salmon River AOP document on Google Docs in a timely manner.

**Objective 8:** Provide monthly fish inventory data to the LSRCP office by the 7th of each month.
Report: We have been instructed by the LSRCP, in June 2017, to no longer provide monthly fish inventory data since the data is now accessible through FINS.

Objective 9: Provide a written facility annual report to the LSRCP office, including the standardized LSRCP production tables (to be provided) to the LSRCP office by December 31. A progress summary of all ongoing hatchery research projects will be included in this report. (Other information needs for this report, to be determined).

Report:
A. This annual report was submitted prior to December 31, 2017.
B. LSRCP Standardized Production Tables

**Spring / Summer Chinook Salmon (Upper Salmon River Stock):**

- Adult Return Goal: 19,445
- Smolt Release Target: 2,000,000
- Egg Collection Target: 2,400,000
- Broodstock Target: 1,054

**Steelhead (Sawtooth A-run Stock; HNFH and MVFH reared):**

- Adult Return Goal: 13,600
- Smolt Release Target: 1,779,000 at weir
- Egg Collection Target: 2,225,000
- Broodstock Target: 888

**Steelhead (East Fork Natural Stock; Hagerman NFH reared):**

- Adult Return Goal: None
- Smolt Release Target: 60,000
- Egg Collection Target: 84,000
- Broodstock Target: 26