

**2005**

**ANNUAL OPERATING PLAN**

**for**

**FISH PRODUCTION PROGRAMS**

**in the**

**CLEARWATER RIVER BASIN**

by

U.S Fish and Wildlife Service

Idaho Department of Fish and Game

Nez Perce Tribe Fisheries

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**CONTENTS**

**CLEARWATER BASIN ANNUAL OPERATING PLAN (AOP) 2005**

	Page
<b>1. Steelhead</b> .....	1
1.1. Broodyear 2004 Steelhead .....	1
1.1.1. Dworshak .....	1
1.1.2. Clearwater .....	1
1.1.3. South Fork Un-clipped Releases .....	2
1.2. Broodyear 2005 Steelhead .....	3
1.2.1. Dworshak .....	3
1.2.2. Kooskia .....	4
1.2.3. Clearwater .....	5
1.2.4. South Fork Un-clipped Releases .....	6
<b>2. Spring Chinook Salmon</b> .....	6
2.1. Broodyear 2003 Spring Chinook .....	6
2.1.1. Dworshak .....	6
2.1.2. Kooskia .....	7
2.1.3. Clearwater .....	7
2.2. Broodyear 2004 Spring Chinook .....	9
2.2.1. Dworshak .....	9
2.2.2. Kooskia .....	9
2.2.3. Clearwater .....	10
2.2.4. Nez Perce Tribal Hatchery .....	11
2.3. Broodyear 2005 Spring Chinook .....	13
2.3.1. Dworshak .....	13
2.3.2. Kooskia .....	14
2.3.3. Clearwater .....	15
2.3.4. Nez Perce Tribal Hatchery .....	16
<b>3. Coho</b> .....	18
3.1. Broodyear 2003 Coho .....	18
3.1.1. Dworshak .....	18
3.1.2. Transfers (Eagle Creek NFH) .....	18
3.2. Broodyear 2004 Coho .....	19
3.2.1. Dworshak .....	19
3.2.2. Clearwater .....	19
3.3. Broodyear 2005 Coho .....	20
3.3.1. Dworshak .....	20
3.3.2. Tributary weir operation .....	21
<b>4. Fall Chinook Salmon</b> .....	21
4.1. Broodyear 2003 Fall Chinook .....	21
4.1.1. NPT Fall Chinook Acclimation Project – Big Canyon Facility .....	21

- 4.2. Broodyear 2004 Fall Chinook ..... 22
  - 4.2.1. NPT Fall Chinook Acclimation Project – Big Canyon Facility ..... 22
  - 4.2.2. Nez Perce Tribal Hatchery ..... 22
- 4.3. Broodyear 2005 Fall Chinook ..... 24
  - 4.3.1. Adult Collection ..... 24
- 5. Rainbow Trout ..... 25**
  - 5.1.1. Dworshak Free fishing day ..... 25
  - 5.1.2. Dworshak Reservoir ..... 25
  - 5.1.3. Clearwater River ..... 26
- 6. Contacts ..... 27**

## CLEARWATER BASIN ANNUAL OPERATING PLAN (AOP) 2005

Version 1/24/05

*(Each section lists contact person for additional information, coordination, or notification – contact information is listed in Section 6.)*

### 1. STEELHEAD

#### 1.1. Broodyear 2005 Steelhead

**1.1.1. Dworshak** – *Broodstock need for Dworshak mitigation is ~2,300 fish, this number of steelhead is needed to provide enough males to allow a 1:1 spawning ratio for the 580 females needed for egg collection. (An additional 2,000 fish are needed to provide eggs for Clearwater and Magic Valley Hatchery steelhead programs.) Male to female ratio at Dworshak is typically 1:3, so to collect enough males more females than needed are collected, excess steelhead are typically outplanted for natural spawning. This number includes jacks, and accounts for pre-spawning mortality. Typically 500 steelhead are collected in the fall to include the early returning, early spawning component of the run. This brood level provides ~2.1 million smolts at an average of 80% eyed egg-to-smolt survival to meet the adult return goal of 20,000 to the Clearwater River.*

1.1.1.1. Production status - As of January 1, 2005 there were a total of 2.08 million steelhead on station, 168 mm average total length, 10 fpp. Length frequency and pound counts are performed monthly on representative ponds. *Thomas Trock*

1.1.1.2. Projected release – Due to *Ich* and IHNV related mortalities (see Fish Health section below) the estimated releases is 820,000 (including 180,000 unclipped) designated for offsite release which is scheduled to occur the week of April 11, 2005. 1,180,000 are estimated for onsite release, scheduled to occur the week of April 18. DNFH total release is estimated to be 2,000,000 steelhead at an average total length ~ 200 mm. *Thomas Trock*

1.1.1.3. Fish health status - June started the IHNV/Coldwater Disease event. This outbreak started early, and has caused chronic mortality seen in previous years. The reuse system will be started later this season, allowing the fish to get more size and we were hoping they would be able to resist *Ich* infections better. The combination of the two pathogens weakened the fish enough in past years that many were not able to withstand the infection. As size continues to increase, fish immune systems should be better able to fight the infections. A 60 fish sample will be tested for viral, bacterial, and parasitic pathogens prior to release. *Kathy Clemens*

1.1.1.4. M&E – Six CWT groups for system contribution and early return groups, and 1,500 PIT tags for Fish Passage Center emigration timing [mean = 81.3%, 10.9 days]. Prior to release 500 marked fish from each mark group (tag code) are checked for tag retention (mean = 98.9%). Also 500 fish are checked for LV clip and AD clip quality. Each pond with un-clipped fish is sampled (100 fish) for dorsal fin erosion. *Ralph Roseberg*

**1.1.2. Clearwater** - *Original design memorandum shows the production goal may be as high as two million steelhead smolts. Historically, the steelhead smolt releases*

*from Clearwater Fish Hatchery have ranged from approximately 600 to 1.04 million. Adult return goal for the program is 14,000 steelhead.*

- 1.1.2.1. Production status / projected release - The estimated number of BY04 steelhead to be released in the spring of 2005 is 843,800. 266,300 AD-clip production into the lower SF Clearwater, 329,500 no ad-clip and 248,000 ad-clip production will be released into the upper SF Clearwater River pursuant to the US v. Oregon Fall Management Agreement. **(Table 1)**  
*Jerry McGehee*
- 1.1.2.2. Fish health status - For Egg Disease Certification, all females are sampled for IHN virus. Eggs from any females that test positive are destroyed, and only eggs that test negative for IHN are taken to CFH. Juvenile rearing inspections are performed quarterly by Eagle Fish Health Lab. No prophylactic treatments are used during steelhead rearing. Inspections are conducted quarterly. Diagnostics on demand. Pre-liberation samples performed on 20 fish sample prior to release. Viral pathogens have not been detected in these fish. *Flavobacterium psychrophilum*, *Aeromonas hydrophila*, and *Aeromonas sobria* were detected in all fish sampled in the outdoor raceways after these fish were marked. Mortality was not high enough to warrant treatment. *Ichthyobodo* sp. (Costia) and *Gyrodactylus* sp. were detected and treated with one application of formalin at 167 mg/l for one hour. *Doug Munson*
- 1.1.2.3. M&E - The fish are sampled monthly between the 25th and 28th of the month. During months of rapid growth, fish are sampled biweekly. Pound counts are taken to track fish growth and monitor if growth is following the annual growth projections. Length frequencies are taken monthly. Approximately 30 days prior to release, 100 fish are sampled to quality check adipose (Ad) fin clips, ventral fin clips, and coded wire tag (CWT) retention. *Jerry McGehee*

**1.1.3. South Fork Un-clipped Releases** - *The 533,000 un-clipped steelhead released into the SF Clearwater are part of the harvest agreement between the States, Tribes and Federal parties. The agreement of releasing un-clipped fish was to offset reductions in down-river Tribal fisheries. The theory is that the returning un-clipped adult steelhead will escape the sport fishery therefore return at higher numbers to tributaries, to hopefully spawn, thereby increasing natural production.*

- 1.1.3.1. Production status – See Dworshak NFH and Clearwater FH for information.
- 1.1.3.2. Projected release – 329,500 unclipped steelhead from Clearwater Hatchery will be released into the South Fork tributaries and Lolo Creek. ~183,000 unclipped steelhead from Dworshak NFH will be released into Newsome Creek and American River (50:50 split). **(Table 1)** *Howard Burge*
- 1.1.3.3. M&E - With Brood Year 03, 04 and 05 steelhead FWS-IFRO uniquely marked groups with PIT, CWT, and elastomer tags to evaluate acclimated vs. direct release affects using Red R as study stream. Releases include 50k acclimated (L blue) and 50k direct (L orange) for comparison and an upriver group and pooled (25k+25k=50k) (R orange) Mill/Meadow (direct) as downriver group. FWS will also be analyzing tributary of

release effect by comparing Red R (upriver) to Mill/Meadow (downriver). IFRO will also test if unclipped steelhead perform differently than production steelhead by comparing Red River unclipped and production releases as paired release. Additional monitoring will include determining if any un-clipped steelhead stray into and spawning in wild production areas such as the Lochsa or Selway basins. *Howard Burge*

## 1.2. Broodyear 2006 Steelhead

### 1.2.1. Dworshak

- 1.2.1.1. Projected adult return - Based on the 1,602 expanded I-salt returns the predicted total steelhead return to the Dworshak NFH rack in 2004-2005 would be one of the highest in the hatchery's history at 14,080 (**Table 2a**). However, in-season hatchery "B" steelhead estimates at both Bonneville and Lower Granite dams have been revised downward and using these revised numbers we would predict approximately 7,000. Jon Hansen (IDFG-Salmon) estimated 5,575 II-salts to Dworshak NFH rack, based on actual rack returns (**Table 2b**). *Ralph Roseberg*
- 1.2.1.2. Ladder operation - The ladder was open October 4-October 27, 2004, 628 early-return adult steelhead were collected during this period. It was operated for two-three days/week until November 16, to collect coho, 97 additional steelhead were collected for a grand total of 725. From these, 191 SST excess to broodstock needs were outplanted on December 1 to Hog Island. Four fall Chinook were trapped, three were given to NPTH, one released. Based on the predictions of returns, FWS is planning to operate the ladder intermittently to keep from over loading the holding ponds with fish excess to our brood stock needs. Intermittent ladder operation also keeps steelhead in the river where they are available for sport and tribal harvest. The ladder will be reopened February 21, 2005 for the collection of mid and late returning steelhead. Surplus adults will be outplanted by the Nez Perce Tribe late in the season. *Thomas Trock*
- 1.2.1.3. Adult fish health – 60 males will be injected with LHRH prior to spawning, using the implant form, under INAD. Fish are treated three times per week with formalin for fungus, under a veterinary prescription. A minimum of 60 tissues samples, and 150 ovarian fluid samples will be collected at spawning. *Kathy Clemens*
- 1.2.1.4. Adult outplanting/markings –Ladder opening for collection of spring returns is not planned until February 21. Any excess steelhead collected will be put in a separate holding pond until the NPT outplant them in SF Clearwater River tributaries. These fish will all be marked with left opercal v-notch. Due to the planned intermittent ladder operation in 2005 we will need to expand collection numbers for CWT recoveries. Like 2003 & 2004 we will use the average conversion between Lower Granite and Dworshak NFH for 2 &3-ocean hatchery 'B' steelhead. *Ralph Roseberg*
- 1.2.1.5. Carcass disposition - Adult carcasses will be distributed to 1) Department of Justice and local food banks, 2) Coeur D' Alene Tribe, 3) grizzly bear

and eagle programs at WSU, 4) research and 5) landfill. If distribution points become limiting Howard Burge will coordinate with Bill Horton.

*Thomas Trock*

- 1.2.1.6. Adult M&E –Blank wire, system contribution, early return, and Clear Creek CWT are being recovered for all three age classes. FWS-IFRO is radio tagging un-clipped adult steelhead at Lower Granite Dam to evaluate returns from that supplementation program. Returning adults are measured and examined for gender, various clips and tags, and seal bites or other injuries, then sorted for spawning or holding. The protocol for handling of suspected blank-wire-tagged / un-clipped adipose fin steelhead was to identify them as they came across the sorting table. Mark them with a rubber band and send them down to the spawning area. They were spawned if we needed them and they were ripe. If we did not need them for spawning we killed them for tags and recorded if they were ripe or not.  
*Ralph Roseberg / Howard Burge*
- 1.2.1.7. Spawning/egg take plans, mating protocol - Current plans are to take 2.8 million eyed eggs for Dworshak, ~1.25 million green for Clearwater and ~1.5 million for Magic Valley. Potlatch will receive approximately 18Kgreen eggs. **Table 3.** *Thomas Trock*
- 1.2.1.8. Juveniles Production - Incubation: Dworshak will incubate eggs from approximately 625 steelhead females for its program, 150 fall-return adults and 475 from winter and spring returns. After eye-up and enumeration, approximately 2.8 million eyed eggs will go into the Dworshak program. Dworshak will also provide incubation space for up to 1.4 million green eggs for Clearwater Fish Hatchery. *Thomas Trock*  
Nursery Rearing: Dworshak will early-rear 2.5 million steelhead in its nursery until the fish reach approximately 80 fpp during the spring and summer of 2005.  
Outside Rearing: Approximately 2.35 million steelhead will be moved from nursery tanks to 83 outside Burrows Ponds from the end of May until September, 2005. Fish will be ponded at final rearing densities, ~28,500 fish/pond. Most steelhead transferred outside will receive an adipose-fin clip when moved to designate it as a hatchery fish. *Thomas Trock*
- 1.2.1.9. Juvenile Fish health - Upon ponding, will be monitored for coldwater disease and parasites. A 60 fish sample will be tested for viral, bacterial, and parasitic pathogens prior to release. *Kathy Clemens*
- 1.2.1.10. Planned juvenile marking & tagging, release sites - Marking plans for BY05 steelhead at Dworshak NFH are found in **Table 4.** *Ralph Roseberg*
- 1.2.1.11. Juvenile M&E FWS will be CWT steelhead from the three systems and early return progeny. *Howard Burge*
- 1.2.1.12. Communication FWS puts out weekly spawning reports and weekly return reports, and annual spawning and adult return reports are also produced. All of these will be sent to the Contact list (**Section 6**).
- 1.2.2. Kooskia**
- 1.2.2.1. Weir/trap operation - The adult trap will be opened sometime in mid-March. The trap will remain opened until late April. *Craig Eaton*

- 1.2.2.2. Adult handling/outplanting/markings - All natural (unmarked) fish will be passed upstream of the weir. CWT steelhead will be sacrificed for tag recovery. Adult hatchery steelhead (not taken for CWT) will be loaded into NPT truck for outplanting at time of sorting; NPT contact will be Mike Key. Outplanted steelhead will be given a right opercle v-notch. Any Tribal requests for steelhead will be coordinated through Nancy McAllaster, NPT (208-843-7320 ext.2445). Other native species (bull trout, suckers, whitefish etc.) trapped will be passed upstream above the weir. *Craig Eaton / Ralph Roseberg*
- 1.2.2.3. M&E - Returning adults are measured and examined for gender, various clips and tags, and seal bites or other injuries, then sorted for spawning or holding. CWT steelhead will be sacrificed for tag recovery. No steelhead evaluation planned at Kooskia at this time. *Howard Burge*

### 1.2.3. Clearwater

- 1.2.3.1. Clearwater Hatchery - BY05 smolt release has been set at a range from 843K to 1.16 million including 360K to 560K for tribal supplementation. 1,252,900 green eggs are requested for Clearwater Hatchery. **Table 3.** All spawning will occur at DNFH. Our expected first spawn date for Clearwater Hatchery egg collection is March 8. Spawning occurs on every Tuesday. When possible 1:1 male:female spawning will be used. On spawning days, eggs taken for CFH and Magic Valley will be from fresh fish that have entered DNFH trap since the last spawning day or fish that were green (not ripe) on previous spawning days and returned to the holding pond. Incubation to eyed stage of eggs destined for CFH production will occur at Dworshak Hatchery. All eggs from positive IHN parentage will be culled at this point. At Dworshak Hatchery, the eggs will be shocked and then transferred to Clearwater Hatchery where they will be disinfected and placed in Heath egg trays. They will be picked and enumerated the next day. The eggs will then be placed in Heath egg trays for the remaining incubation period. The fry remain in the indoor vats until they are approximately 35 fish per pound. Each vat is loaded with approximately 60k swim-up fry and will be split to approximately 20k after spring Chinook are moved outside. *Jerry McGehee*
- 1.2.3.2. Magic Valley - 1,514,200 green eggs are requested for Magic Valley and Hagerman NFH. **Table 3.** Our expected first spawn date for Magic Valley is March 22. Eggs for Magic Valley are taken to CFH Isolation Incubation each spawning day where they are held until certification of disease status. The isolation incubation building will be used to house and incubate the Dworshak B strain steelhead eggs destined for Magic Valley. Eggs will be received on three different spawning days and held until the fish pathology lab determines virus results. At that time, positive IHN eggs will be destroyed and the negative will be picked, enumerated, and shipped to Magic Valley. *Jerry McGehee*
- 1.2.3.3. Fish health – All females spawned at Dworshak NFH will have ovarian fluid sample taken, shipped to Eagle Fish Health Lab, and tested for Infectious Hematopoietic Necrosis Virus (IHN) virus; only negative tested

eyed eggs are transferred to Clearwater Fish Hatchery main incubation for rearing at CFH. All eggs from IHNV positive females will be culled from production. Juvenile rearing inspections will be performed each quarter by Eagle Fish Health Lab. Pre-liberation inspections will also be performed on a 20 fish sample 10 to 15 days before liberation. No prophylactic treatments are planned at this time. *Doug Munson*

- 1.2.3.4. Marking plans - For BY05 steelhead from Magic Valley and Clearwater hatcheries are found in **Table 4**. As fish are moved outside, they receive ad-clips, ventral fin clips, and test groups receive CWT's. Fish will remain there until they are full smolt size and age, maximum of 4.5 to 7.5 fish per pound. (Raceways are loaded with approximately 50k -70k fish). In February or March, 500 fish from each release group are injected with PIT tags. In early Fall, 2005, FWS – IFRO will CWT and Elastomer tag 150,000 steelhead for release into lower and upper South Fork Clearwater River tributaries for an evaluation study. *Bill Horton / Howard Burge*

#### **1.2.4. South Fork Un-clipped Program**

- 1.2.4.1. Planned rearing – Since steelhead for this program are no longer raised at Hagerman NFH, because of the New Zealand mudsnail problem, the 200k of production slated for American River and Newsome Creek will be raised at Dworshak NFH. The 100k un-clipped steelhead direct release group from Dworshak are no longer included in the settlement releases. *Howard Burge*
- 1.2.4.2. Planned juvenile marking & tagging - In early Fall, 2005, FWS – IFRO will CWT and elastomer tag 150,000 steelhead for release into lower and upper South Fork Clearwater River tributaries for an evaluation study. BY05 will be the last year for these marks. *Howard Burge / Jody Brostrom*

## **2. SPRING CHINOOK SALMON**

### **2.1. Broodyear 2004 Spring Chinook**

**2.1.1. Dworshak** – *Approximately 1,200 Chinook are needed for broodstock for the Dworshak spring Chinook salmon program. This number includes jacks and accounts for pre-spawning mortality. This brood level will provide 1.5 million green eggs and 1.05 million smolts at an average of 89% eyed egg-to-smolt survival to meet the adult return goal of 9,135 to the river above Lower Granite Dam.*

- 2.1.1.1. Production status - On January 1, 2005, there were 1,074,588 BY03 spring Chinook averaging 30 fpp and 122 mm (4.8 inches) total length on station. In March 2005, projected release will be approximately 1,070,000 spring Chinook. At present, these fish appear to be on schedule to meet the size-at-release requirements of 18–20 fish per pound. *Thomas Trock*
- 2.1.1.2. Projected release – Chinook will be released (forced out of raceways) on two consecutive evenings from A and B banks in late March to early April. Environmental factors including; flow, turbidity, increasing hydrograph, and new moon are all considered, to give the fish as much cover as possible from predators. *Thomas Trock (Table 5)*

- 2.1.1.3. Fish health - BY04 SCS have done very well to date. No treatments have been required and there is no sign of IHNV. Monthly monitoring samples for BKD are currently being taken. A pre-release exam of 60 fish will be sampled for viral and bacterial pathogens prior to release. *Kathy Clemens*
- 2.1.1.4. M&E - Approximately 130k Dworshak stock are CWT for system contribution monitoring. Prior to release 500 marked fish from each mark group (tag code) are checked for tag retention (mean = 94.7%). For the Comparative Survival Study (CSS) - Idaho FRO has contracted with the Columbia River Fisheries Program Office (Vancouver) to PIT tag the 52,000 spring Chinook salmon for Dworshak's contribution to the CSS. [mean = 73.1%, 30.7 days] *Howard Burge / Ralph Roseberg*
- 2.1.2. Kooskia** - *Approximately 800 Chinook are needed for broodstock for the Kooskia spring Chinook salmon program. This number includes jacks and accounts for pre-spawning mortality. This brood level produces 600,000 smolts at an average 80% eyed egg-to-smolt survival.*
- 2.1.2.1. Production status - There are a total of 625,967 Kooskia stock BY03 spring Chinook fry weighing 18,340 lbs, 4.60 inches or 117 mm long, at 34.1 fish/lb (fpp). The Burrows ponds were put on Clear Creek water in October. Chinook will be split from Burrow's ponds into raceways January 27, 2005. *Craig Eaton*
- 2.1.2.2. Projected release - KNFH will release approximately 620,000 spring Chinook at 20-25 fpp on or after the last week in March. (**Table 5**) *Craig Eaton*
- 2.1.2.3. Fish health – Treated for low levels of *Ich* in November 2004. A sample of 60 fish will be taken and assayed for virus, bacteria, and parasites prior to release. *Marilyn Blair*
- 2.1.2.4. M&E – Approximately 100k Kooskia stock are CWT for system contribution monitoring. Prior to release 500 marked fish from each mark group (tag code) are checked for tag retention (mean = 95.7%). There are no ISS releases in 2005, 2004 was the last year for ISS releases. However, ISS will continue monitoring adult returns and the last fish returning from that release will be 2007. There plan is to continue monitoring until 2012. [mean offsite = 62.9%, 31.7 days; mean onsite = 70.1%, 28.3 days] *Howard Burge*
- 2.1.3. Clearwater** - *Original design memorandum shows the production goal may be as high as three million chinook smolts. Historically, the chinook smolt releases from Clearwater Fish Hatchery have ranged from zero to approximately to -1.98 mil. Smolts and zero to 1.65mil. presmolts and zero to 1.0 mil. Summer parr Adult return goal for the program is 12,000 adult Chinook over Lower Granite Dam.*
- 2.1.3.1. Production status/transfer date/projected release – Fish will be released from transportation trucks at designated release sites. The release number is determined by subtracting fish loss from the inventory at the time of Ad clipping. Red River, Powell, and Crooked River acclimation ponds will be watered up and screens put in place by the third week of March. Fish will be transported to the facility and placed in the pond during the last week of March to first week of April. Smolts are then released directly

from the ponds between April 10 and 15. At Crooked River smolts will be released directly from the ponds between April 7 and 15 or daily if intake ice-up problems are anticipated. Due to unknown causes, a significant mortality has occurred to smolts somewhere between the upper and lower facilities. During the spring of 2005, 1/3 to 1/2 of the Crooked River full-term smolts will be direct released at the lower facility. All production Chinook are Ad clipped. Planned releases of BY03 spring Chinook smolts are for 1,505,000 fish at an expected 16-20 fish per pound (91,212 pounds of fish). (**Table 5**) *Jerry McGehee*

- 2.1.3.2. Fish health – Brood Powell Spring Chinook: IHNV was detected in 10/20 pools (3 fish per pool) of ovarian fluids (61 fish sampled). These positive detections were reported to the APHIS veterinarian-in-charge. ELISA sampling detected 31 Highs (11.7%), 68 Lows and 167 Negatives from 266 females sampled. Eggs from females with high ELISA values were culled from the Clearwater Chinook salmon program. Prespawning mortality was at 18%.
- Broodyear 2003 Powell: Pathogens have not been detected in these fish to date during routine sampling.
- Brood S. F. Clearwater Spring Chinook: IHNV was detected in 5/25 pools (3 fish per pool) of ovarian fluids (75 fish sampled). These positive detections were reported to the APHIS veterinarian-in-charge. ELISA sampling detected 73 Highs (21.2%), 150 Lows and 121 Negatives from the 344 females sampled. Eggs from females with high ELISA values were culled from the Clearwater Chinook salmon program. Prespawning mortality was at 12%.
- Broodyear 2003 S. F. Clearwater Spring Chinook: *Pseudomonas fluorescens* was detected in 5/10 fish sampled 3/10/04. Medicated feed was not applied. No other pathogens have been detected during routine sampling.
- Brood Dworshak Spring Chinook: IHNV was detected in 108/177 fish sampled (individual samples). Eggs from IHNV positive fish were culled from the Clearwater Chinook salmon program. These positive detections were reported to the APHIS veterinarian-in-charge because inspection work was completed at Eagle Fish Health Laboratory (IDFG). ELISA sampling detected 12 Highs (6.8%), 15 Lows and 150 Negatives from the 177 females sampled. Eggs from females with high ELISA values were culled from the Clearwater Hatchery Chinook program.
- Broodyear 2003 Dworshak Spring Chinook: Pathogens have not been detected in these fish to date during routine sampling.
- Eggs- Disease Sampling When the females are spawned, kidney samples are collected from all females; ovarian samples are collected from 60 females as well as head wedges from 20 fish for disease testing. All samples are air freighted weekly to the Eagle Fish Health lab for analysis. Females are screened for BKD using ELISA techniques. Females with optical densities (OD) over 0.25 are culled.

### Juvenile

- Rearing inspections – Quarterly inspections are performed by Eagle Fish Health Lab
- Pre-liberation inspections – These inspections are performed by Eagle Fish Health Lab
- Prophylactic – 2 Erythromycin medicated feed treatments throughout rearing cycle.
- Some raceways received 1 treatment as part of University of Idaho and IDFG Research.
- Quarterly inspections. Preliberation prior to release at Satellites (20 fish samples). *Ichthyophthirius multifiliis* epizootic at Crooked River.  
*Doug Munson*

2.1.3.3. M&E - The fish are sampled monthly between the 25th and 28th of the month. During months of rapid growth, fish are sampled biweekly. Pound counts are taken to track fish growth and monitor if growth is following the annual growth projections. Length frequencies are taken monthly. Approximately 30 days prior to release, 100 fish are sampled to quality check Ad clips, ventral fin clips, and CWT retention. *Jerry McGehee*

## 2.2. Broodyear 2005 Spring Chinook

### 2.2.1. Dworshak

- 2.2.1.1. Production status - All of Kooskia stock and 596K of Dworshak stock BY04 spring Chinook eggs were shipped to Kooskia NFH during October and November, 2004. Approximately 625K of Dworshak stock remained at Dworshak for incubation over the winter. On January 1, 2005, there were approximately 592,000 sac-fry incubating at Dworshak. In the spring of 2005, Dworshak stock Chinook fry from Kooskia along with those incubated at Dworshak will be ponded directly into raceways at Dworshak. *Thomas Trock*
- 2.2.1.2. Fish health status - BY05 has experienced no problems to date. 60 fish will be sampled prior to release. *Kathy Clemens*
- 2.2.1.3. M&E Approximately 140k Dworshak stock will be CWT in August for contribution monitoring (**Table 6**). Tagging plans also include 52,000 PIT tags for the Comparative Survival Study (CSS). The CSS is looking at adult survival of transported vs non-transported and up-river vs. down-river releases. *Howard Burge*

### 2.2.2. Kooskia

- 2.2.2.1. Production status - Kooskia stock BY04 spring Chinook eggs were taken from a total of 260 females spawned with a total of 206 males. This produced a total of 910,000 green eggs. 774,195 Kooskia stock, and 596,330 Dworshak stock were transferred to KNFH the last week of October and the beginning of November. Eggs were incubated on well water, chilled to approximately 40°F, and then switched to Clear Creek water late November, at temperatures of approximately 40°F. Normally eggs for Dworshak and Kooskia all hatch out by mid January. With warmer weather and increased rains in November and early December

2004 the incubation water was switched to chilled well water. This was done because of increased silt accumulation in the incubator trays and to decrease temperature unit gains in the eggs/alevins. Dworshak stock unfed fry will be transferred back to Dworshak around the first of May for final rearing. Kooskia fry will be tanked and started on feed in May. Approximately 600k Kooskia stock will be reared to ~25-20 fpp. These fish will be released April 2006. *Craig Eaton*

2.2.2.2. Fish health status - BY05 has experienced no problems to date. 60 fish will be sampled prior to release. *Marilyn Blair*

2.2.2.3. M&E – There will be no ISS smolt releases with BY04 Chinook; however, ISS will continue monitoring adult returns. Approximately 100k fish will be CWT in August for contribution (**Table 6**). On-going Kooskia weir evaluation will continue. *Ralph Roseberg / Howard Burge*

### 2.2.3. Clearwater

2.2.3.1. Production status – The proposed number of Clearwater Fish Hatchery fish to be allocated from brood year 2004 is 1.8 million smolts, 335k pre-smolts, and 300k parr. NPTH requested green eggs for release of 400k parr and 75k pre-smolts. This request required 200 females and 200 males to meet their egg needs; they were given 310 females and 260 males. *Jerry McGehee*

2.2.3.2. Estimated numbers/planned marking & tagging - All production Chinook are Ad clipped. Planned releases of BY04 Chinook are for 1,800,000 smolts and 335,000 pre-smolts at an expected 20 fish per pound and 300,000 parr. There were no clip/CWT adults identified for NPTH broodstock. Fish will be released from transportation trucks at designated release sites. Red River, Powell, and Crooked River acclimation ponds will be watered up and screens put in place by the third week of March each year. Fish will be transported to the facility and placed in the pond during the last week of March. Smolts are then released directly from the ponds between April 7 and 15. (**Table 6**) *Tom Rogers*

2.2.3.3. Fish health status – Brood Powell Spring Chinook: IHNV was detected in 12/20 pools (3 fish per pool) of ovarian fluids (60 fish sampled). These positive detections were reported to the APHIS veterinarian-in-charge. ELISA sampling detected 15 Highs (3.2%), 297 Lows and 163 Negatives from the 475 females sampled. Eggs from females with high ELISA values were culled from the Clearwater Hatchery Chinook salmon program. Prespawning mortality dropped to 2% from 18% in 2003. Brood S.F. Clearwater Spring Chinook: IHNV was detected in 12/20 pools (3 fish per pool) of ovarian fluids (60 fish sampled). These detections were reported to the APHIS veterinarian-in-charge. ELISA sampling detected 38 Highs (8.9%), 314 Lows and 73 Negatives from the 425 females sampled. Eggs from females with high ELISA values were culled from the Clearwater Hatchery Chinook program. Prespawning mortality dropped to 8% from 12% in 2003.

Eggs- Disease Sampling: When the females are spawned, kidney samples are collected from all females; ovarian samples are collected from 60

females as well as head wedges from 20 fish for disease testing. All samples are air freighted weekly to the Eagle Fish Health lab for analysis. Females are screened for BKD using ELISA techniques. Females with optical densities (OD) over 0.25 are culled.

#### Juvenile

- Rearing inspections – quarterly inspections are performed by Eagle Fish Health Lab
- Pre-liberation inspections – These inspections are performed by Eagle Fish Health Lab
- Prophylactic – 2 Erythromycin medicated feed treatments throughout rearing cycle.
- Some raceways received 1 treatment as part of University of Idaho and IDFG Research.
- Quarterly inspections. Preliberations prior to release at Satellites (20 fish samples). *Doug Munson*

2.2.3.4. M&E - The fish are sampled monthly between the 25th and 28th of the month. During months of rapid growth, fish are sampled biweekly. Pound counts are taken to track fish growth and monitor if growth is following the annual growth projections. Length frequencies are taken monthly. Approximately 30 days prior to release, 100 fish are sampled to quality check Ad clips, ventral fin clips, and CWT retention. *Chris Harrington*

**2.2.4. Nez Perce Tribal Hatchery** *Approximately 750 spring Chinook salmon adults are needed for broodstock for the Nez Perce Tribal Hatchery spring Chinook program. This number includes jacks and accounts for pre-spawning mortality. This brood level will provide for a target release of 75,000 presmolts from Newsome Creek (South Fork Clearwater River) acclimation facility, 150,000 presmolts from Yoosa/Camp (Lolo Creek) acclimation facility and 400,000 parr into Meadow Creek (Selway River).*

2.2.4.1. Production status – A total of 817 BY04 adult spring Chinook were collected at the following locations: Lolo Creek (101), Newsome Creek (76), Site 1705 (70), Powell facility (421) and Clearwater Hatchery (149). Adults held at the Newsome facility, were transferred to NPTH on July 27, 2004, due to excessive water temperatures in Newsome Creek. Powell/South Fork stock adults (21♂, 7♀), excess to broodstock needs, were transported from NPTH and released into the Selway River on September 7, 2004. Adults (28♂, 1♀ and 3 Jacks), excess to broodstock needs, were released into Lolo Creek on September 14, 2004. An additional 9 adults (4♂, 4♀, 1 Jack and 1 unknown) were transported to and released into the Selway River on September 14, 2004. The Lolo stock yielded 120,960 green eggs, Newsome stock yielded 35,933 green eggs, and the Powell/S. Fork stock yielded 794,578 green eggs. Eggs were incubated on mixed well and chilled, treated surface water at a temperature of 48°F. All spring Chinook stocks were transferred into production room tanks by December 27<sup>th</sup>. As of December 31, 2004, a total of 666,688 spring Chinook fry were on hand at NPTH.

Fish are progeny of adults trapped at Newsome Creek (28,328 fry), Lolo Creek (97,269 fry), and Powell/South Fork (541,091 fry). Targeted 2005 release: **(Table 5) Butch Harty**

- 400,000 parr (direct stream) into Meadow Creek, Selway in June
- 150,000 presmolts (acclimated) into Yoosa/Camp/Lolo Creek in October
- 75,000 presmolts (acclimated) into Newsome Creek in October

2.2.4.2. Production at other facilities – Currently there are no fish being produced for NPTH at other facilities, however IDFG did collect BY04 adults for NPTH production. The following spring Chinook adults were collected at IDFG facilities and transported to NPTH for holding and spawning:

Powell: 421 adults, Clearwater Hatchery: 149 adults. *Butch Harty*

2.2.4.3. Estimated numbers/planned marking & tagging – Fish, destined for release into Meadow Creek, will be marked (CWT) at approximately 180 fish per pound (2.52 g) mid-April to mid-May and transferred to the NATURES S-channels. Prior to release, 15,000 fish will be tagged with a PIT tag. Fish destined for release from acclimation facilities will be marked (CWT) at approximately 180 fish per pound (2.52 g) in mid-March, held in production room tanks or raceways at NPTH and then transferred to acclimation facilities at Newsome Creek and Yoosa/Camp for final rearing. *Butch Harty*

2.2.4.4. Acclimation facility operations/release –

- Yoosa/Camp – Transfer of the fish will occur when conditions permit (mid- May to the first week of June). Facility will be set-up and operational at least 2 days prior to transfer of fish. Prior to release, 9,000 fish will be tagged with a PIT tag. Target release is October 15, 2005 at 34 fish per pound (13.3 g)
- Newsome Creek – After marking, fish will be transferred to the Sweetwater Spring facility, held until September and transferred when water temperatures cool in Newsome Creek. Prior to release, 6,000 fish will receive a PIT tag. Target release is October 15, 2005 at 29 fish per pound (15.6 g).
- Meadow Creek – Direct stream release is scheduled into Upper and Lower Meadow Creek at 95 fish per pound (4.7 g) in mid-June, 2005. **(Table 6) Butch Harty**

1.1.1.1. Fish health status – *A. salmonicida* was isolated from adult females from both Newsome Creek and Yoosa Camp. There were no viruses isolated during spawning from any of the NPT SCS sites. Eggs from females were culled because they had a high ELISA value. *Kathy Clemens*

1.1.1.2. M&E -

- Tag retention and delayed mortality – Estimate CWT delayed mortality rates within 5 days of tagging. Estimate CWT retention rates 25-35 days after tagging. Estimate PIT tag retention rates and delayed mortality within 5 days of tagging.
- PIT survival studies- Estimate smolt survival rates and migration timing.

- Downstream migration – Operate rotary screw traps within Meadow Creek, Lolo Creek and Newsome Creek to monitor movement, timing, condition factors, and population estimates. *Sherman Sprauge*
- 2.2.4.5. Communication - NPTH produces monthly production and pathology reports. Fish Research produces weekly weir reports, final weir summary report, spawning ground summary reports, and SURPH survival summary reports.

## 2.3. Broodyear 2005 Spring Chinook

### 2.3.1. Dworshak

- 2.3.1.1. Projected adult returns - Based on draft tribal and sport harvest data, the expected return for BY05 adult spring Chinook to North Fork Clearwater is approximately 3,000 fish. Our forecast for the 2005 spring Chinook salmon returns to Dworshak NFH is given in **Table 7a**. FWS is confident that they will meet broodstock requirements. IDFG and the NPT may open sport and tribal fisheries in the Clearwater River in the spring of 2005 after dam counts confirm the validity of the estimates. *Ralph Roseberg*
- 2.3.1.2. Ladder operation - Like previous years, the ladder will be opened around the first of June to collect ~200 Chinook, after which we will close it until July, when regular spring Chinook trapping will begin. The ladder will then be operated intermittently to collect only what is needed for broodstock, adult outplanting, or brood needs for other facilities. NPT will provide a broodstock request if fish are needed for NPTH. *Howard Burge*
- 2.3.1.3. Adult outplanting / distribution plans –**Table 8a** list the priority of streams to receive adult spring Chinook salmon. Outplanting will be coordinated between Mike Key (NPT) and Ralph Roseberg (FWS). All adults outplanted from Dworshak will receive a left opercal v-notch as shown in **Table 8b**. *Howard Burge / Ralph Roseberg*
- 2.3.1.4. Adult M&E Returning adults are measured and examined for gender, various clips and tags, and seal bites or other injuries, then sorted for spawning or holding. *Ralph Roseberg*
- 2.3.1.5. Spawning plans Dworshak will spawn 350-425 females for its program and 250-300 females for Kooskia’s program. *Thomas Trock*
- 2.3.1.6. Egg Incubation All eggs taken for Kooskia and Dworshak will be initially incubated at Dworshak. After eye-up and enumeration, 600K of Dworshak eggs and all of Kooskia eggs (750K will be shipped to Kooskia for final incubation. The remaining 600K of Dworshak eggs will be incubated at Dworshak. *Thomas Trock*
- 2.3.1.7. Fish health – Every adult female will be sampled individually for BKD with ELISA. Up to 150 ovarian fluid samples (3 pool) will be sampled for viruses. An additional 60 tissue samples will be taken for bacteria assays, and 20 samples for *M. cerebralis*. Eggs from high and medium ELISA level females will be culled; exact level will depend upon number of fish returning. *Kathy Clemens*

- 2.3.1.8. Communication FWS puts out weekly spawning reports and weekly return reports, and annual spawning and adult return reports are also produced. All of these will be sent to the Contact list (**Section 6**).

### 2.3.2. Kooskia

- 2.3.2.1. Projected adult returns - Based on draft tribal and sport harvest data, Kooskia's BY05 adult Chinook return is expected to be about 450 fish. Our forecast for the 2005 spring Chinook salmon returns to Kooskia NFH is given in **Table 7a**. FWS is not confident that they will meet their brood stock requirements of 800 Chinook. *Ralph Roseberg*
- 2.3.2.2. Trap operation – Trap will be opened for Chinook collection around the beginning of May. All natural and a matching number of returning ISS adults (up to 60 pairs of unmarked/ventral clip adults) will be released upstream for natural spawning in accordance with ISS protocol. ISS adults in excess of what is needed for natural spawning will be incorporated into general production. Adults collected for broodstock needs will be transported to Dworshak for holding until spawning. *Howard Burge / Craig Eaton*
- 2.3.2.3. Adult outplanting / distribution plans - **Table 8a** list the priority of streams to receive adult spring Chinook salmon. Chinook loaded for adult outplanting will be loaded directly into NPT trucks at Kooskia. Outplanting will be coordinated between Mike Key (NPT) and Ralph Roseberg (FWS). All adults outplanted from Kooskia will receive a right opercal v-notch as shown in **Table 8b**. Tribal use of un-anesthetized jacks for the elder program will need to be coordinated prior to adult sorting. (NPT contact Nancy McAllaster, 208-843-7320 ext.2445) *Ralph Roseberg / Craig Eaton*
- 2.3.2.4. Adult M&E Returning adults are measured and examined for gender, various clips and tags, and seal bites or other injuries, then sorted for spawning or holding. *Ralph Roseberg*
- 2.3.2.5. Spawning plans - Kooskia spring Chinook adult broodstock will be kept at Dworshak NFH. Spawning normally occurs the third week of August. Eggs collected that are in the low range of the BKD testing will be kept and the medium to high eggs are discarded. Jacks will be utilized for ~10% of the spawners. *Craig Eaton*
- 2.3.2.6. Egg incubation - BY05 Kooskia stock (750k) and (tentatively) ~600k of Dworshak stock eggs will be transferred to KNFH beginning of November after eye-up. Eggs will be incubated on well water, chilled to approximately 40°F, and then switched to Clear Creek water late November, at temperatures of approximately 40°F. Normally eggs for Dworshak and Kooskia all hatch out by mid January. *Craig Eaton*
- 2.3.2.7. Fish Health - Every adult female will be sampled individually for BKD with ELISA. Up to 150 ovarian fluid samples (3 pool) will be sampled for viruses. An additional 60 tissue samples will be taken for bacteria assays, and 20 samples for *M. cerebralis*. Eggs from high and medium ELISA level females will be culled; exact level will depend upon number of fish returning. *Kathy Clemens*

- 2.3.2.8. Communication FWS puts out weekly spawning reports and weekly return reports, and annual spawning and adult return reports are also produced. All of these will be sent to the Contact list (**Section 6**).

### 2.3.3. Clearwater

- 2.3.3.1. Projected adults returns – Expect surplus fish to be available to anglers this year. Chinook sport harvest seasons are being discussed. The sport fishery will be managed to harvest State’s share of 50% of the excess adipose clipped adult spring Chinook. Real time predictions will be used to adjust the share. *Bill Horton, Ed Schriever*
- 2.3.3.2. Trapping operations at satellite facilities - Spring Chinook will be trapped at the Crooked River and Red River weirs, which will be installed approximately the third week of March, prior to high water. Trapping operations will continue until after September 1 and five consecutive days of zero fish are trapped. Proposed adult needs will be approximately 930 females and 930 males for Clearwater Hatchery allocations. Approximately 200 females and 200 males will be needed for NPTH allocations. NPTH egg request is in negotiation because NPTH will be trapping adults at their own traps in the 2005 summer (Table 6). Brood year 2001 Chinook was the last group of Chinook to be reared on Clearwater Fish Hatchery (CFH) station for NPTH outplants as per Tribal Fisheries request. If CFH manager predicts elevated prespawning mortality in holding adults, hatchery manager will compensate for loss by taking and holding additional adult fish. If by commencement of spawning too many adults have been taken, then adult outplants will be implemented at locations and priorities given in **Table 8a**. *Jerry McGehee*
- 2.3.3.3. Adult outplanting / distribution plans - The outplanting protocol provides for distribution for natural spawning and subsistence use. If adult Chinook, available for release into natural spawning areas, exceeds the numbers agreed to in Table 8a, further consultation will occur. The general procedure for providing fish for subsistence will be first to tribal programs, then to charitable organizations. Jack Chinook may go to subsistence programs directly. Please see Tables 8a and 8b for outplanting priority streams and marks. *Bill Horton*
- 2.3.3.4. Spawning plans - Spawning ratios of 1:1 will be used unless the brood stock population is less than 100 females. If the spawning population is less than 100 females, then eggs from each female will be split into two equal groups. A different male will fertilize each group. One cup of well water will be added to each bucket and set aside for 30 seconds to one minute. The two buckets will be poured together and continued through the spawning process. When brood stock population is 50 to 25 females, the eggs from each female will be split into three equal groups and each group fertilized by a different male. One cup of well water will be added to each bucket and set aside for 30 seconds to one minute; then all three buckets will be poured together. When brood stock population is 25 females or less, the eggs from each female will be divided into four equal groups, each fertilized by a separate male. The process will be completed as

previously mentioned to finish the spawning process. During the entire spawning year, at least five to ten percent of the jacks will be used during the spawning process. An effort will be made to use all returning fish for spawning. If presented with an excess number of one sex, gametes from individual parents may be subdivided and each part fertilized with gametes with different parents. The first sort will occur between August 5 and 10. All females will be sorted twice per week, and all ripe females will be spawned each time. Spawning will continue until all females are spawned. NPT assistance will be provided when spawning Chinook for NPTH. If too many eggs are taken for the hatchery program, these eggs can be used to backfill appropriate IDFG programs, other agency programs. If not needed, surplus eggs will be disposed. *Jerry McGehee*

2.3.3.5. Juvenile production - Original design memorandum shows a production goal may be as high as 1.5 million Chinook smolts reared at the main facility, and 1.5 million fall release pre-smolts reared at the three satellite facilities.

*Jerry McGehee*

2.3.3.6. Fish Health - All females will be tested by ELISA for Bacterial Kidney Disease (BKD). All eggs from females that are identified at a level of 0.25 OD or higher will be culled. A 60 fish sample (ovarian fluids) will be taken for viral replicating agents. A 20 fish sample (head wedge) will be taken for *Myxobolus cerebralis* analysis. Juveniles will be inspected on a quarterly basis. Diagnostics on demand. Pre-liberation samples prior to release at satellites (20 fish sample). *Doug Munson*

#### 2.3.4. Nez Perce Tribal Hatchery

2.3.4.1. Projected adult returns (Table 7b) Adult return estimates to Lolo and Newsome creeks are 449 and 116, respectively. At the present time, there are no adult return estimates for Meadow Creek. Trapping operations on Lolo and Newsome creeks usually begins at the end of May, after peak flows are reached. Trapping will continue through September 18<sup>th</sup>, or until zero fish are trapped for 7 consecutive days. Proposed adult needs are approximately 60 females and 60 males for Lolo Creek and 30 females and 30 males for Newsome Creek. Two weirs will be operated on Lolo Creek, an upper weir (RKM 51) and a lower weir (RKM 21). Pass/keep ratios for the upper and lower weirs are initially set at 4:1 until 30 adults are collected at each weir. Pass/keep ratios for the Newsome Creek weir are initially set at 2:1. All ratios will be adjusted on a weekly basis dependent on actual captures. The adult weirs will also be used for escapement, estimating sex composition, age structure, return timing and genetic tissue sampling. All known strays will be removed in accordance with the ISS study design. Strays will be used to fill outstanding broodstock needs. Female contribution estimated at 50%. The following marks/tags are proposed for application at NPTH trap sites on fish that are passed; Lower Lolo Cr = Left Operculum Punch and Left Orange Tyvek Tag Upper Lolo Cr = Right Operculum Punch, Newsome Cr Left Operculum Punch. - *Sherman Sprague*

- 2.3.4.2. Trapping operations at NPTH – The adult ladder and trap, at Nez Perce Tribal Hatchery, will be operated in 2005 to collect spring chinook adults. Trapping operations will begin April 18<sup>th</sup> and continue through July 31<sup>st</sup>. The ladder will be operated intermittently to collect up to 542 adults needed for broodstock, based on an 85% survival from collection to spawning. In an attempt to select adults representatively across the return, the trap will be open in April and May until 34% (up to 182 adults) of the collection goal has been retained for broodstock. At that time, the trap will be closed until June 1. Beginning June 1, the trap will reopen until 33% (up to 180 adults) of the collection goal has been retained for broodstock. Again, the trap will be closed until July 1. Finally, beginning July 1, the trap will reopen until the remaining 33% (up to 180 adults) of the collection goal has been retained for broodstock. Trapping operations targeting spring Chinook will cease for the remainder of the season at this time.
- Broodstock selection will be based on existing fin clips, marks, or tags. Only adipose fin clipped fish will be used as broodstock and will be retained at the rate described above. All natural, non-adipose fin clipped, known Idaho Supplementation Studies (ISS), and radio tagged fish will be returned to the Clearwater River and allowed to continue their spawning migration. To meet NPTH production goals, approximately 400 adults (200 females and 200 males) will be collected at IDFG facilities and transported to NPTH for spawning.
- Trapping operations on Lolo and Newsome creeks usually begins at the end of May, after peak flows are reached. Trapping will continue through September 18<sup>th</sup>, or until zero fish are trapped for 7 consecutive days. When water temperatures in Newsome Creek reach 65° F, the adults will be transferred to NPTH for spawning. Proposed adult needs are approximately 60 females and 60 males for Lolo Creek and 30 females and 30 males for Newsome Creek. Two weirs will be operated on Lolo Creek, an upper weir (RKM 51) and a lower weir (RKM 21). Pass/keep ratios for the upper and lower weirs are initially set at 4:1 until 30 adults are collected at each weir. Pass/keep ratios for the Newsome Creek weir are initially set at 2:1. All ratios will be adjusted on a weekly basis dependent on actual captures. The adult weirs will also be used for escapement, estimating sex composition, age structure, return timing and genetic tissue sampling. *Becky Johnson*
- 2.3.4.3. Adult outplanting plans - Please see **Table 8a** and **8b**. *Becky Johnson*
- 2.3.4.4. Spawning plans – The first sort and spawn will occur August 8<sup>th</sup>. Spawning will occur once per week at the Yoosa/Camp satellite facility and once per week at NPTH (moribund ripe females will not be spawned). Spawning schedule: Tuesday and Wednesday. A spawning ratio of 1:1 will be used. Jacks will be limited to ten percent of the male contribution. Spawning will continue until the egg take goal is achieved or all females are spawned. *Butch Harty*

- 2.3.4.5. Juvenile production – Phase I production goals are 625,000 parr/pre-smolts. Distribution of juvenile production is 400,000 parr (Meadow Creek), 150,000 pre-smolts (Lolo Creek), and 75,000 pre-smolts (Newsome Creek). Juvenile production for Meadow Creek will be reared in the “S” channels at NPTH. Juvenile production destined for remote sites will be held in production room tanks and transferred when conditions permit (end of May first week of June). Production will be marked 100% with a CWT and sub-release groups will be PIT tagged. Monitor the in-hatchery survival and rearing conditions by treatment and rearing strategy. *Butch Harty*
- 2.3.4.6. Fish Health - All females will be tested by ELISA for Bacterial Kidney Disease (BKD). All eggs from females that are identified at a level of 0.20 OD or higher will be culled. A 150 fish sample (ovarian fluids) will be taken for viral replicating agents. A 20 fish sample (head wedge) will be taken for *Myxobolus cerebralis* analysis. Juveniles will be inspected on a quarterly basis. Diagnostics on demand. Pre-liberation samples prior to release (60 fish sample). *Kathy Clemens*
- 2.3.4.7. Communication - NPTH produces monthly production and pathology reports, and Fish Research produces weekly weir reports.
- 3. COHO** - *A coho reintroduction program was initiated by the Nez Perce Tribe in 1995. Recent production releases have occurred in Lapwai Creek (275,000 smolts), Potlatch Creek (275,000 smolts), Clear Creek (acclimated at Kooskia – 280,000 smolts), and Eldorado Creek, Lolo Creek, and Musselshell Creek (total 270,000 pre-smolts). Fish production for this program comes from Eagle Creek NFH, Dworshak, and Clearwater hatcheries.*
- 3.1. Broodyear 2003 Coho**
- 3.1.1. Dworshak**
- 3.1.1.1. Production status – There were 289,700 fish on hand (4.69”, 10,236 pounds, 28.3 fpp) at Dworshak as of January 28, 2005. *Scott Everett*
- 3.1.1.2. Projected transfer date/acclimation period at Kooskia – Smolts will be transferred to Kooskia NFH as soon as Kooskia spring Chinook are released in April 2004 for a 3-5 week acclimation. *Scott Everett*
- 3.1.1.3. Numbers/dates/marks & tags (Table 9) 150,914 coho were CWT with no AD clip on August 26-28, 2004. 2,000 fish will be PIT tagged at Kooskia as soon as fish are there for acclimation in April 2005. *Scott Everett*
- 3.1.1.4. Fish health – Disease history for this brood year of fish is complete at Lower Columbia River Fish Health Center for eggs that are transferred in. All fish are certified disease free. Fish are sampled no less than quarterly and prior to liberation; a 60 fish sample will be taken and assayed for virus, bacteria, and parasites. We suggest treating with Florfenicol prior to transfer to Kooskia to help guard against mortality from Bacterial Coldwater Disease. *Kathy Clemens*
- 3.1.1.5. Juvenile M&E –
- Juvenile survival and emigration timing to Lower Granite Dam.

- Smolt-to-adult survival, and adult return timing based on counts at Lower Granite Dam and ladder counts at Dworshak and Kooskia National Fish Hatcheries. *Scott Everett*

### 3.1.2. Transfers (Eagle Creek NFH)

- 3.1.2.1. Projected release - Smolts reared at Eagle Creek NFH will be released into Potlatch and Lapwai Creeks March 7-11, 2005. Approximately 550,000 (275,000 each stream) will be direct stream released. Approximately 50,000 will be CWT/AD, and 50,000 will be CWT only per release site. There will be 1,500 PIT in each release group. (**Table 9**) *Scott Everett*
- 3.1.2.2. Fish health – Disease history for this brood year of fish is complete at Lower Columbia River Fish Health Center. All fish are certified disease free. *Kathy Clemens*
- 3.1.2.3. M&E
- Juvenile survival and emigration timing to Lower Granite Dam.
  - Smolt-to-adult survival and adult return timing based on counts at Lower Granite Dam and weir monitoring at Lapwai Creek and the Potlatch River, and redd surveys.
  - Genetic samples collected for future analysis. *Scott Everett*

## 3.2. Broodyear 2004 Coho

### 3.2.1. Dworshak

- 3.2.1.1. Production status - Adult coho salmon were collected for broodstock from Dworshak NFH, Kooskia NFH, Lyons Ferry FH, and temporary weirs on Lapwai Creek, and the Potlatch River. A total of 639,972 eyed eggs resulted from coho adults returning to the Clearwater River (Clearwater stock). No additional eyed eggs were transferred from Eagle Creek NFH. After transfers to CFH, a total of 305,752 eyed-eggs are on station as of January 28, 2005. *Scott Everett*
- 3.2.1.2. Projected production - The projected production will be 280,000 smolts reared through spring 2006. 150,000 fish will receive CWT and 1,500 will receive PIT. (**Table 10**) *Scott Everett*
- 3.2.1.3. Fish health – Every adult female were sampled individually for BKD with ELISA. Eggs from 4 females were culled. Up to 150 ovarian fluid samples (3 pool) were sampled for viruses; 7.7% of the samples were positive for IHNV. An additional 60 tissue samples will be taken for bacteria assays, and 60 samples for *M. cerebralis*. Three pools of kidney/spleen were positive for *Aeromonas salmonicida* and 1/60 fish were positive for *M. cerebralis* by PCR. Brood fish health samples were taken by NPT staff and delivered to Idaho Fish Health Center personnel for analysis. Juvenile fish will be sampled quarterly and prior to liberation. *Kathy Clemens*
- 3.2.1.4. M&E - Juvenile survival and emigration timing to Lower Granite Dam. Smolt-to-adult survival, and adult return timing based on counts at Lower Granite Dam and ladder counts at Dworshak and Kooskia National Fish Hatcheries. Genetic samples collected from adults for future analysis. *Scott Everett*

### 3.2.2. Clearwater

- 3.2.2.1. Production status - A total of 334,220 eyed-eggs were transferred from DNFH beginning on December 17, 2004. 30,000 of these were later transferred to the Potlatch Corp on January 14, 2005. As of January 28, 2005 there were 304,220 eyed-eggs at Clearwater. *Scott Everett*
- 3.2.2.2. Projected production - The projected production will be 270,000 pre-smolts reared through early fall 2005. 120,000 will be CWT and 3,000 will receive PIT. Fish will be transferred the last week of September 2005 to the Lolo Creek drainage for a direct stream release. (**Table 10**) *Scott Everett*
- 3.2.2.3. Fish health - Fish will be sampled quarterly and prior to liberation. *Kathy Clemens/Doug Munson*
- 3.2.2.4. Juvenile M&E -
- Juvenile survival and emigration timing to Lower Granite Dam.
  - Adult return timing based on counts and PIT tag returns at Lower Granite Dam and redd surveys.
  - Genetic samples collected for future analysis. *Scott Everett*

### 3.2.3. Transfers (Eagle Creek NFH)

- 3.2.3.1. Projected release - Smolts reared at Eagle Creek NFH will be released into Potlatch and Lapwai Creeks in mid-March 2006. Approximately 550,000 (275,000 each stream) will be direct stream released. Approximately 50,000 will be CWT/AD, and 50,000 will be CWT only per release site. There will be 1,500 PIT in each release group. *Scott Everett*
- 3.2.3.2. Fish health – Disease history for this brood year of fish is complete at Lower Columbia River Fish Health Center. All fish are certified disease free. *Kathy Clemens*
- 3.2.3.3. M&E
- Juvenile survival and emigration timing to Lower Granite Dam.
  - Smolt-to-adult survival and adult return timing based on counts at Lower Granite Dam and weir monitoring at Lapwai Creek and the Potlatch River, and redd surveys.
  - Genetic samples collected for future analysis. *Scott Everett*

**3.3. Broodyear 2005 Coho** - *One of the program objectives is to develop a local Clearwater River coho stock. To accomplish this adult coho returning to the Clearwater River are a priority for use as broodstock. Fish are collected at fish ladders at Dworshak NFH, Kooskia NFH, Lyons Ferry FH, Nez Perce Tribal Hatchery, and weirs on the Potlatch River and Lapwai Creek*

#### 3.3.1. Dworshak

- 3.3.1.1. Ladder operation Ladder operation will begin on October 1, 2005 to begin trapping coho salmon at Dworshak. *Howard Burge*
- 3.3.1.2. Adult transfers Adult steelhead trapped (in excess of 500 fish) during operation of the ladder to collect coho will be loaded and hauled by NPT and released in the lower Clearwater River at Hog Island. *Scott Everett*

**3.3.2. Tributary weir operation** - Weirs will be placed in Lapwai Creek and Potlatch River around September 28<sup>th</sup>, 2005 and operated until early December, 2005. *Scott Everett*

- 3.3.2.1. Adult handling - Adult coho salmon trapped at Potlatch and Lapwai Cr. and Kooskia NFH will be transported by NPT to a holding pond at Dworshak NFH. *Scott Everett*
- 3.3.2.2. Spawning operation - First sort will take place around the second week of October and spawning operations will take place once a week, until all fish have been spawned. *Scott Everett*
- 3.3.2.3. Fish health – Every adult female will be sampled individually for BKD with ELISA. Up to 150 ovarian fluid samples (3 pool) will be sampled for viruses. An additional 60 tissue samples will be taken for bacteria assays, and so samples for *M. cerebralis*. Brood fish health samples will be taken by NPT staff and delivered to Idaho Fish Health Center personnel for analysis. Fish with a high or moderate BKD titer were culled. *Kathy Clemens*
- 3.3.2.4. Juvenile M&E –
- Smolt-to-adult survival is based on weir monitoring in Lapwai Creek and the Potlatch River, and redd surveys in the Potlatch River.
  - Smolt-to-adult survival, and adult return timing based on counts at Lower Granite Dam and ladder counts at Dworshak and Kooskia National Fish Hatcheries.
  - Genetic samples collected from adults. *Scott Everett*
- 3.3.2.5. Communication - NPTH produces monthly production and pathology reports, and Fish Research produces weekly weir reports.

**4. FALL CHINOOK SALMON** - *Fall chinook salmon production in the Clearwater River occurs through two programs – Lower Snake River Compensation Plan/Fall Chinook Acclimation Project and Nez Perce Tribal Hatchery.*

**4.1. Broodyear 2003 Fall Chinook**

**4.1.1. NPT Fall Chinook Acclimation Project – Big Canyon Facility** - *The Big Canyon Acclimation facility is a portable acclimation setup designed and operated for acclimation and release of Snake River fall chinook salmon that are reared at Lyons Ferry Hatchery. Big Canyon facility is operated by the Nez Perce Tribe as part of the Fall Chinook Acclimation Project (FCAP) funded by BPA. The facility has capacity to acclimate 150,000 yearlings and 500,000 subyearlings. The facility is operated in conjunction with two other acclimation facilities on the Snake River in an effort to restore ESA listed Snake River fall chinook salmon and achieve the LSRCP mitigation goal of 18,300 adults to the project area..*

- 4.1.1.1. Production status – Approximately 154,500 yearlings are being reared at Lyons Ferry Hatchery for transfer to the Big Canyon acclimation facility on February 16-18, 2005. *Becky Johnson, Bruce McLeod*
- 4.1.1.2. Projected release – Target release will be 150,000 yearlings at 10 fpp on April 15. Fish are 70K CWT and ad clipped and 80K CWT only (**Table 11**) *Bruce McLeod*

- 4.1.1.3. Fish health - Yearling fish at Lyons Ferry SFH were sampled 1/14/05 for ELISA and viral assays for the import permit for this program. Monitoring samples for BKD will be taken weekly and a 60 fish sample will be collected and assayed prior to release from each site. BY 2002 - IHNV was isolated in pre-release sampling in both the yearling and sub-yearling groups. ELISA values: Yearlings: slightly under half of the fish tested had ELISA values in the moderate to very high range. Sub-yearlings (BY 2003) had ELISA values low and below. *Kathy Clemens*
- 4.1.1.4. M&E -
- PIT tagging for juvenile outmigrant survival and migration timing
  - SARS to Lower Granite Dam
  - All mortalities will be scanned for PIT tags.
  - Aerial spawning ground surveys
  - Sample adult carcasses (Marks/tags, biological data, genetics, etc.) *Steve Rocklage*
- 4.1.1.5. Communication - O&M and M&E quarterly and annual reports to BPA

## 4.2. Broodyear 2004 Fall Chinook

### 4.2.1. NPT – Fall Chinook Acclimation Project – Big Canyon Facility

- 4.2.1.1. Production status – Approximately 520,000 subyearlings are being reared at Lyons Ferry Hatchery for transfer to the Big Canyon acclimation facility on May 01, 2005. *Becky Johnson, Bruce McLeod*
- 4.2.1.2. Projected release – Target release is 500,000 subyearlings at 75-50 fpp on June 1, 2005. A group of 100,000 fish are CWT ad-clipped and 100,000 CWT only for evaluation – the balance of fish are unmarked. (**Table 11**) *Bruce McLeod*
- 4.2.1.3. Fish health - Import permit sampling will be done in March/April. A 60 fish sample will be collected and assayed prior to release from each site. *Kathy Clemens*
- 4.2.1.4. Juvenile M&E -
- PIT tagging for juvenile outmigrant survival and migration timing
  - SARS to Lower Granite Dam
  - All mortalities will be scanned for PIT tags.
  - Aerial spawning ground surveys
  - Sample adult carcasses (Marks/tags, biological data, genetics, etc.) *Steve Rocklage*
- 4.2.1.5. Communication - O&M and M&E quarterly and annual reports to BPA

### 4.2.2. Nez Perce Tribal Hatchery – *Nez Perce Tribal Hatchery was constructed in 2001 and is authorized to produce 1.4 million subyearling fall chinook juveniles. Target releases are 500,000 on station at NPTH, 500,000 acclimated and released from North Lapwai Valley facility, 200,000 acclimated and released from Lukes Gulch facility (South Fork Clearwater) and 200,000 acclimated and released from Cedar Flats facility (Selway River).*

- 4.2.2.1. Ladder Operation - Ladder operations commenced on 23, August 2004, and continued through 29, November 2004. A total of 542 adults and 17 jacks (<53 cm) were collected at NPTH. Another 4 females and 1 male were

collected at the Potlatch weir and 1 jack was collected at the Lapwai Creek weir. An additional 2 females and 1 male were collected at DNFH. All broodstock, collected off-site, were transported to NPTH for spawning. In September, 823 adult fall chinook were transported from Lower Granite Dam to NPTH for spawning. On December 1, 2004, all remaining fall Chinook adults were sub-sampled and excess adults released into the Clearwater River at Cheery Lane boat ramp. Sub-sample rates and release number are as follows:

**Released:** *Lower Granite stock – 161 ♂, 20 ♀; Volunteers – 71 ♂, 9 ♀.*

**Sacrificed:** *(M&E – Run reconstruction) Lower Granite – 90 ♂, 23 ♀; Volunteers – 0. Butch Harty*

- 4.2.2.2. **Spawning** – Over the course of six weeks, a total of 359 females were spawned, which yielded 1,306,229 green eggs (eight females were identified as strays and eggs culled. Additionally, one female was spawned with a stray male and eggs culled). Average eye up was 91.38%. Due to a high ELISA value, eggs from one Lower Granite and one Volunteer female were culled. *Butch Harty*
- 4.2.2.3. **Production status** - As of December 31, 2004, an estimated 1,176,400 fall Chinook eggs/fry were on hand at NPTH. *Butch Harty*
- 4.2.2.4. **Projected release** - Anticipated release: 1 million sub-yearlings.
- 500,000 sub-yearlings (acclimated) into the Clearwater River in mid-June.
  - 500,000 sub-yearlings (acclimated) into Lapwai Creek in late May. Marking will commence in late April and continue through early May. Only 300,000 fish (200,000-CWT only, 100,000–CWT/Adipose fin clip) will be marked from each release group. After marking, the fish will be transferred to the fall Chinook ponds at NPTH and North Lapwai Valley (NLV) for final rearing, acclimation and release. Prior to release, 3,000 fish from each release site will be tagged with a PIT tag. Scheduled release date from NPTH is June 15, 2005, at a size of 55 fish per pound (8.24 g). The release date for NLV is May 31, 2005, at a size of 50 fish per pound (9.1 g). (**Table 11**) *Butch Harty*
- 4.2.2.5. **Fish health** – Kidney samples were assayed by ELISA on all spawned females; eggs from two females were culled due to ELISA OD's above cut-off (.20). 150 ovarian fluid samples, 60 tissues samples and 30 cranial samples were taken for assay. IHNV was found in 32.5% of samples tested. A 60 fish sample will be collected and assayed prior to release. *Kathy Clemens*
- 4.2.2.6. **M&E**
- Scan all fish for CWT. Initial tag retention and tagging mortality estimated. Estimate final CWT retention rates 14 days or more after tagging.
  - PIT survival studies- Pit tag 3,000 of each release group for survival estimates, growth rates, and migration timing.

- Redd surveys and carcass collection. Scales and genetic samples taken, hatchery/wild determination, scan for PIT tags and CWTs, along with all other biological information.
- Volunteers to NPTH will be scanned for PIT tags and CWTs and scales and genetics will be taken on a sub-sample of spawned fish and mortalities, along with all other biological information. *Bill Arnsberg, Jay Hesse*
- Transportation Study – 2005 releases will be a pilot year for the proposed transportation study – while additional wild fish will be PIT tagged during annual beach seining, hatchery surrogates will still be needed to improve SAR estimates. 3,000 fall Chinook sub-yearlings from Lyons Ferry Hatchery are being raised in a small tank at Dworshak NFH for a June release into the Clearwater near Big Canyon. 176,000 sub-yearlings will be brought from Lyons Ferry to Dworshak in April after spring Chinook are released; these will be held in the raceways for approximately 6 weeks, until that space is needed for spring Chinook. The 176,000 will be released in the Snake River near the Capt. Johns acclimation facility. Fall Chinook released for this study will be 100% PIT tagged. Finalization of out years of this study is still under discussion. *Howard Burge, Billy Connor*

4.2.2.7. Communication - NPTH produces monthly production and pathology reports, and M&E quarterly and annual reports to BPA.

### 4.3. Broodyear 2005 Fall Chinook

#### 4.3.1. Adult collection

- 4.3.1.1. Lower Granite - Complete Section 10 Permit and coordinate this activity with Lyons Ferry Hatchery, Jerry Harmon and U.S. Army Corps of Engineers to obtain the necessary permits for adult collection. *Butch Harty, Becky Johnson*
- 4.3.1.2. Trapping sites/Ladder operation - Commencing on August 22, 2005, and continuing through December 2, 2005, the adult ladder and trap will be operated at Nez Perce Tribal Hatchery to collect fall chinook adults for brood year 2005. Adults will also be transported from Lower Granite Dam to NPTH for holding and spawning. *Butch Harty, Becky Johnson*
- 4.3.1.3. Spawning plans – To meet the egg take goal of 1.3 million, 360-400 females will be spawned at NPTH. Spawning will begin the third week of October and continue through the first week of December. *Butch Harty*
- 4.3.1.4. Egg Incubation – Eggs will be incubated on processed (well and treated, chilled surface) water at a temperature of 52° F. All eggs should be hatched out by mid-January. *Butch Harty*
- 4.3.1.5. Egg transfers from Lyons Ferry - No egg transfers from Lyons Ferry Hatchery are anticipated for brood year 2005. *Becky Johnson*
- 4.3.1.6. Adult M&E

- Redd surveys and carcass collection. Scales and genetic samples taken, hatchery/wild determination, scan for PIT tags and CWTs, along with all other biological information.
  - Volunteers to NPTH will be scanned for PIT tags and CWTs and scales and genetics will be taken on all spawned fish and mortalities, along with all other biological information. *Bill Arnsberg, Jay Hesse*
- 4.3.1.7. Fish health – Every adult female will be sampled individually for BKD with ELISA. Up to 150 ovarian fluid samples (3 pool) will be sampled for viruses. An additional 60 tissue samples will be taken for bacteria assays, and so samples for *M. cerebralis*. Brood fish health samples will be taken by NPT staff and delivered to Idaho Fish Health Center personnel for analysis. Fish with a high BKD titer will be culled. *Kathy Clemens*
- 4.3.1.8. Communication - NPTH produces monthly production and pathology reports, and Fish Research produces quarterly and annual reports to BPA.

## 5. RAINBOW TROUT

### 5.1.1. Dworshak Free fishing day

- 5.1.1.1. Production status - BY04: Dworshak is rearing Shasta strain rainbow trout from Ennis NFH for the June 10, 2005 Kids' Fishing Day. On January 1, 2005, there were 15,520 rainbows at Dworshak. Approximately 3,800 of these trout will be transported to Kooskia NFH in February for their Open-House. The rainbow trout are currently being reared in a burrows pond in System I and two raceways in C-bank. The Service hopes to achieve 15 inches in length (0.75 per lb.) by Open House. *Thomas Trock*
- 5.1.1.2. Fish health - IHNV and Coldwater disease was prevalent in this group of fish. *Kathy Clemens*
- 5.1.1.3. Excess outplanting - The plan is to continue what has been done in previous years, with fish going to the Nez Perce Tribe, Coeur D' Alene Tribe, and Idaho Dept. of Fish and Game. Tunnel Pond is an acceptable location to release excess rainbows in 2005. *Howard Burge*

### 5.1.2. Dworshak Reservoir

- 5.1.2.1. Proposed release numbers/dates - The Clearwater Fish Hatchery regional rainbow program will be redistribution of 100,000 Nampa reared trout only. A total of 29 plant sites will be stocked with rainbow trout, requiring 110 trips. *Jerry McGehee*
- 5.1.2.2. Hagerman/IDFG exchange program – Since 1997 Hagerman NFH has raised rainbows for stocking into Southern Idaho reservoirs and IDFG reciprocates by stocking sterile triploid rainbows into Dworshak Reservoir. There are no planned changes for the program this year. However the New Zealand mudsnail problem regarding rearing hatchery and the stocking of rainbows into the Clearwater River basin needs to be considered. *Howard Burge*

### 5.1.3. Clearwater River

- 5.1.3.1. Stocking program - Plan on two separate stocking of 25,000 kamloop fingerlings each into the Clearwater River. Planned date of release is

October 2005. All these fish are sterile and unmarked. Half are from Lyons Ferry Fish Hatchery and the other half are from Nampa Fish Hatchery. These fish are part of an annual IDFG general stocking program to provide additional fishing opportunities. These fish are funded by the Lower Snake River Compensation Project and Dingle-Johnson. Kamloop strain rainbows are utilized due to their potential larger size as adults. Even though overall small numbers of these stocked fish end up being caught, they account for a large percent of the bigger fish that are caught. *Robert Hand*

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