

Joan M. Dukes
Chair
Oregon

Bruce A. Measure
Montana

James A. Yost
Idaho

W. Bill Booth
Idaho



Rhonda Whiting
Vice-Chair
Montana

Bill Bradbury
Oregon

Tom Karier
Washington

Phil Rockefeller
Washington

June 28, 2012

DECISION MEMORANDUM

TO: Fish and Wildlife Committee members

FROM: Mark Fritsch, Project Implementation Manager

SUBJECT: Step 1 review of the *Crystal Springs Planning and Operations/Maintenance*, Project #2008-906-00. *Crystal Springs Fish Hatchery and Programs for Snake River Chinook Salmon and Yellowstone Cutthroat Trout.*

PROPOSED ACTION:

- I. Council staff recommends that the Fish and Wildlife Committee approve proceeding to Step 2/3 (i.e., a design/build approach) of this project. This recommendation is conditioned on the understanding that the additional information requested by the ISRP (ISRP document 2012-8), as outlined above, be addressed as part of the Step 2/3 submittal and review process. This recommendation is also contingent upon the understanding that the final construction contract will be negotiated at the completion of the final design and after Council approval of the Step 2/3 documents.
- II. The Fish and Wildlife Committee request confirmation of final costs, as part of the revised master plan, associated with the entire Crystal Springs Fish Hatchery and associated support facilities, including confirmation of cost share and in-kind contributions.

SIGNIFICANCE:

On April 15, 2011, the Shoshone-Bannock Tribes (SBT) submitted to the Council as part of the Three-Step Review Process a master plan for the *Crystal Springs Fish Hatchery and Programs for Snake River Chinook Salmon and Yellowstone Cutthroat Trout*, as part of Project #2008-906-00, *Crystal Springs Planning and Operations/Maintenance.*

The Crystal Springs Fish Hatchery Master Plan (Master Plan) proposes to help restore two native fish species of cultural and economic significance to the Tribes: spring/summer Chinook salmon (*Oncorhynchus tshawytscha*) and Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*). The recovery and long-term sustainability of the Chinook salmon will occur in geographically distinct regions of Idaho. Chinook salmon produced at Crystal Springs Hatchery will be acclimated and released in the Yankee Fork and in Panther Creek, both tributaries to the upper Salmon River. Artificial production of Yellowstone cutthroat trout will be used to meet the need for additional catch and harvest opportunities for both tribal and sport fishers in a spring-fed, isolated 16-acre oxbow located on the SBT reservation.

BUDGETARY/ECONOMIC IMPACTS

I. Overview of Step 1 Project Costs

The costs presented in the Master Plan are consistent with Council's Three Step Review Process. These conceptual costs are a planning baseline from which to refine costs, evaluate alternatives, and protect against budget expansion as the proposed project progresses through the preliminary (Step 2) and final design (Step 3) phases and implementation. Future cost estimates for both operations and capital construction generally follow the principals for inflation and cost escalation described by the Independent Economic Analysis Board in their white paper on Project Cost Escalation Standards (IEAB document 2007-2).

Project costs provided in the Step 1 Master Plan were based on the proposed programs and conceptual designs. Cost estimates for facility planning and design, land acquisition, construction, capital equipment, environmental compliance, operations and maintenance and research, monitoring, and evaluation are presented for each of the hatchery facilities. A summary of key project expenditures to date and a summary of future costs projected from Fiscal Year 2011 through Fiscal Year 2021 (see Attachment 1) are provided at the end of this document.

This Master Plan describes the proposed aquaculture program and associated facilities for Chinook salmon, and support facilities to rear Yellowstone cutthroat trout. In summary, the proposed programs would:

- Develop hatchery facilities at the Crystal Springs site near the Fort Hall Reservation, with components that include process water systems, utilities, incubation facilities, rearing facilities, housing, administration and other support facilities, and effluent treatment facilities.

- Provide adult, trapping, holding and juvenile stress relief facilities at Yankee Fork and Panther Creek in the upper Salmon River subbasin

Capital and expense funds for the Crystal Springs Fish Hatchery including planning, operation and maintenance, and construction totaling \$14,000,000¹ are reserved in MOA budgets between the Shoshone-Bannock Tribes and the FCRPS Action Agencies. In December of 2011 the original capital budget for hatchery construction of \$7,500,000 was adjusted by \$2,478,302, as approved by Bonneville and the Fort Hall Business Council by a line item transfer of the MOA budgets. Total funding for the facility construction allocated as per the Fish Accord now totals approximately \$9,978,302. Cost share funding is being pursued by the SBT from the Blackbird Trustee Council² to assist with needed facilities in Panther Creek (i.e., trap, holding and rearing) as per a consent decree obligation. In addition, the Lower Snake River Compensation Program (LSRCP) has indicated a need to begin trapping and enumerating steelhead in the Yankee Fork Salmon River, and has further indicated support for installing a permanent satellite facility in that watershed. This action would also assist in savings to the Crystal Springs Fish Hatchery.

II. Key Expenditures by Program Area

The summary of key expenditures by step and program area (see Attachment 1) provides an approximate overview of future costs for planned programs as presented in the Step 1 Master Plan. This summary has advanced one year from the estimated costs presented in the Master Plan, costs have been escalated to account for this as noted in Attachment 1.

- Planning & Design Step 1- \$372,747 (for completion of a Step 1 Master Plan)
- Planning & Design Step 2 - \$450,450
 - Environmental Compliance Step 2 (Permitting, Environmental Assessment, Other) \$155,446
 - Land Purchase - \$800,000³
- Planning & Design Step 3 - \$483,752
- Construction - \$14,102,000
- Capital Equipment \$763,806⁴

The total budget for the conceptual planning associated with the Master Plan is about \$372,747. This figure is an estimate that includes conceptual planning, engineering, and development of the Step 1 Master Plan.

The preliminary planning and design stage, intended to meet the Council's Step 2 requirements, is designed to identify any major difficulties or concerns with the program and facility designs.

¹ This is for Fiscal Year 2008 - 2017 at \$7,750,000 capital construction and \$6,250,000 expense planning and O&M funds. In addition, MOA Project #2008-905-00, *Supplementation Projects* will support monitoring and evaluation for the proposed Chinook salmon program (currently in a response request with the ISRP).

² Support letter was submitted as part of the Master Plan.

³ The Crystal Springs site was purchased by Bonneville in 1998 for Project #1995-006-00, Shoshone-Bannock/Shoshone-Paiute Joint Culture Facility. On April 26, 2001 the Council did not approve the Step Three Review - project was closed out.

⁴ Reflects costs associated with various equipment for office and laboratory, fish rearing, and fish transport.

Step 2 design work should provide sufficient detail and specifics to ensure that the intent and scope of the Step 1 conceptual design work can be met and to refine the cost estimates further. Step 2 will include refinement of scientific information, environmental compliance, and ESA reviews. A placeholder of about \$450,450 (escalated to 2012 dollars) has been identified for Step 2 preliminary planning, environmental compliance, site investigations and design. Initiation of this work is proposed in Fiscal Year 2012. This budget includes costs for drilling test wells, surveying and other investigative geotechnical work.

A placeholder of about \$483,732 (escalated to 2013 dollars) has been identified for the Step 3 final planning and design stage. It is anticipated that this work will begin in Fiscal Year 2012. Refinement of the Step 3 budget will occur as part of the Step 2 development and design.

In addition, the SBT is requesting to a design/build approach at the completion of Step 2/3. This approach would provide the most realistic construction cost estimate possible in Step 3. This approach could compress the overall timeline for implementation and would result in significant cost savings without compromising the Council's requirements for Step 3. The final construction contract would be negotiated at the completion of the final design and formal Council approval of the Step 2/3 documents.

The total estimated conceptual construction budget for the Crystal Springs Fish Hatchery as outlined in the master plan is approximately \$14,102,000 (escalated to 2013 and 2014 dollars). The budget estimate used master planning guidance of +/- 35 to 50 percent and will be refined as part of the next submittal in associated with Steps 2/3

Future cost estimates for operations and maintenance (O&M) at Crystal Springs Fish Hatchery is estimated to be about \$757,434 annually. Related M&E expenses are estimated to be \$467,991 annually⁵. These estimates are in 2014 and 2015 dollars to reflect the anticipated construction and when these activities would be incurred, respectively. The Master Plan shows these costs escalated at 2 percent annually through 2020. However the costs shown in this document (Attachment 1) reflect escalation being advanced by one year, to the time activities would occur. This adjustment is to account for the delay from the time the Master Plan was submitted to this decision document.

The estimated 10-year costs to operate the Crystal Springs Fish Hatchery from Fiscal Year 2014 through Fiscal Year 2021 are presented in Attachment 1. The estimated costs are allocated to the fiscal year in which the expense likely will occur. Costs for each program area are escalated to the year in which they are expected to occur. This estimated cost summary assumes implementation of new facilities occur in 2013 through 2014.

⁵These costs represent the proposed M&E activities associated with the YCT production (implemented through Accord Project # 1992-010-00, *Fort Hall Habitat Restoration*) and Chinook production (implemented through Accord Project #2008-905-00, *Supplementation, Monitoring, and Evaluation Program* - this project is currently in a response loop with the ISRP (ISRP document 2011-16)).

BACKGROUND

Historically, the Shoshone and Bannock peoples harvested salmon and trout throughout the Columbia River Basin for subsistence. Annual salmon and steelhead runs in what are now Oregon, Washington, Idaho and Nevada provided harvest opportunities throughout the year. Summers were spent collecting wild foods and hunting. Bands occupying territory of southwestern Idaho depended on the spring and fall salmon runs for most of their subsistence, but sometimes they took part in the Fort Hall bison hunt. In a similar fashion, the bands occupying the Salmon River basin depended on the supply of anadromous and resident fish for their subsistence. Salmon was the principal food source below Shoshone Falls and in the western Idaho region. Salmon were speared from platforms in the streams or while wading, or were captured in weirs built across small streams and channels. Other fish species caught included sturgeon, suckers, perch, and trout.

On July 3, 1868, the Eastern Shoshone and Bannock tribes concluded the Second Treaty of Fort Bridger. The treaty guaranteed the creation of reservations for the exclusive use and occupancy of the signatory tribes. Pursuant to this guarantee, in 1869, the Fort Hall Reservation (set aside by Executive Order in 1867) was affirmed as the permanent home for the Shoshone-Bannock Tribes. The Tribes agreed to the Treaty in part to establish a permanent home in the area where they traditionally wintered. The area was proximal to what is now called the Fort Hall Bottoms, and were known to hold a great quantity of small and large game and fishes.

The Shoshone- Bannock Tribes continue to harvest wildlife, botanical resources, resident and anadromous fish under rights reserved by the Fort Bridger Treaty of 1868. Tribal fishing methods include the culturally important technique where tribal fishers actually hunt Chinook salmon in the stream using spears. Maintaining this type of fishery is a high priority for the Tribe. Fishing opportunities for the Tribes have been severely constrained by depressed runs of salmon caused in large part by the detrimental effects of hydroelectric development and early overfishing in the lower Columbia River. Current salmon abundance in the Upper Salmon River basin is estimated at about 0.5% of historical runs. Recent harvest opportunities for Tribal members have only provided half a pound of salmon per tribal member compared to historical use of about 700 pounds per person. The Shoshone/Bannock Tribes therefore, seek to restore fishing opportunities for their peoples through Chinook salmon management programs in the Yankee Fork Salmon River and in Panther Creek. Restoration of these ceremonial and subsistence fisheries would be accomplished in a manner compatible with recovery and long-term sustainability of Chinook salmon in the upper Salmon River basin.

I. Subbasins

Two distinct subbasins are associated with the proposed Crystal Springs Fish Hatchery program, the upper Salmon River and the upper Snake River subbasins. Snake River spring/summer Chinook salmon would be collected from and released into the Yankee Fork and Panther Creek in the Upper Salmon subbasin. They would be incubated and reared at a new hatchery near American Falls Reservoir in the Upper Snake subbasin.

In addition, the Crystal Springs Fish Hatchery will be used to rear and release 5,000 catchable Yellowstone cutthroat trout in an isolated lake on the SBT reservation in the upper Snake River subbasin.

A. Salmon River

The Salmon River subbasin encompasses several watersheds in the northern Rocky Mountains of central Idaho. Most of the subbasin is characterized by moderate- to high-elevation mountain ranges and deeply cut valleys of the Salmon River Mountains. Elevations range from 12,661 feet on the summit of Mount Borah down to 2,165 feet at the mouth of the Salmon River.

The Upper Salmon watershed is the largest in the subbasin and contains 261 named streams. One of these is the Yankee Fork, which flows south 26 miles from its headwaters in the Challis National Forest (near Challis Creek Lakes, elevation 8,800 feet) to the Salmon River at River Mile (RM) 367.1 (elevation 6,000 feet). It has a drainage area of 195 square miles.

The Middle Salmon-Panther watershed contains 136 named streams. The headwaters of Panther Creek originate near Morgan Creek Summit at an elevation of approximately 8,000 feet. From its headwaters, the creek flows in a north-northwesterly direction for 44 miles before entering the Salmon River at an elevation of approximately 3,200 feet.

The Salmon subbasin historically contained a number of native salmonids, including bull trout, westslope cutthroat trout, resident rainbow trout, mountain whitefish, Chinook salmon, and steelhead trout. Of the 26 native fish species found in the Salmon River subbasin, four salmonids are federally listed under the Endangered Species Act (ESA) (bull trout, spring/summer Chinook salmon, fall Chinook salmon, and steelhead trout) and one is listed as endangered (sockeye salmon). Other sensitive species in the subbasin include Pacific lamprey, redband trout, and westslope cutthroat trout.

Adult spring/summer Chinook salmon enter the Columbia River on their upstream spawning migration from February through March and arrive at their natal Salmon River tributaries from June through August. Spawning occurs in August and September. Juveniles exhibit a river-type life history strategy, rearing in their natal streams during their first summer before beginning their migration to the ocean in the following spring. After reaching the ocean as smolts, the fish typically rear two to three years in the ocean before beginning their migration back to freshwater.

Historically, it is estimated that thousands of spring/summer Chinook returned to the Yankee Fork. A number of factors led to their decline, and the population was classified as threatened in 1992.

B. Upper Snake

The Upper Snake is the uppermost province in the Snake River system encompassing an area within Idaho, Wyoming, Utah, and Nevada. The province includes the Snake River and all its tributaries from Shoshone Falls, Idaho, to the headwaters in Wyoming. The Upper Snake

Province includes three subbasins: the Upper Snake, Snake Headwaters, and Closed Basin. The Crystal Springs Hatchery is being proposed in the American Falls watershed of this subbasin.

Aquatic species in the Snake River subbasin has been affected by extensive habitat modification and deteriorating water quality from hydroelectric development, load-following effects of hydroelectric projects, water withdrawal and diversions, pollution, and introduced exotic species.

Yellowstone cutthroat trout were once widely distributed from the middle Columbia River Basin to the Northern Rocky Mountains. In the late-glacial period, redband trout invaded the middle Columbia River and replaced Yellowstone cutthroat trout through much of the Columbia and Snake rivers. The Yellowstone subspecies is now limited to the Snake River above Shoshone Falls, to the Yellowstone River drainage downstream to the Tongue River, and to two (now extinct) isolated populations in Waha Lake, Idaho, and Crab Creek, Washington.

II. Project Goals and Objectives

The proposed Chinook program is also designed to contribute to the recovery of the Snake River spring/summer Chinook Evolutionarily Significant Unit (ESU) by restoring a locally adapted hatchery and natural spawning population to the Yankee Fork and Panther Creek. While contributing to recovery is an important objective of the Tribes, regional efforts to recover the Major Population Group (MPG) have been largely directed at other systems in the upper Salmon⁶. With other populations being the focus of species recovery, Yankee Fork and Panther Creek are suitable locations to establish populations that can support SBT tribal harvest objectives.

The proposed Yellowstone cutthroat trout program is intended only to rear trout to a catchable size to provide hatchery fish for tribal and non-tribal harvest.

A. Spring/Summer Chinook⁷

The Chinook program in Yankee Fork and Panther Creek have the following four objectives.

- Cultural Objective: Tribal members will have an opportunity to harvest Chinook salmon using traditional hunting (spearing) and contemporary methods (i.e., weirs, hook-and-line, or nets). Allowing fish to spawn naturally will achieve a second cultural

⁶ Recovery of the threatened Snake River Spring and Summer Chinook ESU requires viability of all Major Population Groups (MPGs) within the ESU. Viability of an MPG requires that all extant populations be maintained, with a portion being viable. The Interior Columbia Technical Recovery Team recommended that for the Upper Snake River Chinook MPG, five populations must meet viability criteria for recovery of the MPG. The ICTRT recommended that these populations be Lemhi River, Pahsimeroi River, East Fork Salmon River, Upper Salmon River and Valley Creek.

⁷ The phased approaches are explicitly linked to the habitat conditions in the respective watersheds. Currently the SBT are implementing habitat projects in the Yankee Fork and Panther Creek through Project #2002-059-00, *Yankee Fork Salmon River Restoration* (currently in a response review with the ISRP), and Project #2008-903-00, *ESA Habitat Restoration*, respectively.

objective of having fish present throughout their historical range, and will also allow the SMEP⁸ to determine if natural production is sustainable.

- Harvest Objective: The program will provide, on average, a minimum of approximately 1,000 adult spring/summer Chinook salmon in the Yankee Fork and 800 adult spring Chinook salmon in Panther Creek for terminal harvest by the SBT. Additional harvest will likely occur outside the respective subbasins, while fish are migrating. However, results of AHA modeling⁹ indicate that in many years, harvest levels would be substantially less than the target values primarily due to cyclical ocean and migration corridor environmental conditions.
- Conservation Objective: The use of appropriate broodstock will reduce risks (e.g., from straying) to other populations associated with the ESU and increase NOR Chinook salmon abundance in two additional streams. Carcasses from natural spawning adult will also provide nutrients for other native species, thereby improving the health and abundance of these species over time.
- Broodstock Objectives: The program will produce the fish required to operate the hatchery program needed to achieve its defined purpose (i.e. harvest) on a long-term sustainable basis.

1. Yankee Fork

Yankee Fork Chinook are at an extremely high risk of extinction, prompting the Shoshone-Bannock Tribes to undertake a three-phase program to support the population. In the first phase (Phase 1), colonization, surplus adults and 200,000 smolts from Sawtooth Hatchery will be released annually¹⁰. When these Chinook return as adults, a percent will be collected as broodstock for rearing at the Crystal Springs Fish Hatchery. Phase 2, local adaptation, will be triggered when approximately 1,000 Chinook return to the Yankee Fork, the estimated population level needed to meet broodstock and natural escapement goals. Use of Sawtooth broodstock will be eliminated in Phase 2 and all broodstock will be collected locally. Tribal harvest in the Yankee Fork will be 1 to 8 percent when runs are less than 500 adults; harvest in excess of that may occur when both broodstock and natural escapement goals are met. If natural productivity rates reach sufficient levels, Phase 3, an integrated harvest program, may be implemented if established triggers are met. The program will be transitioned into an integrated harvest program following the guidelines of the HSRG.

2. Panther Creek

The Chinook program proposed for Panther Creek will recolonize habitat that was severely compromised by mining activities in the subbasin. Over the last decade, significant habitat

⁸ Project #2008-905-00, *Supplementation, Monitoring, and Evaluation Program*. This project is currently in a response loop with the ISRP (ISRP document 2011-16).

⁹ All-H Analyzer (AHA) model developed by the Hatchery Scientific Review Group (HSRG).

¹⁰ This is reflected in the ongoing Yankee Fork Chinook Salmon Supplementation Strategy (YFCSS) supported by the use of Sawtooth Fish Hatchery, as part of the Lower Snake River Compensation Plan.

restoration activities have resulted in documented observations of stray Chinook and various other aquatic species in Panther Creek, signaling the timeliness to initiate the proposed program. Achieving the four project objectives will be two-phased and will initially require new facilities. The proposed Crystal Springs Fish Hatchery will produce from 200,000 to 400,000 Chinook smolts for reintroduction into Panther Creek. Broodstock for this program component will be collected at a new weir and holding pond where they will be held and spawned, and the eggs transported to Crystal Springs Fish Hatchery. Phase 1 of the program, recolonization, will begin by releasing 1,500 surplus hatchery adults (source to be determined during preliminary design) to spawn in Panther Creek. As their progeny return and become adapted to this watershed, a portion of the adults will be collected, spawned, reared at Crystal Springs Fish Hatchery (Phase 2), and progeny will then be released back into Panther Creek to resume a natural life cycle. All other adult and juvenile releases from non-local stocks will then cease. When sufficient numbers of Chinook return to achieve broodstock and natural escapement goals, a significant tribal harvest will be implemented in accordance with the Tribal Resource Management Plan framework, which currently provides for a minimal ceremonial harvest of 1%, or three fish.

B. Yellowstone Cutthroat

The Yellowstone cutthroat trout program will consist of the following.

- Artificial production of YCT will be used to meet the need for catch and harvest opportunities for both tribal and sport fishers. Each year the program will rear and release up to 5,000 sub-catchable sized (5 to 6 inches) YCT into a spring-fed 16-acre oxbow located on the reservation. Surveys indicate that the oxbow is moderately eutrophic and will provide excellent rearing conditions for planted fish. These fish are expected to exhibit fast growth rates and should produce a trophy fishery within 1-2 years after first stocking. The lake fishery will complement the existing trophy stream fishery currently in place in the Fort Halls Bottom. The lake will be monitored for water quality, fish abundance and condition factor each year to refine stocking densities over time. The program will have a catch goal of 0.5 fish per hour of fishing effort. Access to the lake is excellent and fishing success will be simple to monitor. The fishery will provide both tribal and sport anglers the opportunity to catch YCT without risk to native trout populations.

III. Major Project Review (The Three-Step Process)

On April 15, 2011 the Council received from the SBT a submittal intended to initiate the review process (i.e., Major Project Review) associated with a proposed hatchery master plan for Project #2008-906-00, *Crystal Springs Planning and Operations/Maintenance*. The master plan (Step 1) received was titled *Crystal Springs Fish hatchery and Programs for Snake River Chinook Salmon and Yellowstone Cutthroat Trout*.

On June 30, 2011, the ISRP provided the Council with their review of the master plan (ISRP document 2011-17). The ISRP found that additional information was needed on key issues prior to meeting all science review criteria (i.e., response requested).

The ISRP requested information of the following five issues as it relates to the Chinook salmon component of the project.

- *Provide a more thorough discussion of the need for additional hatchery facilities for spring Chinook production to meet goals of the Tribes' enhancement programs.*
- *Critically evaluate whether re-introduction and supplementation efforts in Yankee Fork and Panther Creek have a reasonable probability of success at this time given degraded habitat conditions in the watershed, passage issues in the mainstem, and survival at sea.*
- *Critically evaluate brood stocks that might be used in the Program, including use of natural origin salmon from the upper Salmon River rather than the segregated Sawtooth Hatchery stock*
- *Provide estimates of adult returns and harvests based on actual data from the Snake River basin, including information recently documented by the Lower Snake River Compensation Program. How many hatchery origin and natural origin salmon might be harvested if the goal is to develop a self-sustaining natural population? Although a terminal fishery was not identified by the Tribes, this approach should be discussed along with information on whether the Tribes might consider this approach combined with periodic attempts to re-establish self-sustaining natural production.*
- *Evaluate the effect of releasing 200,000 to 600,000 large smolts on natural origin smolts within and downstream of the release watershed.*

The ISRP requested information of the following three issues as it relates to the Yellowstone cutthroat trout component of the project.

- *Provide a plan and schedule for restoration of Yellowstone cutthroat trout in Fort Hall Reservation waters.*
- *Incorporate key information on habitat conditions, genetics, and population status (especially recent published reports by Meyer et al. 2006, IDFG 2007) that is relevant to the Fort Hall Reservation and to this Step 1 Draft.*
- *Reviewers anticipate that larger adfluvial cutthroat trout might be most desired for harvest by tribal members and fee-paying non-tribal anglers in Fort Hall bottoms streams, but this aspect of the Master Plan was not emphasized and minimally described. A more thorough description of this aspect of the program is needed. Such activity would be justified and consistent with the Council's program and should be discussed in more detail if anticipated.*

On April 12, 2012 the SBT provided their response intended on addressing the information needs, issues and concerns that the ISRP had raised in their review. The SBT had not only responded to the key issues outlined above, but had addressed all the comments made by the

ISRP in their preliminary review. In so doing the SBT had also revised their objectives associated with the Chinook component of the project, and restructured the Yellowstone cutthroat trout aspects of the project.

On April 14, 2012, the ISRP provided their review (ISRP document 2012-8). Based on the response, the ISRP found that the project *Meets Scientific Review Criteria (Qualified)*. No public comment has been received on the ISRP reviews.

ANALYSIS

As with the initial submittal, the ISRP commented on the well organized and professional quality of work detailed in the master plan. The ISRP also noted the response provided significant clarification of Chinook salmon and Yellowstone cutthroat trout goals and objectives. The qualifications raised by the ISRP incorporate issues that arose during both their initial review in 2011 as well as the current review.

Chinook salmon

The Master Plan needs revision to reflect the harvest priority of spawning escapement presented in this response to the ISRP. Continuation of the dialogue on the appropriate broodstock source for Yankee Fork is needed, as is planning for broodstock management.

Additional modeling of potential harvest is needed, and an estimate of the harvest benefits and likelihood of broodstock replenishment should be performed using empirical data rather than using the All-H Analyzer (AHA) or AHA rollup models.

Further information is needed on how straying rates will be estimated including how hatchery fish will be identified, what locations will be surveyed, how often these surveys will occur, and what the sample size goals will be.

The protocols that will be used to assess potential interactions between hatchery origin fish and fishes resident in Panther, Yankee Fork, and the Salmon River need to be more fully explained.

The traits that will be measured on project smolts during the rearing period and at the time of release need to be developed.

Yellowstone cutthroat trout

The Yellowstone cutthroat trout component has been entirely modified. The artificial production with the objective for a conservation benefit objective will be eliminated from the Master Plan. Instead, up to 5000 five to six inch juveniles will be produced annually for release in a confined oxbow lake on reservation lands. The framework for the Yellowstone cutthroat trout sport fisheries is consistent with the Fish and Wildlife Program principles, but the information provided is too brief for an ISRP evaluation. A more detailed assessment for that program is needed. More details are needed regarding the M&E program for these fish, plus a better description of the potential for accidental

escape. A comprehensive plan for native and natural trout management and integration with management for fisheries using hatchery produced trout is needed for specific watersheds and geographic regions, per ISRP programmatic comments for the recent Resident Fish Review (ISRP 2012-6).

Based on the quality and professional nature of the submitted documents associated with the Step 1 review for this project, and the ISRP review the Council staff recommends the following to the Fish and Wildlife Committee.

- Council staff recommends that the Fish and Wildlife Committee approve proceeding to Step 2/3 (i.e., a design/build approach) of this project. This recommendation is conditioned on the understanding that the additional information requested by the ISRP (ISRP document 2012-8), as outlined above, be addressed as part of the Step 2/3 submittal and review process. This recommendation is also contingent upon the understanding that the final construction contract will be negotiated at the completion of the final design and after Council approval of the Step 2/3 documents.
- Council staff requests that the Fish and Wildlife Committee request confirmation, as part of the revised master plan, of final costs associated with the entire Crystal Springs Fish Hatchery and associated support facilities, including confirmation of cost share and in-kind contributions.

Attachment 1. Ten year summary of cost to date and future costs, Fiscal Year 2011 to Fiscal Year 2021¹¹

Program Area	Fiscal Year					
	2011	2012	2013	2014	2015	2016 - 2021
Planning and Design						
Step 1: Concept Engineering, Planning ¹²	\$372,747					
Step 2: Prelim Engineering, Planning, Environmental Compliance ¹³		\$450,450				
Step 3: Final Engineering, Planning ¹⁴		\$241,876	\$241,876			
Construction						
Estimated Construction Costs ¹⁵			\$7,051,084	\$7,051,084		
Capital Equipment						
Capital Equipment ¹⁶				\$763,806		
Environmental Compliance						
Environmental Compliance ¹⁷		\$108,826	\$46,640			
Operations and Maintenance						
Crystal Springs hatchery ¹⁸				\$757,434	\$772,583	\$788,035 - \$870,054
Monitoring and Evaluation						
Monitoring and Evaluation Program ¹⁹					\$467,991	\$477,351 - \$527,034
Total Estimated Capital Costs	\$372,747	\$801,152	\$7,339,600	\$7,814,890		
Total Estimated Expense Costs				\$757,434	\$1,240,5745	\$1,265,386 - \$1,397,088
Total Estimated Costs	\$372,747	\$801,152	\$7,339,600	\$8,572,325	\$1,240,574	\$1,265,386 - \$1,397,088

¹¹ Costs have been adjusted 1 year, in advance, to account for the 16 months since the master plan was submitted to Council.

¹² Step 1 Planning based on current expenditures to complete planning and approval.

¹³ Step 2 Planning based on a percentage of estimated construction costs (escalated to FY 2012 dollars).

¹⁴ Step 3 Planning based on a percentage of estimated construction costs (escalated to FY 2013 dollars).

¹⁵ Estimated Construction Costs assumes 50% occurs in FY 2013 and 50% in FY 2014 (escalated from FY 2010 to mid FY 2013 dollars).

¹⁶ Program Equipment, estimated lump sum for equipment items not shown in construction estimate (escalated from FY 2010 to FY 2014 dollars).

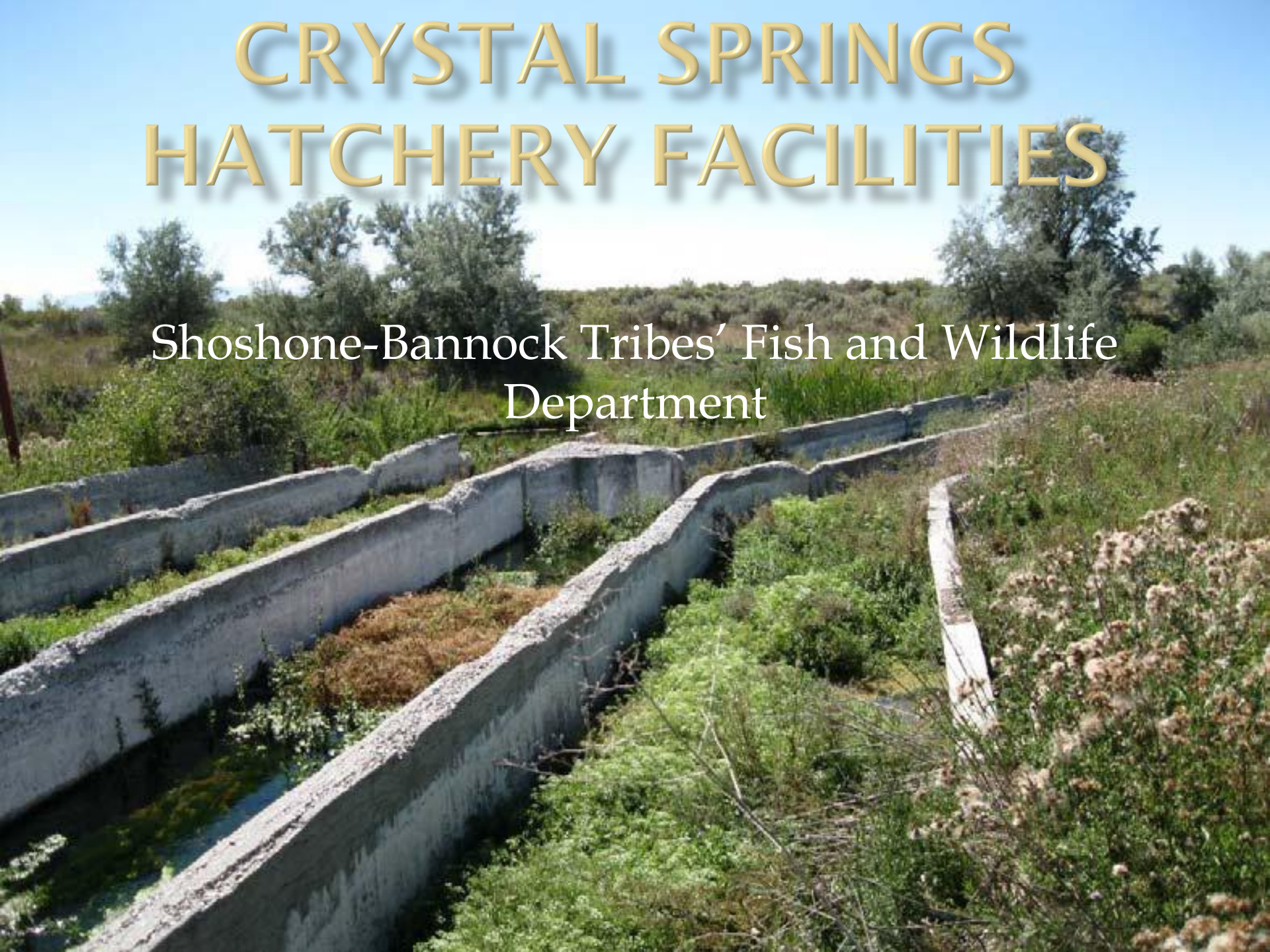
¹⁷ Environmental Compliance Costs - assumes 90% of expenses occur in FY 2012 and 10% of expenses in FY 2013 (escalated from FY 2010 to FY 2012 and FY 2013 dollars).

¹⁸ O&M Cost Crystal Springs Hatchery Program (costs escalated at 2% annually from 2011 dollars per the 2008 Memorandum of Agreement between the Shoshone-Bannock Tribes and the FCRPS Action Agencies (2008 Fish Accords)). Assumes start-up in FY 2014.

¹⁹ These costs represent the proposed M&E activities associated with the YCT production (implemented through Accord Project # 1992-010-00, *Fort Hall Habitat Restoration*) and Chinook production (implemented through Accord Project #2008-905-00, *Supplementation, Monitoring, and Evaluation Program* - this project is currently in a response loop with the ISRP (ISRP document 2011-16)). Monitoring & Evaluation Program (costs escalated at 2% annually from 2011 dollars per the 2008 Memorandum of Agreement between the Shoshone-Bannock Tribes and the FCRPS Action Agencies (2008 Fish Accords)). Assumes start-up in FY 2014.

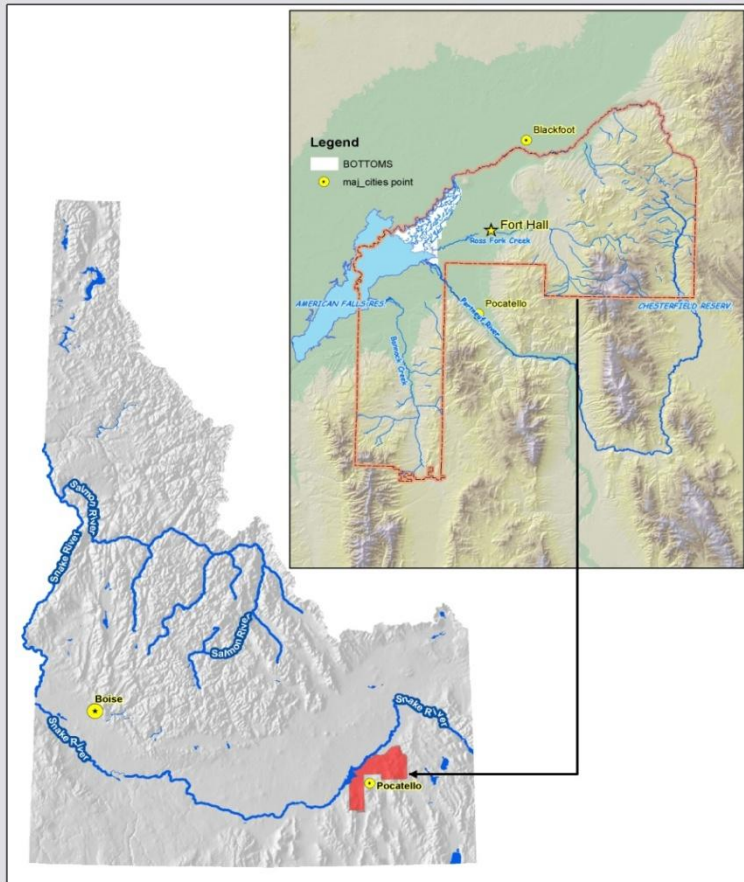
CRYSTAL SPRINGS HATCHERY FACILITIES

Shoshone-Bannock Tribes' Fish and Wildlife
Department



Overview

Shoshone-Bannock Tribes



- ❑ Reservation in Southern Idaho, approximately 5,600 Tribal members
- ❑ The Tribes harvest natural resources for subsistence under Article IV of the Fort Bridger Treaty of 1868.
- ❑ An active co-manager of natural resources both off and on the reservation.

Subsistence Lifeway

- “The Shoshone-Bannock peoples maintained lifestyles which were closely and continuously adapted to the pulse of the riverine environment where they lived and traveled...”
- “However, by the time the first emigrant wagons began their trek across the Oregon Trail in 1836, many of the once abundant food resources in the Snake River Country were starting to disappear.”
- The Rivers and Fisheries of the Shoshone-Bannock Peoples – Albers et al. 1998.



Anadromous Fish Consumption

- ▣ “...average annual fish harvest for the Salmon River region provided by estimates made by Rostlund, Hewes, and Walker is 233,555 fish (range 36,500-604,166).”
- ▣ “...average annual fish harvest from 1992-2006 is approximately 200 salmon per year... 0.6 lbs. of salmon/person. In comparison to historical information...fish consumed/person was 700 lbs.”
- ▣ Unpublished - SBT: Tribal Resource Management Plan April 2007



Preparation Team

- ▣ Shoshone-Bannock Tribes
 - Hunter Osborne, Resident Fish Program
 - Lytle Denny, Anadromous Program
 - Daniel Stone, Policy Analyst
 - Chad Colter, Fish and Wildlife Director
 - Claude Broncho, Fish and Wildlife Policy Representative
- ▣ Design, Engineering, Project Management
 - McMillen, LLC
 - ▣ Derek Nelson
 - ▣ Mark Reiser, Project Lead
- ▣ Science Team
 - Dan Warren and Associates
 - ▣ Dan Warren
 - ▣ Andy Appleby
 - ▣ Joan Nichol
 - Steve Smith
 - Kevin Malone

Key Tasks Completed

- ▣ Hatchery Master Plan Completed.
 - ISRP Response Received
 - Comments submitted to ISRP and NPCC
 - ISRP comments indicated that the project was “qualified” to move ahead with program planning.
- ▣ Site Selection for Yankee Fork and Panther Creek.
 - FS Coordination Meetings
 - Site lay-out
- ▣ Refined design components for the hatchery facility.
- ▣ Hatchery Genetics Management Plan, Operations Manual Outline, Aquaculture Education Program.

Overview of Topics

- ▣ Review of Program Goals and Objectives
- ▣ Requests for Funds/Cost-Share
- ▣ Overview of Hatchery Facilities
- ▣ Overview of Satellite Facilities
 - Yankee Fork Salmon River
 - Panther Creek

REVIEW OF PROGRAM OBJECTIVES

Tribal Objectives for YFSR and Panther Creek

- ▣ The Yankee Fork and Panther Creek spring Chinook programs have the following conservation, harvest and cultural objectives:
 - Cultural Objective: Tribal members would have opportunities to harvest using traditional and contemporary methods.
 - Harvest Objective: The program will provide, on average, approximately 1,000 Chinook in the Yankee Fork and 800 Chinook in Panther Creek for harvest.
 - Conservation Objective: The programs will contribute to the recovery of the Snake River spring/summer Chinook ESU by restoring a Maintained population of 500 locally adapted Chinook spawners in the Yankee Fork and 500 spawners in Panther Creek (a total of 1,000 fish).

Production Objectives for YFSR and Panther Creek

Adult Escapement Priority	Yankee Fork Salmon River	Panther Creek
Hatchery Broodstock	358 (NOR+HOR) adults	214 (NOR+HOR) adults
Natural Escapement	~500 (NOR+HOR) adults	~500 (NOR+HOR) adults
Harvest	~1,000 (NOR+HOR) adults	~800 (NOR+HOR) adults

Production Objectives for YCT

- ▣ The Tribes will initially produce catchable trout for release in the Fort Hall Bottoms to supplement harvest opportunities.



Cost Summary

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<i>Total Estimated Capital Costs</i>	\$372,747	\$801,152	\$7,339,600	\$7,814,890	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<i>Total Estimated Expense Costs</i>	\$0	\$0	\$0	\$757,434	\$1,240,574	\$1,265,386	\$1,290,693	\$1,316,507	\$1,342,838	\$1,369,694	\$1,397,088
<i>Total Estimated Costs</i>	\$372,747	\$801,152	\$7,339,600	\$8,572,325	\$1,240,574	\$1,265,386	\$1,290,693	\$1,316,507	\$1,342,838	\$1,369,694	\$1,397,088

Land Purchase, Leases and Easements (land purchase is completed)

Estimated Construction Costs assume 50% occurs in FY 2013 and 50% in FY 2014 (escalated from FY 2010 to mid FY 2013 dollars)

O&M Cost Crystal Springs Hatchery Program (costs escalated at 2% annually from 2011 dollars per the 2008 Memorandum of Agreement between the Shoshone-Bannock Tribes and the FCRPS Action Agencies (2008 Fish Accords)) assumes start-up in FY 2014

Monitoring and evaluation program (costs escalated at 2% annually from 2010 dollars per the 2008 Memorandum of Agreement between the Shoshone-Bannock Tribes and the FCRPS Action Agencies (2008 Fish Accords) assumes start-up in FY 2015

Fish Accord Capital Funding

- ▣ In 2008 the Shoshone-Bannock Tribes joined a group of regional co-managers in signing the Columbia Basin Fish Accords with BPA, BOR and the ACOE.
- ▣ The Crystal Springs Project was allocated a total of 7.5 million dollars in capital for construction of the hatchery and satellite facility on Yankee Fork.
- ▣ In 2011 BPA agreed to the SBT proposal to inflate our capital allocation by 2% over the life of the Accord, providing additional funds to cover hatchery related expenses. (Approximately 9.9 million is available for capital construction)

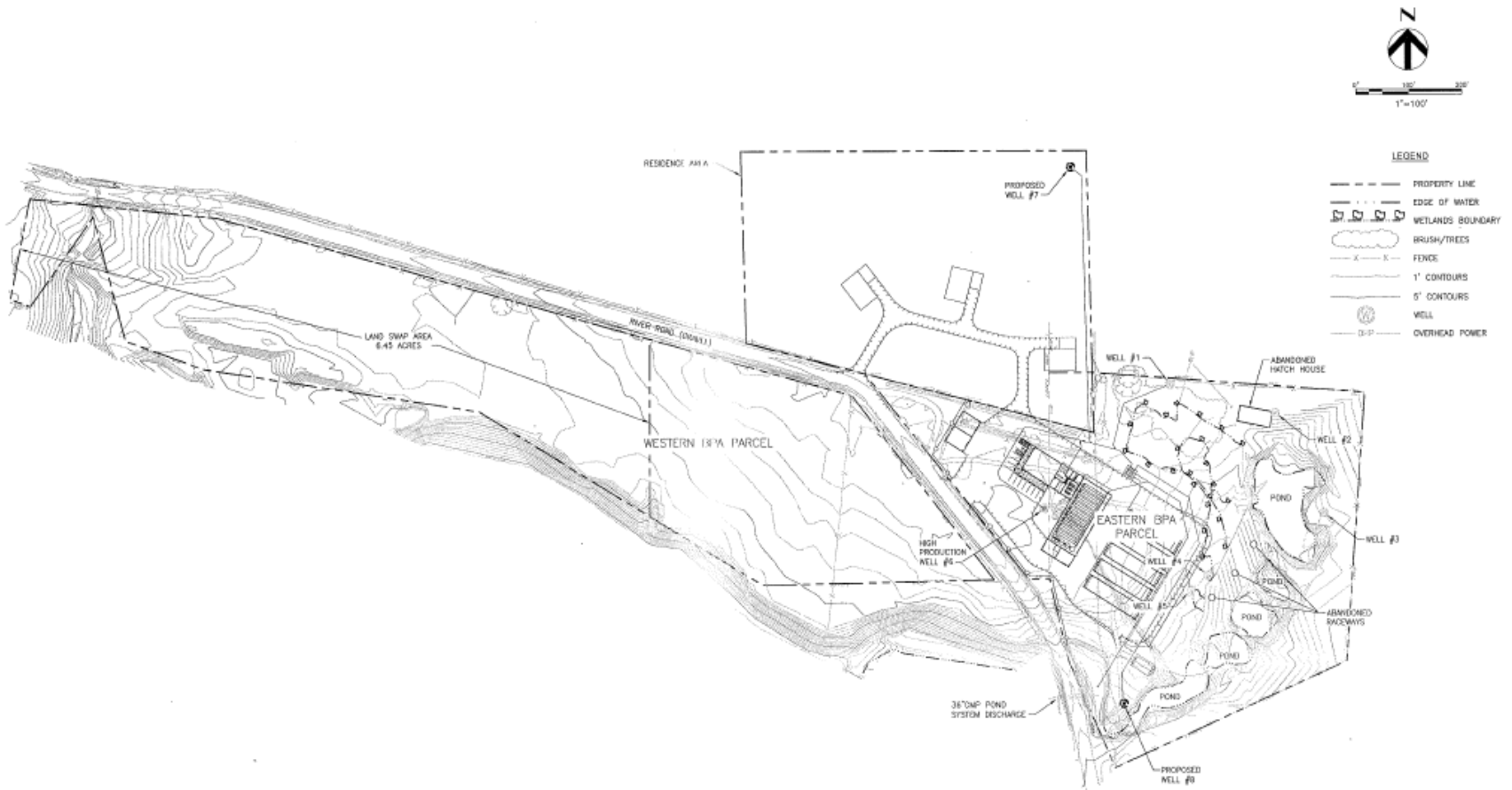
Requests for Cost-Share

Potential Cost-Share/Partnership

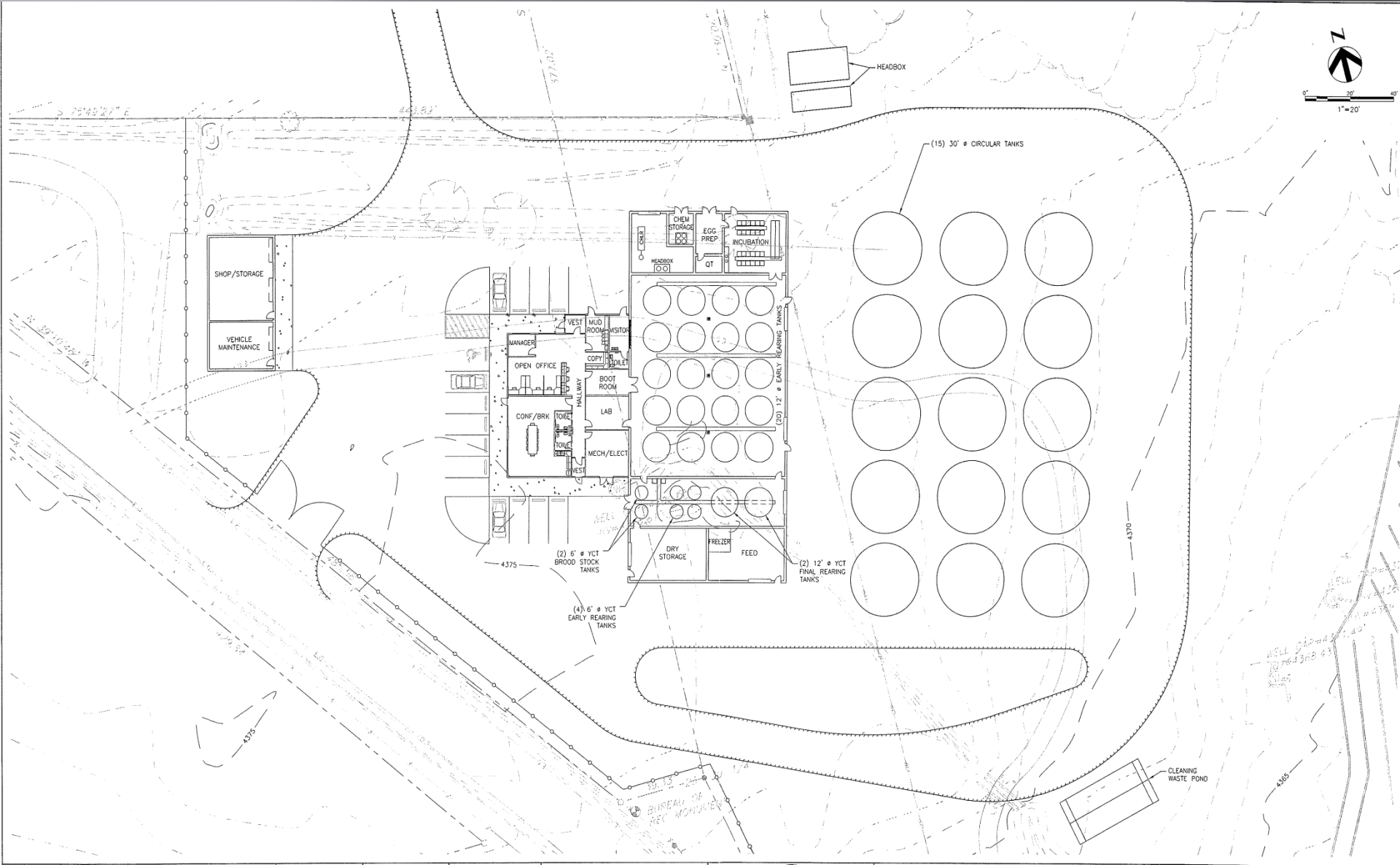
- ▣ Lower Snake River Compensation Program has indicated an interest in shifting the collection facilities for the Snake River Steelhead program to Yankee Fork.
 - Building a new trapping facility for Steelhead would serve as a cost-savings to the overall budget for a Chinook trapping facility.
- ▣ The Blackbird Trustees have indicated preliminary support for a hatchery program in Panther Creek.
 - The Tribes would propose to allocate significant funds to the Panther Creek portion of the program from the Blackbird Settlement Fund.

HATCHERY FACILITIES

Revised Site Plan showing the Proposed Land Swap

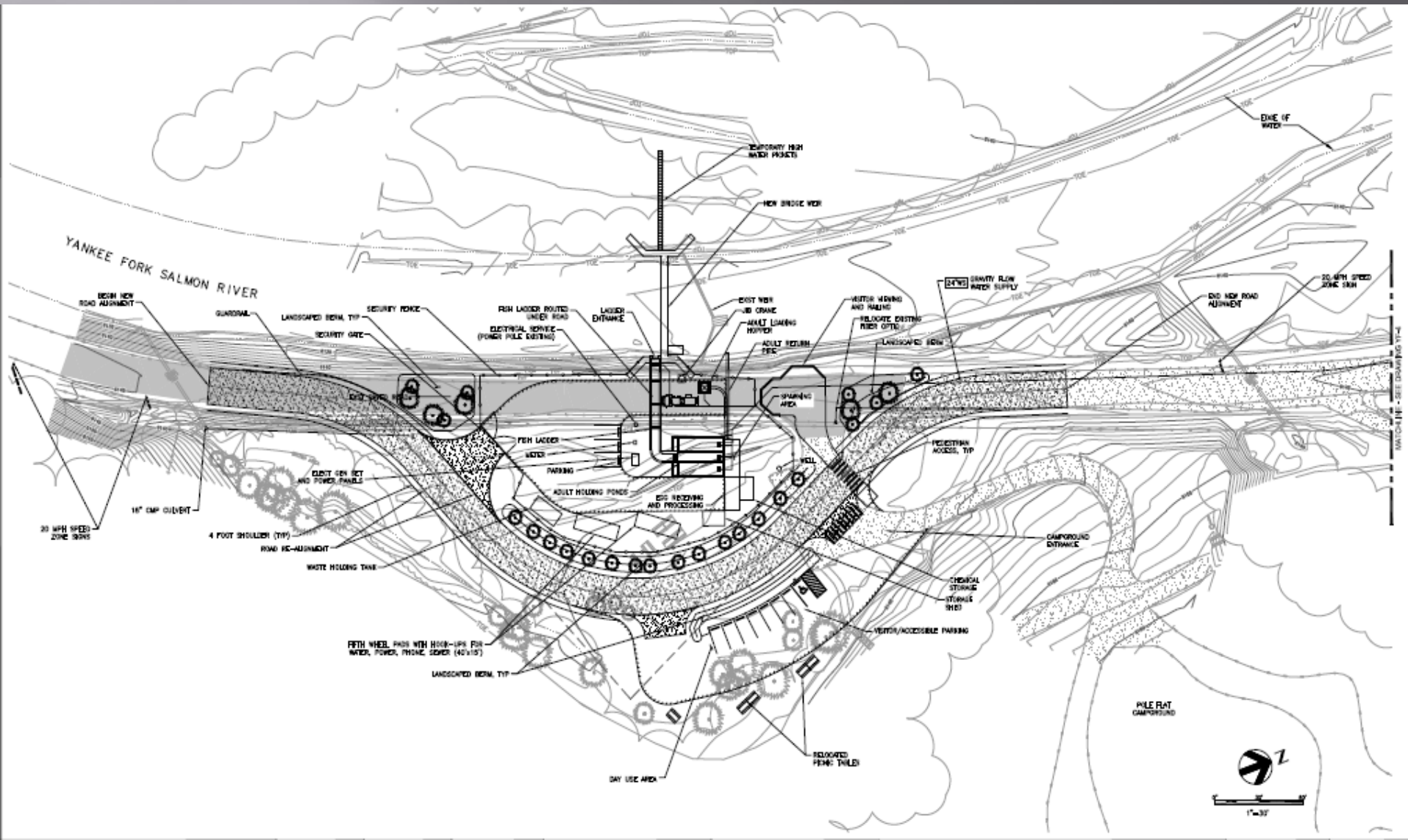


Overview of Hatchery Facilities



YANKEE FORK SALMON RIVER

Initial Site Lay-Out for YF Satellite





YANKEE FORK
CONCRETE & STEEL

WELLS
WELLS
WELLS
WELLS
WELLS



NO SWIMMING
NO BOATING
NO CAMPING
NO ALCOHOL
NO DRUGS
NO FIRE

SHRUBS 1000
TERRAPIN 1000
TOTAL 1000

PANTHER CREEK

Background for Panther Creek

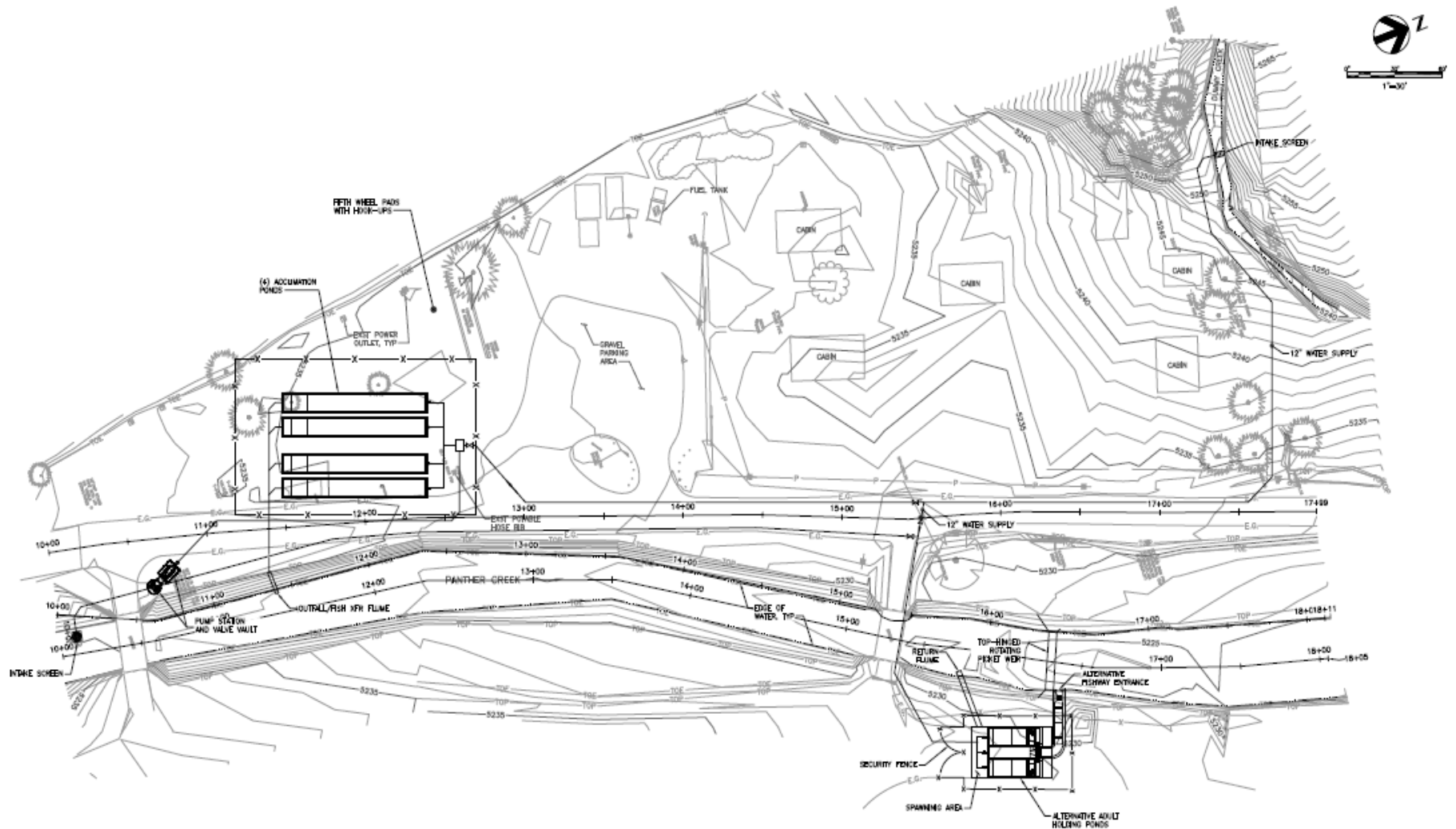
- ▣ The Panther Creek system was also key to the subsistence lifestyle of the people.
- ▣ Unfortunately, this system was also heavily impacted by the effects of mining activities.
- ▣ The local population of Chinook was determined to be extirpated.



Blackbird Mine Settlement

- ▣ The Tribes have entered into discussions with the Blackbird Trustee Group about being a partner in Panther Creek salmon restoration.
- ▣ These discussions have resulted in an expression of support for the conceptual program in Panther Creek.
- ▣ The Trustees expect to be a key component of the decision making process, as they are obligated to protect the trust assets and restore fish populations.

Panther Creek Satellite



SIMILAR SATELLITE FACILITIES

Operational South Fork Weir



Grande Ronde Acclimation



Hatchery Goals

