

State of Washington
DEPARTMENT OF FISH AND WILDLIFE
INTERGOVERNMENTAL POLICY

June 6, 2001

RECEIVED
6/6/01
SK

TO: Gregg Carrington
Relicensing Project Manager

FROM: Rod Woodin *RmW*
Columbia River Policy Coordinator

SUBJECT: **ROCKY REACH PROJECT NO. 2145**
HATCHERY FACILITIES PROVIDING MITIGATION PRODUCTION

I have conducted a site tour of the hatchery facilities currently being utilized to provide the fish production for mitigation of original construction, ongoing operations, and recreation loss impacts of the Rocky Reach Project. The mix of facilities (Rocky Reach Annex, Turtle Rock Island Rearing Facility, and Chelan Hatchery) are in need of serious renovation to allow the continuation of currently programmed production. In addition, the opportunity exists to accomplish a more efficient and effective fish production program for the future mitigation requirements of the Rocky Reach Project by implementing a major renovation and upgrading program for these hatchery facilities. Per discussion during my tour of the hatchery facilities, the Washington Department of Fish and Wildlife (WDFW) Hatchery Division staff have prepared a memorandum (attached) which documents the worst of the known facility deficiencies and recommends some possible reconfiguration options. The Hatchery Division staff also included measures which will increase personnel safety, fish security, and facility security and reliability.

WDFW is bringing this subject to the Natural Sciences Working Group for discussion regarding the development and maintenance of the appropriate complex of facilities to accomplish the task of providing the mitigation fish production for the Rocky Reach Project over the term of the next license. We feel that this is the appropriate time to thoroughly review the status of the present facilities and the future mitigation needs for the Rocky Reach Project and determine what is appropriate for the future. We are certain that the present facilities are not capable of maintaining safe and reliable production for any reasonable length of time. Failure of critical water delivery components, as well as some rearing vessels, appears likely in the near future.

I suggest that we consider the establishment of another subcommittee to the Natural Sciences Working Group to facilitate the development of a comprehensive facilities plan for the hatchery

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based fish mitigation program. I also suggest that we utilize the March 29, 2001, Memorandum from the WDFW Hatchery Division as the starting point for the development and implementation of the fish production facilities plan. I appreciate Scott Kreiter accommodating my request to add this topic to the agenda for the June 8 meeting.

RW:dak

Attachment

cc: Bill Tweit
Bob Foster
Joe Foster
Bill Hopley
Kris Petersen
Art Viola



HATCHERIES DIVISION

March 29, 2001

TO: Rod Woodin, Columbia River Policy Coordinator

FROM: Manuel Fariñas, Regional Operations Manager
Rick Stilwater, Eastbank Complex Manager

SUBJECT: Rocky Reach & Chelan Hydro Re-License

It has been quite some time since our tour of the Eastbank Complex and the issues surrounding the upcoming re-licensing process. *The following issues need to be brought forward for discussion with Chelan PUD and be presented as items the Agency would like to see implemented and agreed upon as we engage in and move forward on what needs to be accomplished to make these facilities fish friendly and ESA compliant.* The key points to keep in mind are proper assessments of facilities, infrastructure condition and programs they are designed for, so that facility infrastructures continue functioning properly and meet ESA challenges for decades to come.

ROCKY REACH MITIGATION

Rocky Reach Annex Facility

As evidence during the tour this facility was constructed as a "temporary" facility by evidence of the portable vinyl raceways, out buildings and grounds in general. The one exception perhaps is the incubation building/office. The programs in the past have included coho, summer chinook yearling and summer chinook "0" age class production. Current production is "0" age chinook and the starting of yearling fry to be transferred to Turtle Rock Island in the month of November.

This site provides marginal hatching temperatures (58 to 64 degrees) of eyed eggs used for the zero age class production. Due to temperatures at the annex all yearling summer chinook eggs and the Rocky Reach mitigation steelhead eggs production are put down and incubated at the Eastbank Hatchery which is Rock Island Mitigation. The 380,000 eggs (chinook) currently incubated at Eastbank Hatchery for Rocky Reach Mitigation puts the space and chilled water for Eastbank programs in jeopardy. Changes in the rearing of "accelerated" 0 age chinook for this program has impacted the water and space at the Eastbank facility.

As far as fish culture goes the vinyl raceways do not provide a fish or user friendly work environment. The ponds leak, bottoms are not level, sides are bowed and are prone to damage

when any thing is used inside of them. Pumped water is aerated to supply the raceways but is not aerated going to the incubation building where we need the highest quality of de-gassed oxygenated water. There is not a user friendly predator netting system for this facility. Access into and around these ponds is poor. If production is increased at this facility similar to the current numbers with survival fish added, we are at the threshold for space and recommended water flows. Recent increases in production for survival studies has put this site over the limits for discharge requirements. To meet Washington Department of Ecology requirements, an in-line or off-line fish waste settling must be provided.

Due to the limited space in which this site sits, and the bypass pipe currently in process of construction going thru this area; expansion for new modern ponds, required abatement ponds and expanded incubation building with chillers may become an engineering problem. The question is: "is it worth it to re-build at this site? or construct a modern state of the art facility on properties adjacent to Eastbank and pump the water currently used at the Annex to the new site. ***We proposed a new facility adjacent to the Eastbank Site***

During modifications to this facility for the movement of piping/vinyl raceways to provide access to the new bypass pipe, many surprises in the way of old decaying piping supplying water to the existing site were found. Some piping just beneath the surface of the ground is in such poor condition that it can be punctured with a shovel and according to construction crews is a disaster waiting to happen. Numerous sizes of re-used pipes were used for putting water supply lines together without provisions to turn off water for repairs without drying up the entire facility.

Housing

On site housing (three) needs to be provided for protection of the fish and facility and to entice qualified personnel to move to and stay within the complex thru lateral transfers and promotions. If incubation and initial rearing is performed at a new site then three residences should be provided for coverage of this facility and provide first response to the Eastbank facility. Off station individuals at Eastbank/Turtle Rock would still be required to perform standby functions in conjunction with on-station individuals. ***We proposed the construction of three new houses within the new proposed site. Houses must meet State standards as delineated by our Engineering section***

Turtle Rock Island

The history behind this facility was a dysfunctional spawning channel constructed in the 1960's that over time was converted to four rearing ponds used for zero age/yearling chinook and steelhead. As a pump station site utilizing Columbia River water it is limited in use due to fish health issues. Steelhead and chinook yearlings can only be moved out in November due to temperature requirements and fish health concerns. Fish are released and/or trucked off the island in April. The zero age chinook are moved out typically in May depending on marking completion and released in July if Columbia temperatures allow. When fish are present at least one boat trip per day is necessary to maintain fish stocks.

Presently the facility is in a state of decay that is only getting worse as time goes on. The concrete has worn to the extent that in some areas there is very little sand/cement between the aggregate. The largest issue is the continual logistics in operating a major outgrow facility on an island during extreme weather conditions. All fish moved to and from the island (except the

"0"'s released directly), feed, chemicals and equipment must be barged by crews from Chelan PUD. Fish food can not be taken out on commercial semi trucks and has to be off loaded at Eastbank and re-loaded onto smaller vehicles. This transport issue is further exacerbated by coordination issues with PUD personnel/equipment and fore bay levels, requiring one week advance notice to schedule to allow coordination with other main stem hydro facilities.

Efficiency is a large draw on staff due to all of the above issues. Safety is always a concern due to the remoteness and time involved to respond to human and fish production emergencies. Boating out to the island in darkness, during high winds, during times of log debris when river temperatures are in the mid thirty degree range is an inherently risky work routine. Cellular and pager reception on the island is marginal but we do have the use of PUD radio communications.

If production continues as it has, we propose to re-locate the facility to the "mainland" and still have the capability to pump river water from the shore. This modern facility should be constructed with features designed in to allow volitional releases to the Columbia River and or collection areas to allow pumping and trucking. One possibility for a mainland site would be at the Chelan Falls "river pump site" that was initially constructed for the Chelan Hatchery and has been inactive due to disease concerns. Property would need to be purchased for rearing ponds, release structures, volitional release/recapture ponds and pollution abatement pond/s, currently the uplands discharge of fish wastes into un-lined pits on Turtle Rock Island is under scrutiny within Washington Department of Ecology.

These facilities need to be designed to take into account new developments to provide more natural rearing and reduced stress. We propose the facility design to follow the lead of the Methow Hatchery with a group of progressive minded individuals utilizing the latest technology along with looking at sound scientific/biological criteria.

Funding must be provided to include Hatcheries Division staff with areas of expertise in design/plan interpretation, purchasing, and project coordination with the PUD, and contractors. Past experience has pointed out the necessity to have these type of individuals to insure the design of a safe environment for personnel, fish and that other design oversights are not overlooked that will drive up costs at a later date. It is better to do it right the first time since they will have to be used on the average of 50 years before the next review.

Chelan Hatchery

There are many issues that are critical for the continue operation of this facility while under the current license agreement. Chelan P.U.D. Hatchery is approaching it's 50th birthday in the next ten years and is beginning to show it's age. This facility needs re-designing and re-construction to make it more efficient and user/fish friendly for the resource and program. This should be accomplished with progressive and sound engineering technology.

One of the largest issues with this facility is water. Since the onset of the current agreement the contract obligation for water (5,000 gpm) has never been met with average flows over the past ten years being in the area of 2,800 gpm. The ability to increase withdrawals from the aquifer at the current location of the well field is in question due to availability and the geology involved. This summer the PUD has informed the Division they are in the process of proceeding with a consultant study of this area to provide better information so that the right decisions are made. In the mean time the well field is rehabilitated (bailed/surged) on an increasing frequency along

with the development of an existing well head and an addition well to be drilled to "get us by" while the study is under way. One of these wells should be online within two months with the new well coming shortly thereafter. These wells will only increase flows by 800 - 1,000 g.p.m. Therefore, a long-term solution to this water deficit should be another point of contention that must be resolved through the re-licensing process.

Chelan Hatchery has always been important to the steelhead programs in the area and will continue to be a primary initial rearing site for this listed species. To provide the best environment for this and other programs the need for "single pass" water is crucial and directly ties into minimum flows for proper rearing densities. Fish diseases has been a major issue due to crowding conditions at this facility and a direct result of not meeting mitigation flow requirements. The river pump station has been taken out of service due to the IHN outbreak in the legal rainbow in the early 1980's. If this system is to be considered for use again at Chelan Hatchery there we recommend securing means of disinfecting this water source, i.e., UV, O3 etc., and a separate pipeline supply to the hatchery.

Many components associated with the water delivery system are literally wearing out. Three years ago when work was performed on one well the whole well field had to be shut down to allow replacement of an isolation valve. The valve seats were so worn by water movement that it would not seal. This brings into question the question of all valves and the pipeline itself. We feel that it is only a matter of time before a major pipeline failure will occur. We propose replacement of this this pipe and all its valves component.

Uninterrupted power is a necessity for the well field. Currently there is only power line to feed this system. Generally there are two ways to feed power to this system but it does not insure *timely transfers and "100%" reliability*. We proposed through the re-licensing that a standby generation system for the well field with automatic transfer capability is provided

The fish transport tanks along with the trucks are at the end of their service life and need to be replaced with more modern equipment that is safer for drivers and fish. The majority of mileage incurred on these vehicles has been in performance of PUD related functions and the true replacement costs have not been figured in. We recommend the purchase of fish transport tanks and vehicles for this facility to be included in the re-licensing negotiations. Specifications on type of truck and vehicles will be provided at your request, as we move forward in this re-licensing process.

An additional residence and house replacement of oldest state residence should be considered to provide security for fish stocks and the facility. Since the majority of the staff time is spent on PUD related functions it only stands to reason that one or both of the "state" residences be replaced/maintained by Chelan County PUD. The state residences are circa 1940 and 1970 construction and the oldest is not up to standards.

One long range aspect to consider is wider diversity in production into Okanogan/Douglas counties to replace lost fishing (recreational opportunity) due to hydro power in North Central Washington. With fishing restrictions on anadromous stocks due to population declines and the resulting ESA listings more utilization has been shifted to resident programs that have been historically State Wildlife Funded programs. Therefore, we proposed through this process to blend the two Chelan Hatchery facilities into one program to benefit the region. State/PUD water rights issues would be one and not a competition for this commodity. Currently there are

initiatives in the process by WDFW Region 2 and potentially Chelan County PUD to obtain properties around the hatchery site to benefit fish and wildlife. The State hatchery facility is approaching it's 100 year birthday and is in desperate need of attention in all aspects.