



## **FISH HEALTH MANAGEMENT**

**January 1 – December 31, 2005**

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## Table of Contents

	<u>Page</u>
ABSTRACT .....	1
FISH HEALTH MONITORING AND MANAGEMENT ACTIVITIES OF THE IDAHO DEPARTMENT OF FISH AND GAME .....	2
Resident Hatchery Activities .....	2
American Falls Hatchery .....	3
Ashton Hatchery .....	3
Cabinet Gorge Hatchery .....	3
Grace Hatchery .....	3
Hagerman State Hatchery .....	4
Hayspur Hatchery .....	5
Henry's Lake Hatchery .....	6
Mackay Hatchery .....	7
Mccall Hatchery Resident Program .....	7
Nampa Hatchery .....	7
Springfield Hatchery .....	8
Other Activities .....	8
Anadromous Hatcheries .....	9
Clearwater Hatchery and Crooked River, Powell, and Red River Satellite Facilities .....	9
Clearwater Hatchery .....	9
Crooked River Satellite Facility .....	10
Powell Satellite Facility .....	10
Red River Satellite Facility .....	10
Magic Valley Hatchery .....	10
McCall Hatchery and South Fork Satellite .....	10
Niagara Springs Hatchery .....	11
Oxbow Hatchery .....	11
Pahsimeroi Hatchery .....	12
Rapid River Hatchery .....	12
Sawtooth Hatchery .....	12
Sockeye and Chinook Captive Broodstock .....	13
Redfish Lake Sockeye Salmon Captive Broodstock .....	13
Viral Pathogens .....	14
Trials with IHNV Vaccines .....	14
Bacterial Pathogens .....	15
Parasitic Pathogens .....	15
Salmon River Chinook Captive Rearing .....	16
Parasitic Pathogens .....	16
Idaho Wild Fish Health Survey .....	16
Triploid Induction Monitoring .....	17
Transport and Import Permits .....	18
Reports and Presentations .....	18
Production Studies and Surveys to Enhance Fish Health .....	18
Recommendations .....	20
Acknowledgements .....	21

## List of Appendix

Appendix A. Fish Health Summary Report 2005 .....	22
Appendix B. Research Fish Health Summary Report 2005 .....	50
Appendix C. Wild Fish Health Summary Report 2005 .....	56
Appendix D. Geographic location of Idaho Department of Fish and Game culture facilities. ...	60

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## ABSTRACT

This report contains a description of the activities of the Eagle Fish Health Laboratory, operated by the Idaho Department of Fish and Game, for the calendar year 2005. The primary objective of this program is to monitor, inspect, and improve the health of fish raised at 10 resident hatcheries, 11 anadromous hatcheries and satellites, and Eagle Hatchery, which rears Endangered Species Act-listed salmon captive broodstocks. Results of these diagnostic and inspection cases are presented in the text by program and facility. The most significant pathogens encountered in the resident and anadromous hatchery programs were cold water disease, bacterial kidney disease, infectious hematopoietic necrosis virus, bacterial gill disease, whirling disease, and furunculosis. The Idaho Department of Fish and Game fisheries managers, researchers, hatcheries, and Eagle Fish Health Laboratory pathologists utilized the wet laboratory during the year.

Wild salmonids from five of seven regions of the state were examined for the parasite *Myxobolus cerebralis* that causes whirling disease. McCoy Creek, a tributary of Palisades Reservoir (South Fork Snake River drainage) was the only new geographic occurrence of *Myxobolus cerebralis* this year. The staffs of the Eagle Fish Health Laboratory, Eagle Hatchery, and IDFG Salmon and Upper Snake Regions cooperated in whirling disease research projects with the University of Idaho and Utah State University.

The Eagle Fish Health Laboratory staff remained active participants in regional and national fish health issues. This included administering the Investigational New Animal Drug program through the United States Fish and Wildlife Service and the University of Idaho. Examples of additional liaison activities are included in the text.

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## PERIOD COVERED BY THIS REPORT

This report covers activities for grant F-75-R-22 Federal Aid in Fish Restoration January 1 to December 31, 2005 by the Idaho Department of Fish and Game (IDFG).

## FISH HEALTH MONITORING AND MANAGEMENT ACTIVITIES OF THE IDAHO DEPARTMENT OF FISH AND GAME

### Resident Hatchery Activities

The primary duties of the resident pathologist are to provide fish health inspection and diagnostic services to the Idaho Department of Fish and Game's (IDFG) resident fish hatcheries and to assist hatchery personnel in maintaining good health in cultured resident fish. These same services are provided to IDFG fishery managers and biologists and occasionally to private individuals or companies when the information or relationship is of benefit to the State of Idaho.

A total of 76 cases were examined at Eagle Fish Health Laboratory (EFHL) for IDFG resident hatchery programs during 2005 (35 diagnostic cases, 25 routine hatchery inspections, and 16 inspections of feral brood fish). Additional cases attributed to the resident programs included 1 inspection done on rainbow trout from Rangens Aquaculture (fish purchased by Idaho Power Co. for release in American Falls Reservoir), 4 wild fish inspections, 1 wild fish diagnostic, and 32 various research tests. Statewide, the most significant fish disease in the IDFG resident hatchery program continued to be bacterial coldwater disease (CWD), caused by *Flavobacterium psychrophilum*. The treatment of choice for CWD has been oxytetracycline (OTC) in medicated feed under an Investigational New Animal Drug (INAD) protocol. The total of 14 INAD protocols needed to use OTC at resident hatcheries in 2005 was greatly reduced from the numbers needed in 2003 or 2004 (23 each). Most of this reduction occurred at the Hagerman State Fish Hatchery.

The resident pathologist is the INAD Monitor for the IDFG resident hatcheries and biologists. The INAD process is the means by which the U.S. Food and Drug Administration will allow the limited use of certain drugs and chemicals not currently labeled for a specific use in food fish, while accumulating data to support adding such use to the label. Idaho Department of Fish and Game joined the U.S. Fish and Wildlife Service Aquatic Animal Drug Approval Partnership Program (USFWS-AADAP) in 1998. This group, located in Bozeman MT, administers INAD programs for Federal, State, Tribal, and private aquaculture across the United States. Monitor duties include identifying the situations in which a drug or chemical may be used, assisting in preparing written requests and reports, and generally acting as intermediary between the users and the administrators. Chemicals used by IDFG resident programs in 2005 under the INAD program included OTC, Chloramine-T (CHLOR-T), and Calcein. Oxytetracycline is used to treat fish with systemic bacterial infections, CHLOR-T is used to treat bacterial gill infections, and Calcein is a fluorescing dye used as a fish marking agent.

A summary of the work done for each IDFG resident hatchery in 2005, as well as the results of all sampling done at those hatcheries, is as follows.

## **American Falls Hatchery**

Four of five diagnostic examinations documented CWD as the most significant infectious disease in rainbow trout *Oncorhynchus mykiss* at American Falls Hatchery in 2005. Three of those episodes were treated using OTC-medicated feed under INAD protocols. The fifth case was diagnosed as motile aeromonad septicemia (MAS) involving both *Aeromonas caviae* and *A. hydrophila*, and was treated using the existing OTC label. The Connor Lake westslope cutthroat trout were inspected prior to transfer to Cabinet Gorge Hatchery. No replicating viruses, *Renibacterium salmoninarum* (RS), cultured bacteria, or *Myxobolus* (MYXOB) spores were detected.

## **Ashton Hatchery**

Samples from the catchable rainbow trout and the sterile brook trout populations were collected in April. No replicating viruses were detected from either group. (Due to small size, virology was the only test done on the brook trout). No MYXOB spores or cultured bacteria were detected from the rainbow trout. Direct fluorescent antibody tests (DFAT) detected RS in 3 of 60 kidney smears, but no signs of clinical bacterial kidney disease (BKD) were evident. The hatchery manager reports that infestations of the external trematode *Gyrodactylus* (GYRO) continue to be the only significant disease problem on the station. Fish living in open portions of the spring and stream above the hatchery intake are the probably origin of these parasites. Ashton Hatchery continues to be at risk for contamination by *Myxobolus cerebralis* (MC), the causative agent of salmonid whirling disease (WHD), because the hatchery water source is not completely enclosed. The spring property across the county road has been purchased, but plans to cover any more of the spring have not yet been implemented.

## **Cabinet Gorge Hatchery**

Spawning kokanee adults were examined at the Sullivan Springs Trap in December, with no fish available for sampling at the Clark Fork River trap. No replicating viruses, RS, or MYXOB spores were detected. Bacterial isolates included *F. psychrophilum* and *Pseudomonas putida*. The first is a significant fish pathogen, the causative agent of CWD, but the latter was likely an opportunist that started to grow as the fish's immune systems were depressed at spawning. No signs of clinical CWD have ever been seen in these fish or their offspring. A light infection of encysted cestodes was evident in the pyloric caecae of about half of the fish. These are seen at about the same intensity and prevalence every year, and do not appear to have any adverse effect upon the fish hosts.

## **Grace Hatchery**

General fish health on station was very good this year, and no diagnostic calls were made. Signs consistent with chronic coldwater disease (mostly eroded caudal peduncles) were observed, but mortality rates were never elevated to levels of concern. Hatchery personnel

collected heads from 68 fish caught out of the settling pond for MC. No MYXOB spores were detected by pepsin/trypsin digest (PTD).

A series of exposure trials were conducted to look for MC in the Bear River and tributaries, including the Grace Hatchery, in response to the finding of the parasite at a private hatchery located approximately 6 miles south of Grace Hatchery. Sentinel groups of juvenile rainbow trout were exposed from August 9th to 19th. Exposure sites included the Bear River at Black Canyon, the Grace Hatchery settling pond, Whiskey Creek at Highway 34, Wright's Spring (Thatcher), and Williams Creek. A heavy population of what appeared to be New Zealand mud snails *Potamopyrgus antipodarum* was found on the box from the Grace settling pond on August 19. Fish from these live-boxes were held at the EFHL wet laboratory for 100 days to allow MC spores to develop. During that period, one fish was observed spinning in a suspicious manner in the group from the Grace settling pond just prior to an outbreak of bacterial gill disease (BGD) in that tank. All mortalities from that tank, including the spinning fish, were tested by polymerase chain reaction (PCR) and were negative for MC genetic material. No MYXOB spores were detected by PTD in fish from any of the sites once the 100 days were complete.

While waiting for the initial test results, it was decided to put out more sentinel groups around Grace Hatchery. Fish were in place from October 21st to November 1st at sites including the short open channel below Upper Whiskey Spring, Middle Whiskey Spring, the large raceway tailrace, and the lower end of the settling pond. Following the 100-day holding period, the fish were sampled and no MYXOB spores were detected. Recommendations have been made to enclose the remaining portion of the upper spring to increase biosecurity for Grace Hatchery.

### **Hagerman State Hatchery**

A total of 13 diagnostic cases were examined from Hagerman State Hatchery in 2005, a reduction from 23 cases in 2004. The total numbers of fish lost to viral infectious hematopoietic necrosis (IHN) continued on a decline, although some unusual losses occurred in larger fish. As in previous years, significant bacterial pathogens at Hagerman were *F. psychrophilum* and *F. columnare*, the causative agent of columnaris disease (COL). In many cases, these bacteria are isolated concomitant with each other or with MAS. The number of INAD protocols to treat CWD or COL dropped from 15 in 2004 to 5 in 2005. One production stage where antibiotic use has been significantly reduced was in the vat building. A 1/2-hour bath treatment of hydrogen peroxide at concentration of 100 mg/l was given daily to every egg lot, beginning when the eggs arrived and continued until the fish were moved out of the vat building. The hatchery manager reported that the improvement in survival far outweighed any cost in time or materials.

The protozoan parasite *Ichthyophthirius multifiliis* (ICH) caused significant mortalities in several lots of fish during the winter of 2004-2005. Alternating treatments of formalin and potassium permanganate were initiated in December 2004 and continued through March 2005. This was the first time that ICH caused documented mortality on the hatchery.

## Hayspur Hatchery

Clinical fish disease at Hayspur in 2005 included BGD in the Hayspur-strain rainbow trout (R9) and Connor Lake westslope cutthroat trout *Oncorhynchus clarkii* populations and BKD in the Connor Lake cutthroat trout. All fish groups diagnosed with BGD were successfully treated using CHLOR-T under INAD protocols. *Renibacterium salmoninarum* was detected in the R9, Kamloops (K1), and Connor Lake cutthroat populations by enzyme-linked immunosorbent assay (ELISA) and in the R9 and cutthroat by fluorescent antibody testing on ovarian fluid cell pellets (OCP-FAT). Test levels and mortality patterns in the cutthroat were consistent with clinical BKD, but there was no evidence of clinical disease in the rainbow trout populations. This was the 13th consecutive year with no replicating viruses detected at Hayspur Hatchery.

The primary fish health monitoring effort at Hayspur Hatchery was sampling the R9 and K1 adult females whose eggs were used for broodstock replacements. Ovarian fluid was collected from every female to be tested for viruses and for RS using OCP-FAT. Lethal sampling of a random portion of females provided kidney and spleen tissues for virology, kidney smears for DFAT, and kidney tissues for ELISA. The tissue sampling provided corroboration for that portion of the ovarian fluid tests, and was consistent with Federal Title 50 sampling protocols. Eggs from individual females were held in isolation until the test results were complete. Following established protocol, a female's eggs were culled from the replacement program if she tested positive for any virus, for RS by either DFAT or OCP-FAT, or for RS antigen by ELISA at an optical density (OD) above 0.120 (or lower at the hatchery manager's discretion).

The R9 brood stock replacement spawning was done on five separate days between October 24 and December 13, 2005. A total of 198 BY-2002 females were tested. No viruses were detected from any ovarian fluid or tissue samples. The RS test results were as follows: 4 of 198 (2%) ovarian fluid samples positive by OCP-FAT, 10 of 60 (16.7%) positive by ELISA (3 with OD>0.500; all 3 also positive by OCP-FAT), and 0 of 60 kidney smears positive by DFAT. Eggs from 6 females were culled from the program.

Kamloops brood stock replacement spawning was done on four days, from October 24 to November 12. A total of 144 females were tested. No viruses were detected from any ovarian fluid or tissue samples. The RS test results were as follows: 0 of 144 ovarian fluid samples positive by OCP-FAT, 1 of 57 (1.75%) positive by ELISA (OD=0.113), and 0 of 57 kidney smears positive by DFAT. No eggs were culled.

Sixty-fish inspection samples (lethal) were taken from both BY03 R9 and K1 populations prior to the spawning season. This inspection of age 1+ fish is done annually before they enter the spawning population for the first time. No replicating viruses, RS, cultured bacteria, or MYXOB spores were detected from either population.

This was the first year that eggs were taken from the Connor Lake westslope cutthroat for broodstock replacement. Specifically, fish from the BY00 population were crossed with fish from the BY02 lot to avoid the possibility of sibling crosses, with ovarian fluids from the females in each set of crosses sampled for pathogen analysis. Because of a history of low milt production from males and poor fertilization, it was decided that pooled groups of eggs would be fertilized by several males rather than use one-to-one pairings. With a limited number of fish, no lethal sampling was done. Ovarian fluids from 21 BY00 and 100 BY02 individual females were tested in four- to six-fish pools, corresponding to the pools of eggs. No replicating viruses were detected in any samples. Two BY00 pools (each a four-fish/pool) were RS-positive by OCP-

FAT and were culled. No RS was detected in the BY02 ovarian fluids. Pre-spawning mortalities were frozen and subsequently tested by DFAT and ELISA. Six of 11 BY00 fish were positive for RS by ELISA at low OD levels (the highest being 0.184), while 1 of 9 BY02 fish was positive at a very high OD (2.208). None of the fish tested positive by DFAT.

The production of sterile rainbow trout from all IDFG hatcheries has become an important part of statewide fishery management. All rainbow or Kamloops eggs taken at Hayspur Hatchery for general hatchery production were treated to induce a state of triploidy (3N), in which the embryonic cells retain an extra set of chromosomes from the parent female. All resulting 3N trout are sterile. Because we know that induction techniques are not perfect, IDFG has determined that a 95% 3N rate in the production populations will be the program goal. To determine if this goal was met, hatchery personnel randomly selected 15 lots of treated eggs throughout the spawning season and provided eyed egg subsamples from those lots for incubation and rearing at the EFHL wet laboratory. The first eleven egg lots were treated with high temperature to induce triploidy and the last four were treated with high pressure. When the resulting groups of fish were large enough, 40 individual blood samples per group were taken and sent to the Washington State University for analysis using flow cytometry. A total of 600 individual fish were tested of which 576 (96%) were triploid. Induction rate for heat-treated eggs averaged 96.2%, while the rate for pressure treatment was 95.5%. One of the four pressure treated lots was only 85%, which brought the overall average down. A misunderstanding at Eagle resulted in the first four heat-treated lots being combined in one large group. Representation of the four lots in the combined group was nearly, but not exactly equal. Induction rate in the combined group was only 89.6% (146 of 163) with no way to determine if this was due to one "bad" lot or if poor induction was universal in all of them. Review of data collected at spawning does show that the third lot had more than twice as many eggs in the incubator tray and mean treatment water temperature was slightly lower during treatment. Eggs in the center of that tray may not have reached the desired shocking temperature, possibly explaining a poor 3N induction rate.

## **Henrys Lake Hatchery**

Fish health inspection samples were taken from spawning Yellowstone cutthroat trout at Henrys Lake Hatchery from January 21 through April 27, 2004. Ovarian fluids from all females were collected by hatchery personnel and shipped to EFHL where they were tested for viruses (141 females in 23 pools) and RS by OCP-FAT (1027 females in 162 pools). No viruses were detected in any of the ovarian fluid samples, including 5 pools (29 fish total) that were blind-passed to check for viral hemorrhagic septicemia virus (VHS). Fifteen pools were positive for RS by OCP-FAT (13 of 20 in the third egg take alone), and the eggs from those pools were discarded.

Lethal samples were taken from 20 fish (both males and females) for kidney DFAT, tissue virology, bacteriology, and MYXOB tests. No viruses were detected. Kidney smears were all negative for RS by DFAT, but all 20 individual kidney tissue samples were positive by ELISA (19 at low OD levels and 1 high). The 100% prevalence was somewhat higher than expected, but the fact that individual levels of intensity were mostly low was consistent with previous year's findings. Bacteriology samples detected carrier-level infections of *Aeromonas salmonicida*, the causative agent of furunculosis (FUR), in 8 of 12 fish. This was the second consecutive year for detecting this pathogen and may be an indication of poor environmental conditions in the lake. Hatchery personnel at Mackay Hatchery were warned to take special

care when iodine disinfecting the eyed eggs they received from this source. *Flavobacterium psychrophilum* was also isolated from 10 of 12 fish. This was consistent with previous findings and did not cause concern at the time, as there had never been an indication there were problems with CWD either in the adults in the lake or in their offspring in the hatchery. However, significant losses occurred in the fry at Mackay Hatchery at first feeding due to CWD (see the Mackay Hatchery section of this report).

No MYXOB spores were detected from the 20 individuals by the PTD method, although MC has been previously confirmed in both cutthroat trout and brook trout from Henrys Lake.

## **Mackay Hatchery**

The BY05 Henrys Lake and BY04 Jackson National Fish Hatchery stocks of Yellowstone cutthroat trout were sampled in June. No replicating viruses, bacteria, or MYXOB spores were detected from the Jackson NFH fish, but clinical CWD was diagnosed in the Henrys Lake swim-up fry. An attempt to treat the sick groups with OTC-medicated feed was made with no evidence of success. Medicated feed is not available in the small starter size needed for first-feeding fry so larger feed must be ground to a finer consistency. Since OTC is water soluble, most of the antibiotic may have been gone by the time the fish ate the feed. An INAD is in place to attempt an immersion bath of OTC if necessary in 2006.

Mackay Hatchery received green eggs from the early-spawning kokanee in Deadwood Reservoir. A 60-fish inspection was done on the spawning population on September 9. No viruses were detected. No RS was detected by either DFAT or ELISA, although there is a history of positive ELISA results from Deadwood kokanee. Large MYXOB spores were detected by PTD in 6 of 12 five-fish pools. One pool was tested specifically for MC by PCR and was negative. The presence of an unnamed neurotropic *Myxobolus* species (NEURO) has been previously confirmed in Deadwood Reservoir, and the appearance of these spores was consistent with previous samples, so a presumptive diagnosis of NEURO was made.

## **McCall Hatchery Resident Program**

The McCall Resident Program consists of hatching rainbow and cutthroat fry for high mountain lake stocking, and redistribution of catchable rainbow reared at the Nampa Hatchery. Significant losses of both rainbow and cutthroat sac fry occurred in the incubator trays. Hatchery personnel also observed some gelatinous organic material (possible zooplankton eggs) that could have clogged the screens of the egg trays. Filters placed in the top trays during salmon egg incubation (August through November) removed this unidentified material, and there was no significant loss in the salmon eggs or fry.

## **Nampa Hatchery**

Nine diagnostic cases were examined at Nampa Hatchery in 2005. Six episodes of clinical CWD and/or MAS were diagnosed. Treatments of OTC-medicated feed were applied using either the existing label or an INAD protocol when appropriate and response to treatment was

generally good. Nampa Hatchery also experienced 2 episodes of BGD that were treated under INAD protocol with CHLOR-T. Considering the very high production levels at Nampa, it is surprising that BGD is not a bigger problem on this station.

*Ichthyophthirius multifiliis* was diagnosed from large rainbow trout in January and again in May. Losses were significant in the first episode, while detection was prior to elevated loss in the second. Treatments of potassium permanganate were initiated in both cases and continued until the fish were released. Mortality was controlled by the treatments. This was the first time that ICH had ever been documented on the hatchery. The intestinal parasite *Hexamita* was detected in a group of small rainbow trout in August. Successful treatment consisted of top-dressing feed with Epsom salts (magnesium sulfate) at a rate of 14 grams/pound of feed (3%) for 3 days. This was also the first time that *Hexamita* had been documented at Nampa.

### **Springfield Hatchery**

Crystal Springs Hatchery, a former commercial trout hatchery, was donated to IDFG in 2005 and renamed the Springfield Hatchery. During the course of negotiations for the donation, IDFG wanted to learn the fish pathogen status of the facility. Adult feral rainbow trout from the lake on the property and from the outlet of the hatchery were sampled with the assistance of the Resident Hatchery Supervisor and Regional Fishery Manager. Sentinel trials using live-boxes containing rainbow trout fry were conducted to test for viral or MC infectivity in the hatchery waters. No replicating viruses or MYXOB spores were detected from any sentinel group or the feral adults. One 5-fish pool of feral adult kidneys tested positive for RS antibodies by ELISA at a very low level (OD = 0.103), but all were negative by DFAT. Motile *A. sobria* was isolated from one adult, and one adult with a swollen kidney tested negative for *Tetracapsula bryosalmonae*, the causative agent of proliferative kidney disease (PKD). External copepod and internal nematode parasites were prevalent (50-80%), which is not uncommon in wild fish from this part of the state. None of these findings were considered as significant risks. Significant reconstruction will be necessary to bring the facility up to IDFG standards.

### **Other Activities**

Eagle Fish Health Laboratory personnel attended a week-long Histology and Histopathology course presented by the USFWS in Olympia, WA. A paper was presented on 2003-2004 findings at Hayspur Hatchery and Silver Creek at the 11th Annual Whirling Disease Symposium in Denver. The 46th Western Fish Disease Workshop was co-hosted in Boise by IDFG/EFHL, University of Idaho, and Clearsprings Foods.

The resident pathologist assisted personnel from USFWS-AADAP to complete a pivotal study at the EFHL wet laboratory involving a new fish anesthetic (Aqui-S) and Chinook salmon. Another identical study failed at the Rapid River Hatchery because the field test to confirm drug concentration would not run properly with the hatchery water chemistry. The same problem was experienced with a similar trial at the McCall Hatchery in 2004.

## Anadromous Hatcheries

The IDFG hatchery facilities and associated satellites are funded through Lower Snake River Compensation Plan (LSRCP) and Idaho Power Company (IPC). The anadromous hatchery pathologist (AHP) provides diagnostic and inspection services to Chinook salmon, sockeye salmon, and steelhead that are spawned, reared and released from IDFG facilities with the goal of maintaining good fish health at these facilities. The AHP also cooperates with other state, private, federal, and tribal programs that could impact Idaho's fishery resource. The AHP is the INAD monitor for the IDFG anadromous program. Chemical compounds used in the anadromous program are erythromycin medicated feed (INAD 6013), oxytetracycline medicated feed (INAD 9332), Chlor-T (INAD 9321), and luteinizing hormone-releasing hormone analogue (INAD 8061). The AHP reports all reportable pathogens detected at anadromous facilities to the local Animal and Plant Health Inspection Service (APHIS) veterinarian-in-charge, coordinates injectable erythromycin reporting, issues import/release permits as needed. The annual summary of results for the hatcheries and satellite stations is presented in Appendix A. In 2005, the anadromous hatchery program submitted 190 inspection and diagnostic cases that were processed by the EFHL personnel. The AHP is responsible for all certification sampling of tilapia hybrids produced at three private aquaculture firms for export.

All brood spring Chinook salmon trapped at IDFG hatcheries were given a prophylactic intraperitoneal injection of erythromycin to limit pre-spawning mortality to RS. These fish were injected at a rate of 10-20 mg/kg. The number of fish injected, the rate of injection, and total amount of erythromycin were reported to the state's wildlife veterinarian.

### **Clearwater Hatchery and Crooked River, Powell, and Red River Satellite Facilities**

**Clearwater Hatchery** - The Clearwater Hatchery with Crooked River, Powell, and Red River satellites produce steelhead and Chinook salmon. A total of 44 inspection and diagnostic cases were attributed to Clearwater Hatchery program. Brood Chinook salmon that were transported from Red River and Crooked River (South Fork of the Clearwater River spring Chinook) were spawned at Clearwater Hatchery. ELISA technology was used to examine all 126 females for RS. Eggs of three brood females (2.4%) were culled due to ELISA optical densities above 0.25. This represents 2.4% of the female Chinook salmon sampled. IHNV was found in 13 fish of 58 broodfish examined (22.4%). Pre-spawning mortality decreased in the South Fork of the Clearwater spring Chinook stock held at Clearwater Hatchery, from 8% in 2004 to 3.9% in 2005.

*Flavobacterium psychrophilum* was isolated from BY05 North Fork of Clearwater group B steelhead. Feed with OTC medicated feed was applied at 3.75 g/100 lbs biomass for 10 days. This antibiotic treatment was successful in controlling CWD. Preliberation samples for virus replicating agents, RS, and MC were taken from 20 North Fork of the Clearwater B group steelhead. No pathogens were detected. No serious pathogens were detected during juvenile Chinook salmon inspection sampling except for 1/20 fish were positive for RS by DFAT testing in BY03 South Fork of the Clearwater spring Chinook salmon at preliberation.

An additional 2 inspection cases were performed on samples collected at Dworshak National Fish Hatchery (DNFH) for brood steelhead. These samples establish broodfish health status before eggs were transferred from DNFH to Clearwater Hatchery. Infectious Hematopoietic

Necrosis Virus was isolated in B Group steelhead broodfish at DNFH in 3 fish out of 187 (1.6%) fish sampled. The eggs from the positive fish were culled from the Clearwater Hatchery program.

**Crooked River Satellite Facility** - Spring preliberation inspections were applied to acclimating Chinook salmon at Clearwater Hatchery and reported in that section of this report. Moribund Chinook salmon and steelhead were detected at the screw trap located in the river at the lower Crooked River satellite. *Flavobacterium psychrophilum* and MAS were the only pathogens detected. It is speculated that stress after release maybe the cause.

**Powell Satellite Facility** - Infectious Hematopoietic Necrosis was detected in 14 of 60 fish (23.3%) examined during routine brood sampling. Eighty brood Chinook salmon females were examined for RS with ELISA. Of these, 3 females (3.75%) OD 0.25 and the eggs from one of these fish were culled. The eggs from two females with optical densities of .478 and .666 were placed into isolation rearing with other eggs from other moderate level females. These eggs will be reared to be released into the Selway River. Pre-spawning mortality decreased from 2% (2004) to 1.9% (2005) in the adult Powell spring Chinook salmon being held at Powell for spawning. MC was not detected at this facility in adult Chinook salmon.

Juvenile fish were reared at this facility during 2005. Preliberation examinations did not detect pathogens in the spring (BY03) and fall (BY04) acclimation releases of Powell juvenile Chinook salmon. The spring preliberation sampling was conducted at the main facility.

**Red River Satellite Facility** - During 2005, juveniles were released from this facility following a brief acclimation period. Pathogens were not detected in BY03 South Fork of the Clearwater spring Chinook during spring preliberation sampling.

## **Magic Valley Hatchery**

Steelhead stocks reared at Magic Valley Hatchery required 9 inspection and 8 diagnostic cases during 2005. No evidence of IPNV, ERM, FUR, RS, or MC was detected during 2005. The BY04 populations were given preliberation inspections in March with no pathogens detected. The organosomatic index demonstrated very robust fish, with plenty of stored energy.

All BY05 populations experienced loss due to IHN virus complicated by the presence of *F. psychrophilum*. Only one medicated feed treatment was attempted, using OTC medicated feed under INAD 9332. Response to the treatment was not exceptional, probably due to the presence of the virus.

## **McCall Hatchery and South Fork Satellite**

Five inspection cases and one diagnostic case were examined at McCall Hatchery in 2005. Pathogens were not detected at preliberation sampling of BY03 South Fork of the Salmon River and Johnson Creek summer Chinook salmon except for RS in low ELISA optical densities in pooled

kidney samples. Two prophylactic applications of erythromycin medicated feed (INAD 6013) were fed to the BY04 Chinook juveniles to control RS.

The South Fork Trap had 12 accessions logged into the EFHL during 2005. Upon arrival at the trap, adult Chinook salmon were given an intra-peritoneal injection of erythromycin to limit pre-spawning mortality to RS. Brood summer Chinook salmon from the South Fork of the Salmon River and Johnson Creek were examined for RS, MC, and virus. No MC and virus were detected in adult Chinook salmon at this facility. Approximately 2.5 percent (11/435) of the brood females of the South Fork summer Chinook salmon had optical densities at 0.25 or greater. The eggs from high risk females were culled from the hatchery program. None of the Johnson Creek brood females had optical densities of 0.25 or greater hence no eggs were culled. Pre-spawning mortality decreased from 14.1% in 2004 to 7.9% in 2005. Decrease in mortality is likely due to reduced handling.

### **Niagara Springs Hatchery**

Four inspection and five diagnostic cases were attributed to Niagara Springs Hatchery during 2005. Routine sampling did not detect FUR, ERM, IPN, RS, and MC during 2005. Preliberation inspections of both BY04 Pahsimeroi-A and Hells Canyon-A steelhead lots were conducted in March. No pathogens were detected in the randomly selected individuals, but moribund fish selected from the Hells Canyon population were diagnosed with low levels of *F. psychrophilum*. Organosomatic observations demonstrated very robust fish with ample fat stores for release. Because of the detection of *F. psychrophilum* was when the entire hatchery is loaded to maximum capacity; an application of OTC-medicated feed was applied to all BY04 fish on station. Treatment for each raceway of fish was scheduled so that the 21-day withdrawal period could be met before transport and release.

The BY05 Hells Canyon-A lots experienced early losses due to CWD (*F. psychrophilum*). A single treatment with OTC-medicated feed under INAD 9332 reduced mortalities, but the bacterium persisted for several sampling periods. One raceway of Hells Canyon-A fish experienced losses due to IHN virus. Good isolation management contained the clinical disease to that one raceway, and the hatchery personnel should be commended. Niagara Springs Hatchery has continued to vaccinate approximately half of the steelhead (every other raceway) against furunculosis (provided by Novartis LTD).

### **Oxbow Hatchery**

Ten inspection trips were made to Oxbow Hatchery. Nine inspection trips for Steelhead A Group adults were made during spawning to examine steelhead for pathogens such as IHN, IPN, RS and MC. Viral replicating agents and MC were not detected in the 239 steelhead adults examined at this facility during 2005. RS was detected in 2 of 50 fish sampled by ELISA. All optical densities were below 0.25.

The fall Chinook salmon culture program was in its fifth year at this facility. The facility had one preliberation inspection of fall Chinook salmon. Since surface water from the Snake River is used to finish the rearing of fall Chinook salmon, *C. shasta* is an important potential pathogen. Pathogens such as IHNV, IPNV, *C. shasta* and MC were not detected during routine sampling. RS

was not detected using ELISA or DFAT.

### **Pahsimeroi Hatchery**

Sampling for pathogens of adult steelhead and Chinook salmon, juveniles and adults, from Pahsimeroi Hatchery resulted in 22 laboratory accessions to the EFHL in 2005. IHNV was detected in both the BY03 and BY04 juvenile Chinook salmon from this facility during 2005. *Renibacterium* was not detected by ELISA (4/4 pools) in preliberation samples of BY03 summer Chinook salmon juveniles. High ELISA optical densities (0.25 and above) were found in approximately 10% of the brood female Chinook salmon. Pre-spawning mortality increased from 2.6% in 2004 to 5% in 2005.

Preliberation sampling in 2005 of juvenile Chinook salmon detected 14 positives fish for MC out of 20 fish sampled in BY03. We will be expecting a decrease in prevalence of MC once the new facility is operational. ICH was detected in early July 2005 in the BY04 juvenile Chinook salmon. Formalin treatments were applied until water temperatures declined in the autumn. Because of the early detection and aggressive application of formalin, there was no increase in mortality noticed. Estimated mortality due to ICH was approximately 20,000 hatchery salmon in 2004.

### **Rapid River Hatchery**

Seventeen inspection and diagnostic cases were entered from Rapid River Hatchery during 2005. Pre-spawning mortality decreased from 19% in 2004 to 8.8% in 2005. The culling rate due to high ELISA values (0.25 and above) was approximately 2.4%. IHNV was not detected in 60 broodfish during routine sampling. The ELISA-based BKD culling program has eliminated clinical BKD in juvenile salmon from this facility in recent years. External mycosis, "Fuzzy-tail," which had been a perennial problem at this hatchery in the late 80's and early 90's has been almost non-existent since implementation of the ELISA-based culling program.

Virus and MC were not detected at preliberation sampling of BY03 salmon. *Renibacterium* was detected in 4/4 pools by ELISA and 1/20 fish with DFAT. MAS and *F. psychrophilum* were detected in BY04 Chinook salmon during diagnostic sampling. Mortalities were not high enough to warrant medicated feed treatments.

### **Sawtooth Hatchery**

Fifty-eight inspection cases, 25 diagnostic cases, and five research cases examined brood steelhead trapped at Sawtooth Hatchery, Squaw Creek, and East Fork of the Salmon River. These cases also examined carcasses from naturally spawned-out adult spring Chinook salmon, brood spring Chinook salmon at Sawtooth Hatchery, juvenile Sawtooth and Pahsimeroi Chinook salmon stocks and Redfish Lake sockeye salmon.

RS was detected in Sawtooth steelhead in 20 of 60 fish (19 had optical densities below 0.25) sampled by ELISA. MC was detected in 7 of 20 Sawtooth steelhead sampled. Virus were not detected in 19 Squaw Creek steelhead and 6 East Fork of the Salmon River steelhead.

*Renibacterium* was detected in 5 of 27 Squaw Creek steelhead, while 5 of 24 steelhead spawned at the East Fork trap was ELISA positive for *Renibacterium*. Optical densities for both groups of steelhead were all below 0.25. MC was detected in 8 of 20 adult steelhead at Squaw Creek, while MC was detected in 5 of 20 fish sampled at the East Fork Trap.

Preliberation samples of juvenile Chinook salmon (BY03) demonstrated all four pools to be positive for RS (all below 0.25). No virus or viral replicating agents and MC were not detected. Preliberation sampling did not detect pathogens from a 60 sockeye from the BY03 released into Redfish Lake.

Pre-spawning mortality of Sawtooth spring Chinook adults increased from 1.1% in 2004 to 8.2% in 2005. Most of the pre-spawning mortality was caused by ICH. Four fish out of the 297 Chinook salmon (approximately 1.3%) spawned at Sawtooth had an optical density at or above 0.25. The eggs from these female Chinook salmon were culled from the program. One adult out of 15 sampled was positive for MC.

Prolonged rearing on well water has resulted in decreased detection of MC in Chinook salmon. Sentinel MC exposure experiments demonstrated the seasonality of infection by this parasite and have provided insight to reduce exposure. Due to higher demands for well water, expanding the well water supply at Sawtooth Hatchery would reduce the prevalence and intensity of MC, RS and IHN.

### **Sockeye and Chinook Captive Broodstock**

The IDFG facilities at Eagle include the EFHL, Fish Genetics Laboratory and the Eagle Hatchery, which is dedicated to rearing ESA-listed Redfish Lake sockeye salmon *O. nerka* captive broodstock to maturity.

A similar experimental project was initiated in 1995 for culture of ESA-listed Chinook from collections of wild parr from three Idaho rivers. In recent years this program has transitioned to hydraulic removal of eggs from naturally-produced redds. There has been an improvement in the health of the progeny resulting from this programmatic shift. The site selected for the freshwater rearing portion of this project was Eagle Hatchery. The marine site was the National Marine Fisheries Service's (NMFS) Manchester Marine Laboratory (MML). The sockeye salmon and Chinook salmon programs generate considerable case workload for the EFHL. Program activities for 2005 are reported by species.

### **Redfish Lake Sockeye Salmon Captive Broodstock**

Fish Health Laboratory processed samples for diagnostic and inspection purposes from broodstock and production groups of sockeye salmon; anadromous adult sockeye salmon that were retained for hatchery spawning; sockeye salmon smolts obtained from out-migrant traps; and *O. nerka* obtained from trawl efforts. Seventy-two laboratory cases involving 1,897 individual fish were processed in 2005. Observation made from previous years directed which pathogens were deemed most important for these examinations. All adults used for broodstock purposes were examined for viruses and BKD. Anadromous adults were examined for a broad array of pathogens since these pose the greatest threat of introduction of a pathogen exotic to the captive broodstock program. All

production lots were examined prior to release either as pre-smolts or full-term smolts. The laboratory also summarized pathology findings to satisfy the needs of adjacent state agencies for issuance of sockeye salmon import and transport permits.

## **Viral Pathogens**

Viral pathogens were not detected in any of the production and broodstock sockeye groups tested at Eagle FH in 2005. A total of 323 fish from calendar year 2005 broodstock crosses (BY01, BY02, BY03 spawners) were sampled without detection of viral pathogens. Additionally, two production sockeye groups reared at Sawtooth FH on Salmon River water were tested for viral pathogens in 2005. Sixty fish from the BY03 overwinter smolt release group and 60 fish from the BY04 pre-smolt release group were tested as part of a pre-release fish health sampling protocol. An additional 35 fish from the BY03 overwinter smolt group were tested postmortem as required by routine fish health necropsy procedures. All virology samples from Sawtooth FH production sockeye groups resulted in negative detection of viral pathogens for 2005.

Calendar year 2004 marked the first detection of a viral pathogen in the Redfish Lake sockeye salmon stock when infectious hematopoietic necrosis virus (IHNV) was detected in 17 of 24 anadromous adults that were captured in 2004. Discussions at the Stanley Basin Sockeye Technical Oversight Committee (SBSTOC) meeting in Hagerman, Idaho (November 18, 2004) resulted in the unanimous decision to cull all resulting progeny from IHNV *positive* parents in an attempt to prevent vertical transmission of the virus. In addition, a decision was made to further investigate vertical transmission of the virus by retaining a small number of eggs from all possible anadromous crosses in a quarantine environment and sampling the resulting progeny for virus after yolk absorption and swim-up.

The Eagle Fish Health Wet Lab provided a full quarantine environment (separate water source, buildings spatially separated, treated effluent, restricted personnel) that posed minimal risk to captive sockeye that were cultured at the Eagle FH. Live eggs from a total of 34 unique spawn pairings were transferred to the Eagle Fish Health Wet Lab and incubated (by individual sub-family) until yolk reserves from the resulting fry were fully depleted. Fry were then examined for IHNV in the Eagle Fish Health Lab using sampling procedures as approved by the American Fisheries Society, Fish Health Section *Bluebook*. A total of 1,278 fry were negative for IHNV, indicating that in-hatchery spawning and disinfection protocols were successful in preventing the vertical transmission of virus under the conditions of this test.

## **Trials with IHNV Vaccines**

Two safety tests were performed to examine the safety of injectable vaccines with Deadwood Reservoir stock kokanee *O. nerka* in the wet lab at the Eagle Fish Health Laboratory. These trials were undertaken to provide support for a vaccination of sockeye reared under a full-term smolt program at Sawtooth FH since Salmon River water was used for the last eight months of culture. The Salmon River is suspected as the source of IHNV infections of Chinook salmon juveniles at Sawtooth FH.

The first trial involved a b-Propranolol killed IHNV culture obtained from a commercial source under the approval of USDA-APHIS after the test vaccine lot was demonstrated non-viable

by cell culture. Three groups of 50 kokanee (12.0 g mean) were vaccinated with 0.1 ml intraperitoneally and three similar groups were sham vaccinated with 0.85% saline. These groups were held at 13°C for post-vaccination (pv) observations. Two mortalities occurred on day 18 pv in the vaccinate group that later tested positive for IHNV by cell culture. This observation ended the safety test and demonstrated that injection of kokanee with the experimental vaccine was a more sensitive method of detecting live virus that failed to be inactivated than the cell culture-based inactivation tests. The genetic type of the isolates obtained from this safety trial matched that of the vaccine strain, further confirming the origin.

A second trial was initiated with APEX-IHN, a DNA vaccine by AquaHealth Ltd (Charlottetown, PEI, Canada) and licensed for use with Atlantic salmon *Salmo salar* in Canada. A similar protocol was followed as above, except the kokanee were 15 g and a dose of 0.05 ml was delivered by the intramuscular route in the epaxial muscle anterior to the dorsal fin. No loss occurred during the 28-day safety trial. Kokanee were bled at 42 days pv and sera demonstrated significantly elevated titers of anti-IHNV antibodies using an ELISA test by Clear Springs Foods (Buhl, Idaho). This safety test was also authorized by the Idaho State Department of Agriculture and USDA-APHIS. This vaccine is under consideration for licensing in the United States.

## **Bacterial Pathogens**

Clinical BKD did not occur in any production or brood groups of sockeye salmon juveniles reared at Eagle FH or Sawtooth FH in 2005. RS antigen was not detected in smolts collected during emigration from Redfish, Pettit, or Alturas lakes in 2005. Additionally, all captive and anadromous adult sockeye salmon spawned in 2005 were free of clinical levels of BKD.

Furunculosis, caused by *A. salmonicida*, was not detected in anadromous adult sockeye salmon trapped in 2005. Furunculosis has been detected in anadromous adults in past return years and indicates the continued need for Oxytetracycline and Erythromycin injections for adults at trapping.

## **Parasitic Pathogens**

The myxosporean parasite *M. cerebralis*, which can cause salmonid whirling disease, is present in the upper Salmon River. *Oncorhynchus nerka* samples obtained by emigrant smolt trapping and trawl efforts in Redfish, Pettit, and Alturas lakes are examined annually for *M. cerebralis*. All juvenile *O. nerka* sampled in 2005 tested negative for *M. cerebralis* via PTD and PCR testing methods. Prior sampling for *M. cerebralis* in 2003 and 2004 yielded positive parasite detections in Alturas Lake trawl samples. Three of six returning anadromous adults tested positive for *M. cerebralis* via PTD and PCR testing, this is consistent with positive detections in four of the last six return years. The Eagle Fish Health Laboratory continues to investigate infectivity of *M. cerebralis* in the river water supply of the Sawtooth FH using sentinel rainbow trout fry. Results are used to assess the risk of rearing sockeye and Chinook salmon on river water during the winter months.

The myxosporean parasite *Parvicapsula minibicornis* was detected in five of the six anadromous adult sockeye salmon that returned in 2005. Detection of *P. minibicornis* was made by PCR at the lab of Dr. Simon Jones, Department of Fisheries and Oceans, Canada. As of this

writing, additional confirmation and parasite intensity levels from histological samples are pending. Twenty-nine of the thirty-five anadromous adults sampled since 2002 (initiation of sampling) have tested positive for this parasite. Detections of *P. minibicornis* in the Redfish Lake stock of anadromous sockeye salmon are consistent with results obtained by Dr. Jones for sockeye salmon of the Fraser River in British Columbia, Canada. *Parvicapsula minibicornis* has been demonstrated to be contracted in the estuary before adult sockeye salmon enter the Columbia River main stem or Klamath River.

In 2005, all anadromous adult sockeye salmon were examined for the presence of *C. shasta* and all results were negative for the pathogen, indicating that the *C. shasta* lifecycle has not become established in the upper Salmon River

### **Salmon River Chinook Captive Rearing**

Juvenile Chinook salmon from BY03 culture groups destined for transfer to NOAA-Fisheries Manchester Research Station for seawater rearing received intraperitoneal vaccinations to provide protection from *Vibrio* spp. and BKD. In 2005, nine EFHL accessions (representing nine fish) were generated for captive-reared Chinook salmon without detection of BKD or other bacterial pathogens.

Monitoring for *R. salmoninarum*, the causative agent of BKD in salmonids, has been routinely conducted in captive-reared Chinook salmon since the inception of the program in 1995. In 2005, fish sampled for *R. salmoninarum* included seven pre-spawn adults and two juveniles. Fish health results were negative for detection of *R. salmoninarum* in all samples using ELISA and DFAT techniques.

In 2005, the Eagle Fish Health Lab processed nine laboratory accessions (nine captive Chinook salmon) that included virology screening for the major salmonid viral pathogens. Consistent with sampling conducted in all prior years, no viral pathogens were detected in Chinook salmon cultured in freshwater at Eagle FH.

Principle parasitic fish health concerns include the presence of MC and the gill parasite *Salmincola californiensis*. All WFYF and EFSR Chinook salmon examined for MC and *S. californiensis* in 2005 tested negative for the presence of these parasites. The absence of these pathogens in recent years reflects the programmatic shift from juvenile to eyed-egg broodstock collections and the resultant successful elimination of these fish health concerns.

### **Idaho Wild Fish Health Survey**

An examination of samples obtained from wild fish in the State of Idaho has been ongoing at the EFHL since the late-1980s. The distribution of MC and the impact of the parasite on wild and hatchery salmonid populations continues as a concern for IDFG. Efforts made in 2005 focused on MC samples from kokanee, sockeye, and bull trout from the upper Salmon River. Yellow perch from two reservoirs were found negative for the lytic microsporean parasite, *Heterosporis* sp which has yet to be detected in the western states. Yellow perch from Lost Valley Reservoir and Phillips Reservoir were collected and relocated into Cascade Reservoir to restore that fishery. Samples from wild fish were processed and reported from five of seven IDFG fishery management regions.

Kokanee, sockeye smolts, and bull trout from Redfish Lake were demonstrated positive for the neurotropic myxosporean which had been seen previously in that water. These samples were obtained as incidental take since the sockeye and bull trout are listed species.

Spores of the neurotropic *Myxobolus* spp. were detected from redband trout at Duncan Creek in the Bruneau River drainage. The EFHL technologists have developed a PCR test to differentiate the neurotropic species from MC. This test has been applied to samples from many locations and demonstrated that the neurotropic species is widespread in Idaho waters.

A high level of loss of channel catfish from the Snake River immediately upstream of Brownlee Reservoir was determined to be due to *A. hydrophila*. This pathogen normally is associated with degraded environmental conditions and the loss event coincided with a water temperature spike when these fish had recently completed spawning. Both of these factors could have been contributing factors to this event.

The EFHL shared its fish health database with the USFWS Wild Fish Disease Survey and with the University of Idaho. The database of the lab has extensive fish health observations made over many years, which is useful at the regional and national level to understand how pathogens operate in wild fish populations. Some of these historic observations are from species that are currently ESA-listed, such as bull trout, Chinook and sockeye salmon and steelhead in Idaho.

Sentinel trout exposures have been used to demonstrate the prevalence and intensity of MC by the EFHL for six years. Results are used to evaluate riparian land management practices, ecological assessments of the hosts-parasite-environment relationships, and to provide expanded knowledge of the distribution within Idaho waters. Sentinel trials for 2005 included exposures made on the Big Wood River-Silver Creek, upper Salmon River, and tributaries being considered for reconnection of natural migration of bull trout and anadromous species. IDFG was gifted a former commercial trout hatchery near the town of Springfield. Sentinel trout were held at several sites on that facility and no pathogens were detected when those were examined.

Sentinel trout were also placed in the Snake River water supply of Oxbow Hatchery to determine when *C. shasta* becomes infective in the spring. We determined that the fall Chinook must be released from the hatchery by the second week of May to avoid exposure. This timing coincides with water temperatures above 11° C which had also been reported in the literature.

### **Triploid Induction Monitoring**

2005 marked the second year in which the EFHL took over monitoring triploid induction rates for production trout groups. IDFG Fisheries Research provided a power analysis to provide a statically valid sampling scheme for this project. Fifteen groups of rainbow trout eggs from Hayspur Hatchery and four lots of hybrid eggs from Henrys Lake Hatchery were reared in the wet lab of the EFHL to provide blood for analysis of induction rates.

The first eleven egg lots from Hayspur Hatchery were treated with high temperature to induce triploidy and the last four were treated with high pressure. A total of 600 individual fish were tested of which 576 (96%) were triploid. Induction rate for heat-treated eggs averaged 96.2%, while the rate for pressure treatment was 95.5%. Induction rate for the Henrys Lake hybrids was

100%. Flow cytometry analysis was provided by Paul Wheeler of Washington State University and this cooperation was greatly appreciated.

### **Transport and Import Permits**

The EFHL issued 119 transport or import permits for the IDFG Fisheries Bureau and regional offices during 2005. These permits are required when fish are released to public waters of the State of Idaho. Forty-five of these dealt with grass carp (white amur) *Ctenopharyngodon idella* to be used for biological control of aquatic vegetation. The IDFG policy requires that grass carp be certified free of Asian tapeworm and to be sterile triploids. The United States Department of Agriculture Laboratory at Stuttgart, Arkansas generated the certification for both conditions. Other permits were issued to the federal agencies (10), tribal culture programs (14), IDFG (17), university (5), private individuals (60), and commercial producers (13). Permits broken out by species included salmon (21), trout (36), warm water species (10), and grass carp (45). Two importations of salmonid eggs into Idaho from British Columbia, Canada (kokanee salmon *Oncorhynchus kisutch* and sterile brook trout *Salvelinus fontinalis*) also required the procurement of Federal Title 50 certificates.

### **Reports and Presentations**

Reports generated by the EFHL include the Annual Resident Hatchery report for 2003, annual reports for each anadromous hatchery, and the monthly LSRCP and IPC facilities disease summary reports. Presentations were given on the fish disease status in Idaho at the anadromous fish management meeting; at the IDFG hatchery managers' meeting; at the Pacific Northwest Fish Health Protection Committee (PNFHPC) semi-annual meetings; the Western Fish Disease Workshop; Rocky Plains Fish Health Workshop; Northwest Fish Culture Conference; and USFWS/IDFG fish culture coordination workshops for the Clearwater and Salmon rivers activities.

Staff of the EFHL have cooperated with colleagues in the fish health and fisheries management fields through the forum of the PNFHPC (California, Idaho, Oregon, Washington, Montana, British Columbia, Alaska); Rocky Plains Fish Health Committee (Arizona, Nebraska, Colorado, Idaho, Nevada, Utah, New Mexico, North Dakota, and South Dakota); membership in the American Fisheries Society, Fish Health Section; cooperative ESA broodstock efforts (U. S. Fish and Wildlife Service, National Marine Fisheries Service, Shoshone-Bannock, and Nez Perce tribes, Bonneville Power Administration); universities (University of Idaho, Washington State University, Oregon State University, University of California-Davis, Utah State University, College of Southern Idaho); and with the Whirling Disease Foundation.

### **Production Studies and Surveys to Enhance Fish Health**

The wet lab at the EFHL was used to evaluate production triploid induction rates with Hayspur rainbow trout, Henrys Lake rainbow-cutthroat trout hybrids, and for cooperative research on WD exposure in river systems listed previously.

Trials using Penicillin-G baths to reduce the effect of *F. psychrophilum* on juvenile rainbow and cutthroat trout were completed at Grace, Hagerman, and McCall hatcheries. Problems with maintaining fish in static baths for a 1-hour duration caused the results to be equivocal.

Staff of the EFHL performed inspections of three private aquaculture facilities that import live Tilapia into Canada. This service is provided free of charge and enhances export of Idaho aquaculture products.

## **Recommendations**

The close proximity of surface waters which have been demonstrated to contain the infectious stage of MC to waters used for fish culture at IDFG hatcheries requires diligence of all culture personnel to ensure that contamination does not occur. This is true for Ashton, Hayspur, Henrys Lake, and Mackay hatcheries.

Cold water disease is the most universally encountered pathogen in IDFG hatcheries, including Hayspur Hatchery broodstocks. Fish pathologists of other state resource agencies have demonstrated the pathogen can be vertically transmitted and treatments can be effective in preventing vertical transmission. We recommend continuing to apply these practices at Hayspur Hatchery for CWD control. We have also tried an autogenous CWD vaccine to see if it would provide control.

Considerable progress has been made in controlling of BKD in cultured Chinook at all anadromous stations. This has occurred through diligent application of a four-pronged program including injection of all adults with Erythromycin when first trapped, 100% sampling of females by ELISA, segregation or culling of eggs from females deemed "highs" by ELISA, and two treatments of progeny with Erythromycin. Clinical BKD in juveniles has been eliminated and the prevalence of BKD "high" adult females has been gradually decreasing over the last two generations. The culling program must continue as the highest fish health priority for IDFG hatcheries that raise Chinook salmon. The lab has been working with these hatcheries to reduce or eliminate prophylactic use of erythromycin treatments for juvenile.

Expansion of the pathogen-free well water is part of the Pahsimeroi Hatchery renovation planned for 2006-2007 by Idaho Power Company. Under the current program, Pahsimeroi Chinook salmon are reared at Sawtooth Hatchery to a length of seven cm has created considerable competition for well water between culture programs at Sawtooth. We are pleased that Pahsimeroi Hatchery renovation is progressing.

## **Acknowledgements**

The staff of the EFHL would like to express our appreciation to the Lower Snake River Compensation Plan, Idaho Power Company, Sport Fish Restoration Program (USFWS), and the sportsmen of the State of Idaho for the financial support of our programs. We also greatly appreciate the assistance provided by the fish culture personnel of all the IDFG hatcheries in obtaining samples when our staff could not be present. This assistance has helped to keep costs down. The cooperative INAD programs of the USFWS and University of Idaho have allowed access to therapeutic compounds while they are in the process of registration by the FDA. The help of the hatchery staffs in the INAD process has likewise been appreciated.

## Appendices

### Appendix A. Fish Health Summary Report 2005

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
<b><u>7 SALMON REGION</u></b>			Class	D													
BY03	REDFISH LAKE	SOCKEYE SALMON - WILD SMOLT	05-167	5/18/2005	-	-		-	-	-	-	-	-			RESEARCH	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, ELISA 0/10, BACTE 0/10, PTD-MYXOB 0/10
BY03	REDFISH LAKE	SOCKEYE SALMON - HATCHERY SMOLT	05-168	5/18/2005	-	-		+	-	-	-	-	-			RESEARCH	RS; VIRO 0/10, DFAT 0/10, ELISA 1/2 (x5, LOW), BACTE 0/10, PTD-MYXOB 0/10
BY03	PETTIT LAKE	SOCKEYE SALMON - HATCHERY SMOLT	05-169	5/18/2005	-	-		+	-	-	-	-	-			RESEARCH	RS; VIRO 0/10, DFAT 1/10, ELISA 1/2 (X5, LOW), BACTE 0/10, PTD-MYXOB 0/10
BY03	PETTIT LAKE	SOCKEYE SALMON - WILD SMOLT	05-170	5/18/2005	-	-		+	-	-	-	-	-			RESEARCH	RS; VIRO 0/10, DFAT 0/10, ELISA 1/2 (x5, LOW), BACTE 0/10, PTD-MYXOB 0/10
'03	ALTURAS LAKE	SOCKEYE SALMON - WILD SMOLT	05-171	5/18/2005	-	-		-	-	-	-	-	-			RESEARCH	NO PATHOGENS DETECTED; VIRO 0/5, DFAT 0/5, ELISA 0/5, BACTE 0/5, PTD-MYXOB 0/5
BY03	ALTURAS LAKE	SOCKEYE SALMON - HATCHERY SMOLT	05-172	5/18/2005	-	-		+					-			RESEARCH	RS; VIRO 0/5, DFAT 0/5, ELISA 1/1 (X5, LOW), PTD-MYXOB 0/5
<b><u>AMERICAN FALLS HATCHERY</u></b>			Class	A													
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-002	1/4/2005	-	-	-	-			+					DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 4/4
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-026	1/19/2005					-	-	+	-				DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 8/8
2004	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT	05-134	4/21/2005	-	-		-	-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, DFAT 0/60, ELISA 0/60, BACTE 0/12, PTD-MYXOB 0/60
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-147	5/2/2005					-	-	+	-				DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 3/4

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-438	11/1/2005					-	-	-	+				DIAGNOSTIC	MAS; AEROMONAS CAVIAE 7/8, AEROMONAS
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-454	11/29/200	-	-			-	-	+	-				DIAGNOSTIC N	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/6 VIRO 0/60, DFAT 0/60, PLESIOMONAS SHIGELLOIDES 3/60

### ASHTON HATCHERY

Class B

2004	KOOTENAY HATCHERY (B.C., CANADA)	BROOK TROUT	05-102	4/3/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-103	4/3/2005	-	-		+	-	-	-	-	-			INSPECTION	BKD; VIRO 0/60, DFAT 3/60, BACTE 0/12, PTD-MYXOB

### CABINET GORGE HATCHERY

Class A

BROOD	SULLIVAN SPRINGS	KOKANEE SALMON	05-480	12/5/2005	-	-		-	-	-	+	+	-			INSPECTION	CWD, MAS; VIRO 0/60, DFAT 0/60, ELISA 0/60, FLAVOBACTERIUM PSYCHROPHILUM 15/16, PSEUDOMONAS PUTIDA 9/16, PTD-MYXOB 0/60
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23

### CLEARWATER HATCHERY

Class C

2003	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-016	1/12/2005				+								INSPECTION	RS; DFAT 0/10, ELISA 17/20 (all low)
2003	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-017	1/12/2005	-	-		+								INSPECTION	RS; VIRO 0/10, DFAT 0/10, ELISA 17/20 (all low)
2003	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-018	1/12/2005				+								INSPECTION	RS; DFAT 0/10, ELISA 16/20 (all low)
2003	POWELL	SPRING CHINOOK	05-037	2/9/2005				+								INSPECTION	RS; DFAT 3/20, ELISA 19/20 (all low)
2003	POWELL	SPRING CHINOOK	05-038	2/9/2005				+								INSPECTION	RS; DFAT 2/20, ELISA 20/20 (all low)
2003	POWELL	SPRING CHINOOK	05-039	2/9/2005				+								INSPECTION	RS; DFAT 2/20, ELISA 20/20 (all low)
2004	N. F. Clearwater RIVER	STEELHEAD B GROUP	05-085	3/25/2005	-	-		-					-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2003	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-086	3/26/2005	-	-		+					-			INSPECTION	RS; VIRO 0/20, DFAT 1/20, PTD-MYXOB 0/20

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2003	POWELL	SPRING CHINOOK	05-087	3/26/2005	-	-		-					-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2004	SELWAY RIVER	SPRING CHINOOK	05-219	7/8/2005	-	-		-					-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, DFAT 0/20, PTD-MYXOB 0/20
2005	N. F. CLEARWATER RIVER	STEELHEAD B GROUP	05-220	7/8/2005					-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; BACTE 0/10
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-277	8/9/2005	+	-		+								INSPECTION	IHNV, RS; IHNV 2/3, IPNV 0/3, ELISA 2/5 (2 LOW)
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-283	8/12/2005	+	-	-	+								INSPECTION	RS, IHNV; IHNV 1/3 (X2), IPNV 0/6, NAVHS 0/2, ELISA 2/6
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-285	8/16/2005	+	-	-	+					-	-		INSPECTION	BKD, IHNV; IHNV 1/11, IPNV 0/11, NAVHS 0/1, ELISA 6/11 (5 LOW, 1 HIGH), CSH 0/10, PTD-MYXOB 0/10
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-312	8/19/2005				+					-	-		INSPECTION	RS; ELISA 11/13 (11 LOW), PTD-MYXOB 0/10, CSH 0/10
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-313	8/23/2005	+	-	-	+								INSPECTION	IHNV, BKD; IHNV 9/38, IPNV 0/38, NAVHS 0/6, ELISA 32/46 (31 LOW, 1 HIGH)
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-330	8/26/2005				+								INSPECTION	BKD; ELISA 17/22 (16 LOW, 1 HIGH)
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-332	8/30/2005				+								INSPECTION	BKD; ELISA 12/12 (12 LOW)
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-362	9/2/2005				+								INSPECTION	RS; ELISA 3/6 (3 LOW)
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-363	9/6/2005				+								INSPECTION	RS; ELISA 2/4 (2 LOW)
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-364	9/7/2005				-								INSPECTION	NO PATHOGENS DETECTED; ELISA 0/1
2005	N. F. CLEARWATER RIVER	STEELHEAD B GROUP	05-367	9/10/2005	-	-			-	-	+	+				DIAGNOSTIC	CWD, MAS; VIRO 0/7, FLAVOBACTERIUM PSYCHROPHILUM 7/7, AEROMONAS HYDROPHILA 3/7
2005	N. F. CLEARWATER RIVER	STEELHEAD B GROUP	05-470	11/30/200	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/10
2004	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-471	11/30/200	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10,
2004	POWELL	SPRING CHINOOK	05-472	11/30/200	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10,

## CROOKED RIVER SATELLITE

BroodYr	Stock	Species	Class C													ExamType	Diagnoses	
			Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH			
2004	N. F. CLEARWATER RIVER	STEELHEAD B GROUP	05-162	5/12/2005	-	-		-	-	-	+	-					DIAGNOSTIC	CWD, BACTEREMIA, MYCOSIS; VIRO 0/5, DFAT 0/4, FLAVOBACTERIUM PSYCHROPHILUM 5/5, PASTEURELLA
2003	S.F. CLEARWATER RIVER	SPRING CHINOOK	05-163	5/12/2005	-	-		-	-	-	+	+					DIAGNOSTIC	CWD, MAS, EXTERNAL MYCOSIS; VIRO 0/5, DFAT 0/4, FLAVOBACTERIUM PSYCHROPHILUM 1/5, AEROMONAS

## DWORSHAK NFH

			Class C														
BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BROOD	N. F. CLEARWATER RIVER	STEELHEAD B GROUP	05-057	3/9/2005	+	-	-									INSPECTION	IHNV; IHNV 1/103, IPNV 0/103, NAVHS 0/16
BROOD	N. F. CLEARWATER RIVER	STEELHEAD B GROUP	05-071	3/15/2005	+	-	-									INSPECTION	IHNV; IHNV 2/84, IPNV 0/84, NAVHS 0/29

## EAGLE HATCHERY

			Class D														
BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BY02	REDFISH LAKE	SOCKEYE SALMON	05-001	1/3/2005	-	-		-	-	-	-	-				DIAGNOSTIC	BGD: VIRO 0/1, DFAT 0/1, ELISA 0/1, BACTE 0/1
BY04	REDFISH LAKE	SOCKEYE SALMON	05-019	1/18/2005	-	-	-									RESEARCH	NO PATHOGENS DETECTED; IHNV 0/360, IPNV 0/360, NAVHS 0/360
BY04	REDFISH LAKE	SOCKEYE SALMON	05-020	1/20/2005	-	-	-									RESEARCH	NO PATHOGENS DETECTED; IHNV 0/360, IPNV 0/360, NAVHS 0/360
BY04	REDFISH LAKE	SOCKEYE SALMON	05-027	1/25/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; IHNV 0/558, IPNV 0/558
BY02	REDFISH LAKE	SOCKEYE SALMON	05-031	2/4/2005	-	-		-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA
BY02	REDFISH LAKE	SOCKEYE SALMON	05-040	2/13/2005	-	-		+								DIAGNOSTIC	RS; VIRO 0/1, DFAT 0/1, ELISA 1/1(Low)
BY02	REDFISH LAKE	SOCKEYE SALMON	05-042	2/21/2005	-	-		-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA
BY03	REDFISH LAKE	SOCKEYE SALMON	05-056	3/9/2005	-	-		+								DIAGNOSTIC	RS; VIRO 0/1, DFAT 0/1, ELISA 1/1(Low)
BY03	REDFISH LAKE	SOCKEYE SALMON	05-089	3/29/2005	-	-		-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA
BY02	REDFISH LAKE	SOCKEYE SALMON	05-097	4/4/2005	-	-		-			-					DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA 0/1, BACTE 0/1
BY02	REDFISH LAKE	SOCKEYE SALMON	05-124	4/16/2005	-	-		-	-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2, DFAT 0/2, ELISA 0/2, BACTE 0/1

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BY02	W.F. YANKEE FORK	CHINOOK SALMON	05-156	5/8/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA
BY01	EAST FORK SALMON RIVER	CHINOOK SALMON	05-179	5/20/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY02	W.F. YANKEE FORK	CHINOOK SALMON	05-180	5/26/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA
BY02	EAST FORK SALMON RIVER	CHINOOK SALMON	05-200	6/29/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, DFAT
BY04	EAST FORK SALMON RIVER	SPRING CHINOOK	05-202	7/2/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY01	EAST FORK SALMON RIVER	CHINOOK SALMON	05-203	7/3/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, DFAT
BY04	REDFISH LAKE	SOCKEYE SALMON	05-226	7/11/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1
BY01	EAST FORK SALMON RIVER	CHINOOK SALMON	05-261	7/28/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA
BY02	W.F. YANKEE FORK	CHINOOK SALMON	05-264	7/31/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY04	REDFISH LAKE	SOCKEYE SALMON	05-271	8/6/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY03	REDFISH LAKE	SOCKEYE SALMON	05-287	8/17/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
2004	EAST FORK SALMON RIVER	SPRING CHINOOK	05-292	8/18/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA
BY02	REDFISH LAKE	SOCKEYE SALMON	05-324	8/29/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	LYMPHOSARCOMA; VIRO 0/1, ELISA 0/1, HISTO- LYMPHOSARCOMA 1/1
BY02	REDFISH LAKE	SOCKEYE SALMON	05-336	9/4/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY02	REDFISH LAKE	SOCKEYE SALMON	05-337	9/5/2005	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
AN05	REDFISH LAKE	SOCKEYE SALMON	05-409	10/7/2005	-	-	-	-	-	-	+	-	+	-	-	INSPECTION	CWD, WHD, PARV; VIRO 0/1, DFAT 0/1, ELISA 0/1, FLAVOBACTERIUM PSYCHROPHILUM 1/1, CSH 0/1, PTD- WHD 1/1, PCR-PARVICAPSULA 1/1
AN05	REDFISH LAKE	SOCKEYE SPAWNER	05-413	10/8/2005	-	-	-	-	-	-	-	-	+	-	-	INSPECTION	WHD, PARVACAPSULA; VIRO 0/1, DFAT 0/1, ELISA 0/1, BACTE 0/1, CSH 0/1, PTD-WHD 1/1, PCR-PARVA 1/1
BY02	REDFISH LAKE	SOCKEYE SALMON	05-415	10/12/200	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/18, BACTE 0/18

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BY00	REDFISH LAKE	SOCKEYE SALMON	05-417	10/14/200	-	-		-	-	-	-	+	-	-		INSPECTION	MAS, PARV; VIRO 0/1, DFAT 0/1, ELISA 0/1, PSEUDOMONAS AUREOFACIENS 1/1, CSH 0/1, PTD-MYXOB 0/1, PCRVICAPSULA 1/1
BY02	REDFISH LAKE	SOCKEYE SALMON	05-418	10/14/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/25, ELISA 0/25
BY02	REDFISH LAKE	SOCKEYE SALMON	05-420	10/18/200	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/23, ELISA 0/23
BY02	REDFISH LAKE	SOCKEYE SALMON	05-423	10/20/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/22, ELISA 0/22
BY01	REDFISH LAKE	SOCKEYE SALMON	05-427	10/23/200	-	-		-	-	-	+	+	-	-		INSPECTION	MAS, CWD, PARV; VIRO 0/1, DFAT 0/1, ELISA 0/1, PSEUDOMONAS FLOURESCENS 1/1, FLAVOBACTERIUM PSYCHROLPHILUM 1/1, CSH 0/1, PTD-MYXOB 0/1, PCR-
BY02	REDFISH LAKE	SOCKEYE SALMON	05-428	10/25/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/22, ELISA 0/22
AN05	REDFISH LAKE	SOCKEYE SALMON	05-429	10/26/200	-	-		-	-	-	-	-	+	-		INSPECTION	WHD, PARV; VIRO 0/2, DFAT 0/2, ELISA 0/2, BACTE 0/2, CSH 0/2, PTD-WHD 1/2, PARVICAPSULA 1/2
BY02	REDFISH LAKE	SOCKEYE SALMON	05-432	10/27/200	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/73, ELISA 0/73
BY01	REDFISH LAKE	SOCKEYE SALMON	05-433	10/27/200	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/9, ELISA 0/9
BY03	REDFISH LAKE	SOCKEYE SALMON	05-434	10/27/200	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/6, ELISA 0/6
BY02	REDFISH LAKE	SOCKEYE SALMON	05-435	10/28/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/11, ELISA 0/11
	UNKNOWN	WATER SAMPLE	05-436	10/31/200												RESEARCH	WET MOUNT SHOWS A MIX OF BACTERIA. THE GRAM STAIN SHOWS VERY LONG GRAM NEGATIVE RODS OF A "ROPEY" APPEARANCE (APPEAR "BEADED"). THIS LONG GNR IS LIKELY PRODUCING MUCOPOLYSACCAIDES THAT ARE FORMING THE SLIME. STUDIES OF THIS BACTERIA WILL CONTINUE. THE LONG GNR DID NOT
BY02	REDFISH LAKE	SOCKEYE SALMON	05-437	11/2/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5, ELISA 0/5
BY01	REDFISH LAKE	SOCKEYE SALMON	05-440	11/2/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/6, ELISA 0/6
BY02	REDFISH LAKE	SOCKEYE SALMON	05-441	11/2/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/92, ELISA 0/92
BY03	REDFISH LAKE	SOCKEYE SALMON	05-442	11/2/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BY04	REDFISH LAKE	SOCKEYE SALMON	05-453	11/23/200	-	-		-	-	-	-	+				DIAGNOSTIC	MAS; VIRO 0/1, DFAT 0/1, PSEUDOMONAS
BY03	REDFISH LAKE	SOCKEYE SALMON	05-493	12/30/200	-	-		-	-	-	+	-				DIAGNOSTIC	BACTEREMIA; VIRO 0/1, DFAT 0/1, ELISA 0/1, FLAVOBACTER SPP. 1/1

## EAGLE WET LAB

Class D

2004	DEADWOOD RESERVOIR	KOKANEE SALMON	05-192	6/16/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1
2004	DEADWOOD RESERVOIR	KOKANEE SALMON	05-204	7/5/2005	+	-		-	-	-	-	+				DIAGNOSTIC	IHN, MAS; IHNV 1/1, IPNV 0/1, ELISA 0/1, DFAT 0/1, AEROMONAS CAVIAE 1/1
2004	DEADWOOD RESERVOIR	KOKANEE SALMON	05-205	7/5/2005	+	-		-	-	-	-	+				DIAGNOSTIC	IHN, MAS; IHNV 1/1, IPNV 0/1, ELISA 0/1, DFAT 0/1, AEROMONAS CAVIAE 1/1
2004	DEADWOOD RESERVOIR	KOKANEE SALMON	05-208	7/11/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/60
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-216	7/7/2005	-	-								-		RESEARCH	NO PATHOGENS DETECTED; VIRO 0/31, PTD-MYXOB
2005	HAYSPUR	RAINBOW TROUT	05-217	7/7/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-221	7/11/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-223	7/11/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-224	7/11/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-225	7/11/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-227	7/12/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/2
2005	HAYSPUR	RAINBOW TROUT	05-228	7/12/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-229	7/13/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-231	7/13/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-232	7/14/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/3
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-233	7/14/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2005	HAYSPUR	RAINBOW TROUT	05-234	7/15/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/2
2005	HAYSPUR	RAINBOW TROUT	05-237	7/15/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-238	7/16/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-239	7/16/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-240	7/18/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT	05-241	7/18/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-247	7/25/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-248	7/25/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-249	7/25/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-250	7/26/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/7
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-260	7/28/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-416	10/13/200					-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; BACTE 0/3
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-431	10/27/200	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/2

## GRACE HATCHERY

Class A

FERAL	GRACE SETTLING POND	RAINBOW TROUT	05-439	10/29/200												INSPECTION	NO PATHOGENS DETECTED; PTD-MYXOB 0/68
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## HAGERMAN SFH

Class C

2004	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-003	1/4/2005	-	-			-	-	-	-				DIAGNOSTIC	BACTEREMIA; VIRO 0/5, FLAVOBACTERIUM SPP. 1/4
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-030	2/1/2005	+	-			-	-	+	-				DIAGNOSTIC	IHN, CWD; IHNV 1/2 (x4), IPNV 0/9, FLAVOBACTERIUM PSYCHROPHILUM 8/8
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-076	3/18/2005					-	-	+	+				DIAGNOSTIC	CWD, MAS; FLAVOBACTERIUM PSYCHROPHILUM 4/4, AEROMONAS SOBRIA 4/4

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID	05-077	3/18/2005	+	-			-	-	+	-			+	DIAGNOSTIC	IHN, CWD, COL, ICH, GYRO: IHNV 1/2(x5), IPNV 0/10, FLAVOBACTERIUM PSYCHROPHILUM 1/4, FLAVOBACTERIUM COLUMNARE 3/4, ICHTHYOPHTHIRIUS MULTIFILIS 1/1, GYRODACTYLUS 1/1
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-078	3/18/2005	+	-			-	-	+	-				DIAGNOSTIC	IHN, CWD: IHNV 1/1 (x5), IPNV 0/5, FLAVOBACTERIUM PSYCHROPHILUM 2/4
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-199	6/24/2005					-	-	-	+				DIAGNOSTIC	MAS; AEROMONAS HYDROPHILA 1/8
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-298	8/23/2005	-	-			-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5, BACTE 0/5
2005	HAYSPUR	KAMLOOPS RBT-TRIPLOID	05-299	8/23/2005	-	-			-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/4
2005	HAYSPUR	KAMLOOPS RBT-TRIPLOID	05-300	8/23/2005	-	-			-	-	+	+				DIAGNOSTIC	CWD, MAS; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 4/4, AEROMONAS HYDROPHILA 1/4
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-424	10/21/200	-	-			-	-	-	+				DIAGNOSTIC	MAS; VIRO 0/5, AEROMONAS CAVIAE 2/4
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-425	10/21/200	+	-	-		-	-	+	-				DIAGNOSTIC	IHN, CWD; IHNV 1/2 (X5), IPNV 0/10, NAVHS 0/5, FLAVOBACTER PSYCHROPHILUM 5/8
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-426	10/21/200	-	-			-	-	+	-				DIAGNOSTIC	CWD,SHW; VIRO 0/4, FLAVOBACTER PSYCHROPHILUM 4/4, SHEWANELLA SPP. 1/4
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-488	12/21/200	+	-	-		-	-	-	+				DIAGNOSTIC	IHNV, MAS; IHNV 1/1 (X5), IPNV 0/5, AEROMONAS
<b><u>HAYSPUR HATCHERY</u></b>			Class	C													
BROOD	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT	05-075	3/18/2005	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/29, NAVHS 0/10, OCP-FAT 0/29
2000	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT	05-081	3/18/2005												INSPECTION	RS; DFAT 0/11, ELISA 6/11 (ALL LOW*)
2002	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT	05-082	3/18/2005												INSPECTION	BKD; DFAT 0/9, ELISA 1/9 (HIGH)

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-090	3/14/2005												RESEARCH	TRIPLOID INDUCTION RATE 146/163 (89.6%)
2000	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT	05-096A	4/1/2005	-	-		+								INSPECTION	BKD; VIRO 0/9, OCP-FAT 2/2 (x4 & x5), PCR-RS 1/1 (x4)
2002	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT	05-096B	4/1/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/35, OCP-FAT 0/35
2000	CONNOR LAKE (CANADA)	YELLOWSTONE CUTTHROAT TROUT	05-122	4/15/2005	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, NAVHS 0/2, OCP-
2002	CONNOR LAKE (CANADA)	YELLOWSTONE CUTTHROAT TROUT	05-123	4/15/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/26, OCP-FAT 0/26
2000	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT	05-145	4/29/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, OCP-FAT 0/2
2002	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT	05-146	4/29/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/14, OCP-FAT 0/14
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-165A	5/9/2005												RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100%)
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-165B	5/9/2005												RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100%)
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-166A	5/17/2005												RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100%)
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID	05-166B	5/17/2005												RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100%)
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-197A	5/17/2005												RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100%)
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-197B	5/17/2005												RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100%)
2003	HAYSPUR	RAINBOW TROUT	05-198	5/16/2005												DIAGNOSTIC	EGD/BGD; ENVIRONMENTAL/BACTERIAL GILL DISEASE
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-213	6/27/2005												RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100%)
2005	HAYSPUR	KAMLOOPS RBT-TRIPLOID	05-214	6/27/2005												RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100%)
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-215	6/27/2005												RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100%)

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2003	HAYSPUR	KAMLOOPS RBT	05-258	7/27/2005	-	-		-	-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, ELISA 0/60, DFAT 0/59, BACTE 0/16, PTD-MYXOB 0/60
2003	HAYSPUR	RAINBOW TROUT	05-281	8/11/2005	-	-		-	-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, DFAT 0/60, ELISA 0/60, BACTE 0/12, PTD-MYXOB 0/60
BROOD	HAYSPUR	KAMLOOPS RBT	05-408	10/5/2005	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/24, NAVHS 0/4, DFAT 0/15, OCP-FAT 0/24, ELISA 0/15
BROOD	HAYSPUR	KAMLOOPS RBT	05-422	10/19/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/48, NAVHS 0/5, DFAT 0/18, OCP-FAT 0/48, ELISA 0/18
BROOD	HAYSPUR	RAINBOW TROUT	05-430	10/24/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/24, NAVHS 0/3,
BROOD	HAYSPUR	KAMLOOPS RBT	05-443	11/2/2005	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/48, NAVHS 0/5, DFAT 0/12, OCP-FAT 0/48, ELISA 0/12
BROOD	HAYSPUR	RAINBOW TROUT	05-447	11/9/2005	-	-	-	+								INSPECTION	RS; VIRO 0/36, DFAT 0/18, OCP-FAT 0/36, ELISA 1/18 (1
BROOD	HAYSPUR	KAMLOOPS RBT	05-450	11/12/200	-	-	-	+								INSPECTION	RS; VIRO 0/24, NAVHS 0/4, DFAT 0/12, OCP-FAT 0/24, ELISA 1/12 (1 LOW)
BROOD	HAYSPUR	RAINBOW TROUT	05-452	11/22/200	-	-	-	+								INSPECTION	BKD; VIRO 0/54, NAVHS 0/6, DFAT 0/18, OCP-FAT 4/54, ELISA 5/18 (2 LOW, 3 HIGH)
2004	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT	05-455	11/29/200				-								DIAGNOSTIC	NO PATHOGENS DETECTED; ELISA 0/2, DFAT 0/2
BROOD	HAYSPUR	RAINBOW TROUT	05-456	11/29/200	-	-	-	+								INSPECTION	RS; VIRO 0/48, NAVHS 0/5, DFAT 0/12, OCP-FAT 0/48, ELISA 2/12 (2 LOW)
BROOD	HAYSPUR	RAINBOW TROUT	05-481	12/13/200	-	-	-	+								INSPECTION	RS; VIRO 0/36, NAVHS 0/4, DFAT 0/12, OCP-FAT 0/36, ELISA 2/12 (2 LOW)
2005	HAYSPUR	KAMLOOPS RBT-TRIPLOID	05-482	9/29/2005												RESEARCH	TRIPLOID INDUCTION RATE 39/39 (100 %)
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-483	9/29/2005												RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100 %)
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-484	9/29/2005												RESEARCH	TRIPLOID INDUCTION RATE 34/40 (85.0%)

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2005	HAYSPUR	KAMLOOPS RBT-TRIPLOID	05-485	9/29/2005												RESEARCH	TRIPLOID INDUCTION RATE 37/38 (97.4%)
<b><u>HENRYS LAKE</u></b>			Class C														
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-046	2/14/2005				+								INSPECTION	BKD; OCP-FAT 2/21(x7)
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-047	2/17/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/14, OCP-FAT 0/133
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-054	2/28/2005	-	-	-	+								INSPECTION	BKD; VIRO 0/21, NAVHS 0/7, OCP-FAT 13/20 (X7)
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-055	3/1/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/14, OCP-FAT 0/70
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-063	3/7/2005	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/21, NAVHS 0/7, OCP-FAT 0/105
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-069	3/10/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/14, OCP-FAT 0/105
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-070	3/14/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, OCP-FAT 0/56
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-083	3/22/2005				-								INSPECTION	NO PATHOGENS DETECTED; OCP-FAT 0/57
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-091	3/28/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/15, OCP-FAT 0/53
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-104	4/4/2005	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/15, NAVHS 0/15, OCP-FAT 0/36
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-105	4/5/2005	-	-		+	+	-	+	-	-			INSPECTION	FUR, BKD, CWD; VIRO 0/20, DFAT 0/20, ELISA 20/20 (19 LOW, 1 HIGH--OD=0.264), AEROMONAS SALMONICIDA 8/12, FLAVOBACTERIUM PSYCHROPHILUM 10/12, PTD-

33



BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-115	4/11/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, OCP-FAT 0/70
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-129	4/17/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, OCP-FAT 0/20
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-161	5/9/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED. OCP-DFAT 0/35
2005	HENRYS LAKE	RAINBOW X CUTTHROAT TROUT HYBRID	05-236	7/18/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, TRIPLOID INDUCTION RATE 129/129 (100%)

### MACKAY HATCHERY

Class B

2005	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT	05-190	6/13/2005	-	-	-	-	-	-	+	-	-	-	-	DIAGNOSTIC	CWD; VIRO 0/10, FLAVOBACTERIUM PSYCHROPHILUM
2004	JACKSON NFH	YELLOWSTONE CUTTHROAT TROUT	05-191	6/14/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, DFAT 0/60, BACTE 0/12, PTD-MYXOB 0/60
BROOD	DEADWOOD RESERVOIR	KOKANEE-EARLY SPAWN	05-360	9/7/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NEUROTROPIC MYXOBOLUS; VIRO 0/60, DFAT 0/60, ELISA 0/60, PTD-NEURO 6/12 (X5), PCR-WHD 0/5

### MAGIC VALLEY HATCHERY

Class C

2004	DWORSHAK	STEELHEAD B GROUP	05-058	3/10/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2004	UPPER SALMON RIVER	STEELHEAD B GROUP	05-059	3/10/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2004	PAHSIMEROI	STEELHEAD A GROUP	05-060	3/10/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2004	SAWTOOTH	STEELHEAD A GROUP	05-061	3/10/2005	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2005	DWORSHAK	STEELHEAD B GROUP	05-186	6/8/2005	-	-	-	-	-	-	+	+	-	-	-	DIAGNOSTIC	CWD, MAS; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 4/4, AEROMONAS CAVIAE 4/4

BroodYr	Stock	Species	Accession	Sample	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
				Date													
2005	PAHSIMEROI	STEELHEAD A GROUP	05-267	8/2/2005	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/5
2005	SAWTOOTH	STEELHEAD A GROUP	05-268	8/2/2005	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
2005	DWORSHAK	STEELHEAD B GROUP	05-269	8/2/2005	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
2005	DWORSHAK	STEELHEAD B GROUP	05-295	8/19/2005	+	-			-	-	+	-				DIAGNOSTIC	IHN, CWD; IHNV 2/2 (x5), IPNV 0/10, FLAVOBACTERIUM PSYCHROPHILUM 8/8
2005	SAWTOOTH	STEELHEAD A GROUP	05-333A	9/2/2005					-	-	+	-				DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 4/5
2005	PAHSIMEROI	STEELHEAD A GROUP	05-333B	9/2/2005					-	-	+	+				DIAGNOSTIC	CWD, MAS; FLAVOBACTERIUM PSYCHROPHILUM 2/5, AEROMONAS SOBRIA 4/5
2005	UPPER SALMON RIVER	STEELHEAD B GROUP	05-347	9/8/2005	+	-			-	-	+	+				DIAGNOSTIC	IHN, MAS, CWD; IHNV 1/2 (x5), IPNV 0/10, FLAVOBACTERIUM PSYCHROPHILUM 1/8, AEROMONAS
2005	EAST FORK SALMON RIVER	STEELHEAD B GROUP	05-348	9/8/2005	+	-			-	-	-	-				DIAGNOSTIC	IHN; IHNV 2/2 (X4), IPNV 0/8, BACTE 0/8
2005	SAWTOOTH	STEELHEAD A GROUP	05-349	9/8/2005	+	-										DIAGNOSTIC	IHN; IHNV 2/2 (X5), IPNV 0/10
2005	PAHSIMEROI	STEELHEAD A GROUP	05-350	9/8/2005	+	-										DIAGNOSTIC	IHN; IHNV 2/2 (X5), IPNV 0/10
2005	DWORSHAK	STEELHEAD B GROUP	05-486	12/21/200	-	-		-	-	-	+	-				INSPECTION	CWD; VIRO 0/10, DFAT 0/10, FLAVOBACTERIUM PSYCHROPHILUM 1/4
2005	SAWTOOTH	STEELHEAD A GROUP	05-487	12/21/200	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10,
<b><u>MCCALL HATCHERY</u></b>			Class	C													
2003	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-035	2/9/2005	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10,
2003	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-066	3/14/2005	-	-		+					-			INSPECTION	RS; VIRO 0/20, DFAT 0/20, ELISA 4/4 (x5), PTD-MYXOB
2003	JOHNSON CREEK	SUMMER CHINOOK SALMON	05-067	3/14/2005	-	-		+					-			INSPECTION	RS; VIRO 0/20, DFAT 0/20, ELISA 4/4(X5), PTD-WHD 0/20

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2004	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-209	7/7/2005				-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; DFAT 0/10, BACTE 0/10
2004	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-252	7/26/2005	-	-	-	-	-	-	-	+				DIAGNOSTIC	MAS; VIRO 0/10, DFAT 0/10, AEROMONAS HYDROPHILA 2/10, PSEUDOMONAS SP. 2/10
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-253	7/26/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5
2005	WESTSLOPE TROUT COMPANY	WESTSLOPE CUTTHROAT TROUT	05-254	7/26/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5
2005	WESTSLOPE TROUT COMPANY	WESTSLOPE CUTTHROAT TROUT	05-255	7/26/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5
2004	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-469	11/29/200	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10,
<b><u>NAMPA HATCHERY</u></b>			Class A														
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID	05-004	1/5/2005					-	-		+				DIAGNOSTIC	MAS; AEROMONAS SOBRIA 1/4, AEROMONAS
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID	05-029	1/25/2005											+	DIAGNOSTIC	ICH; ICHTHYOPHTHIRIUS MULTIFILIS 1/1
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-045	2/23/2005					-	-	+	-				DIAGNOSTIC	CWD, BACTEREMIA; FLAVOBACTERIUM PSYCHROPHILUM 5/6, PASTEURELLA SPP. 1/6
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-065	3/14/2005					-	-	+	+				DIAGNOSTIC	CWD, MAS; FLAVOBACTERIUM PSYCHROPHILUM 8/8, AEROMONAS HYDROPHILA 1/8
2005	HAYSPUR	RAINBOW TROUT-TRIPLOID	05-210	7/5/2005					-	-	+	+				DIAGNOSTIC	CWD, MAS; FLAVOBACTERIUM PSYCHROPHILUM 3/4, AEROMONAS SOBRIA 2/4
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-235	7/15/2005					-	-	+	+				DIAGNOSTIC	CWD, MAS; FLAVOBACTERIUM PSYCHROPHILUM 4/4, AEROMONAS HYDROPHILA 3/4, PSEUDOMONAS SPP. 4/4
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-263	5/17/2005											+	DIAGNOSTIC	ICH, GYRO, EGD; ICHTHYOPHTHIRIUS MULTIFILIS 1/3, GYRODACTYLUS 2/3, ENVIRONMENTAL GILL DISEASE (PINE POLLEN) 3/3

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-270	8/3/2005												DIAGNOSTIC	HEXA; HEXAMITA 4/4
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-449	11/14/200	-	-			-	-	+	+				DIAGNOSTIC	CWD, MAS; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/4, AEROMONAS SOBRIA 1/4

## **NIAGARA SPRINGS HATCHERY**

Class C

2004	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-049	3/3/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2004	PAHSIMEROI	STEELHEAD A GROUP	05-050	3/3/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2004	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-051	3/3/2005					-	-	+					DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 1/4
2005	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-244	7/19/2005	-	-			-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/15, FLAVOBACTERIUM PSYCHROPHILUM
2005	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-265	8/2/2005	-	-			-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/15, FLAVOBACTERIUM PSYCHROPHILUM
2005	PAHSIMEROI	STEELHEAD A GROUP	05-266	8/2/2005	-	-			-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/10
2005	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-414	10/11/200	+	-	-		-	-	+	-				DIAGNOSTIC	IHN, CWD; IHNV 2/2 (X5), IPNV 0/10, NAVHS 0/10, FLAVOBACTERIUM PSYCHROPHILUM 8/8
2005	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-473	12/2/2005	-	-		-	-	-	+	-				INSPECTION	CWD; VIRO 0/10, DFAT 0/10, FLAVOBACTERIUM PSYCHROPHILUM 8/8
2005	PAHSIMEROI	STEELHEAD A GROUP	05-474	12/2/2005	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10,

## **OXBOW HATCHERY**

Class C

BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-088	3/28/2005	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, ELISA 0/7, PTD-MYXOB 0/5
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BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-094	3/28/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/19, ELISA 0/10, PTD-MYXOB 0/5
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-098	4/4/2005	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED VIRO 0/26, ELISA 0/6, PTD-
2004	LYONS FERRY (SNAKE RIVER)	FALL CHINOOK SALMON	05-099	4/4/2005	-	-		-	-	-	-	-	-	-		INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, DFAT 0/60, ELISA 0/60, CSH 0/20, BACTE 0/20, PTD-MYXOB 0/20
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-107	4/7/2005	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/26, NAVHS 0/18, ELISA 0/10, PTD-MYXOB 0/5
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-109	4/11/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/22, ELISA 0/10
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-119	4/14/2005	-	-	-	+								INSPECTION	RS; VIRO 0/28, NAVHS 0/2, ELISA 1/10 (LOW)
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-126	4/18/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/34
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-133	4/21/2005	-	-	-	+								INSPECTION	RS; VIRO 0/26, NAVHS 0/6, ELISA 1/7 (LOW)
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD A GROUP	05-136	4/25/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/36, NAVHS 0/8

## PAHSIMEROI HATCHERY

Class C

2003	PAHSIMEROI	SUMMER CHINOOK SALMON	05-021	1/18/2005	+	-		+	-	-	-	+				DIAGNOSTIC	IHN, BKD, MAS: IHNV 2/2(x5), IPNV 0/10, DFAT 1/10, PSEUDOMONAS SPP. 10/10
2003	PAHSIMEROI	SUMMER CHINOOK SALMON	05-022	1/18/2005	+	-		+	-	-	-	-				DIAGNOSTIC	IHN, BKD, BACTEREMIA: IHNV 2/2(x5), IPNV 0/10, DFAT 8/10, SHEWANELLA PUTREFACIENS 10/10
2003	PAHSIMEROI	SUMMER CHINOOK SALMON	05-028	1/25/2005	+	-		+	-	-	+	+				DIAGNOSTIC	IHN, BKD, CWD, MAS: IHNV 2/2(x4), IPNV 0/8, DFAT 2/6, FLAVOBACTERIUM PSYCHROPHILUM 1/8, PSEUDOMONAS SPP. 1/8

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2003	PAHSIMEROI	SUMMER CHINOOK SALMON	05-053	3/3/2005	-	-		+								INSPECTION	RS, WHD; VIRO 0/20, DFAT 0/20, ELISA 4/4, PTD-WHD
2004	PAHSIMEROI	SUMMER CHINOOK SALMON	05-072	3/17/2005	-	-		-	-	-	+	+				DIAGNOSTIC	CWD, MAS; VIRO 0/10, DFAT 0/10, FLAVOBACTERIUM PSYCHROPHILUM 2/10, PSEUDOMONAS SPP. 2/10
BROOD	PAHSIMEROI	STEELHEAD A GROUP	05-095	3/28/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/61
2004	PAHSIMEROI	SUMMER CHINOOK SALMON	05-108	4/5/2005				-								DIAGNOSTIC	NO PATHOGENS DETECTED; DFAT 0/12
BROOD	PAHSIMEROI	STEELHEAD A GROUP	05-110	4/7/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/11
BROOD	PAHSIMEROI	STEELHEAD A GROUP	05-111	4/11/2005	-	-	-	+								INSPECTION	RS; VIRO 0/24, NAVHS 0/4, ELISA 1/12 (LOW)
2004	PAHSIMEROI	SUMMER CHINOOK SALMON	05-112	4/12/2005	+	-	-	-	-	-	-	-				DIAGNOSTIC	IHN, EXTERNAL PARASITISM; IHNV 2/2, IPNV 0/2, NAVHS 0/2, DFAT 0/8, BACTE 0/8
BROOD	PAHSIMEROI	STEELHEAD A GROUP	05-132	4/18/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/24, NAVHS 0/4
BROOD	PAHSIMEROI	STEELHEAD A GROUP	05-140	4/25/2005	-	-	-	+								INSPECTION	RS; VIRO 0/20, NAVHS 0/4, ELISA 6/24, PTD-WHD 7/20, PCR-WHD 4/5
BROOD	PAHSIMEROI	STEELHEAD A GROUP	05-141	4/21/2005				+								INSPECTION	RS; ELISA 6/24 (LOW)
2004	PAHSIMEROI	SUMMER CHINOOK SALMON	05-212	7/6/2005	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10,
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	05-389	9/15/2005	-	-	-	+								INSPECTION	BKD, WHD; VIRO 0/60, NAVHS 0/6, ELISA 23/73 (17 LOW, 6 HIGH), PTD-WHD 3/4 (X5 + 1)
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	05-395	9/6/2005				+								INSPECTION	BKD; ELISA 10/33 (8 LOW, 2 HIGH)
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	05-396	9/9/2005				+								INSPECTION	BKD; ELISA 9/29 (7 LOW, 2 HIGH)

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	05-397	9/12/2005				+								INSPECTION	BKD; ELISA 12/49 (10 LOW, 2 HIGH)
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	05-402	9/19/2005				+								INSPECTION	BKD; ELISA 19/50 (12 LOW, 7 HIGH)
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	05-403	9/22/2005				+								INSPECTION	BKD; ELISA 17/50 (6 LOW, 11 HIGH)
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	05-404	9/26/2005				+								INSPECTION	BKD; ELISA 15/40 (10 LOW, 5 HIGH)
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	05-407	9/29/2005				+								INSPECTION	BKD; ELISA 11/20 (4 LOW, 7 HIGH)
<b><u>POWELL SATELLITE</u></b>			Class	C													
BROOD	POWELL	SPRING CHINOOK	05-278	8/8/2005	+	-		+								INSPECTION	IHNV, BKD; IHNV 1/2 (x2), IPNV 0/4, ELISA 3/4 (2 LOW, 1
BROOD	POWELL	SPRING CHINOOK	05-279	8/4/2005	-	-		+								INSPECTION	RS; VIRO 0/5, ELISA 1/5 (1 LOW)
BROOD	POWELL	SPRING CHINOOK	05-282	8/11/2005	-	-		+								INSPECTION	RS; VIRO 0/8, ELISA 3/8 (3 LOW)
BROOD	POWELL	SPRING CHINOOK	05-284	8/15/2005	+	-	-	+							+	INSPECTION	IHNV, BKD, CSH; IHNV 2/11, IPNV 0/11, NAVHS 0/1, ELISA 2/11 (1 LOW, 1 HIGH), CERATOMYXA SHASTA 1/2(x5),
BROOD	POWELL	SPRING CHINOOK	05-310	8/18/2005	+	-	-	+					-	-		INSPECTION	IHNV, BKD; IHNV 6/23, IPNV 0/23, NAVHS 0/3, ELISA 18/23 (17 LOW, 1 HIGH), PTD-MYXOB 0/10, CSH 0/10
BROOD	POWELL	SPRING CHINOOK	05-311	8/22/2005	+	-	-	+								INSPECTION	IHNV, RS; IHNV 5/9, IPNV 0/9, NAVHS 0/1, ELISA 10/13
BROOD	POWELL	SPRING CHINOOK	05-329	8/25/2005				+								INSPECTION	BKD; ELISA 9/9 (9 LOW)
BROOD	POWELL	SPRING CHINOOK	05-331	8/29/2005				+								INSPECTION	BKD; ELISA 5/6 (5 LOW)
BRROD	POWELL	SPRING CHINOOK	05-361	9/6/2005				-								INSPECTION	NO PATHOGENS DETECTED; ELISA 0/1
BROOD	POWELL	SPRING CHINOOK	05-366	9/9/2005				+								INSPECTION	RS; ELISA 1/1 (1 LOW)

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2004	POWELL	SPRING CHINOOK	05-368	9/10/2005	-	-		-					-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, DFAT 0/20, PTD-MYXOB 0/20
<b><u>RAPID RIVER HATCHERY</u></b>			Class C														
2003	RAPID RIVER	SPRING CHINOOK	05-036	2/9/2005	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10,
2004	RAPID RIVER	SPRING CHINOOK	05-044	2/22/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/20
2004	RAPID RIVER	SPRING CHINOOK	05-048	3/2/2005					-	-	+	+				DIAGNOSTIC	CWD, MAS; FLAVOBACTERIUM PSYCHROPHILUM 1/8, PSEUDOMONAS SPP. 2/8
2003	RAPID RIVER	SPRING CHINOOK	05-062	3/10/2005	-	-		+								INSPECTION	BKD, NEURO; VIRO 0/20, DFAT 1/20, ELISA 4/4 (x5), PTD-MYXOB 4/4(x5), PCR-NEUROTROPIC MYXOBOLUS 5/5
2004	RAPID RIVER	SPRING CHINOOK	05-218	7/7/2005				-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; DFAT 0/10, BACTE 0/10
BROOD	RAPID RIVER	SPRING CHINOOK	05-296	8/18/2005				+								INSPECTION	BKD; ELISA 4/16 (3 LOW, 1 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK	05-297	8/22/2005				+								INSPECTION	BKD; ELISA 18/82 (16 LOW, 2 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK	05-321	8/25/2005	-	-	-	+					-	-		INSPECTION	BKD; VIRO 0/50, ELISA 123/162 (122 LOW, 1 HIGH), PTD-MYXOB 1/4(x5), PCR-WHD 0/5, CSH 0/20
BROOD	RAPID RIVER	SPRING CHINOOK	05-327	8/29/2005	-	-		+								INSPECTION	BKD; VIRO 0/10, ELISA 154/220 (153 LOW, 1 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK	05-328	8/30/2005				+								INSPECTION	BKD; ELISA 172/199 (160 LOW, 12 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK	05-340	9/1/2005				+								INSPECTION	BKD; ELISA 80/162 (77 LOW, 3 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK	05-342	9/2/2005				+								INSPECTION	BKD; ELISA 66/157 (62 LOW, 4 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK	05-343	9/5/2005				+								INSPECTION	BKD; ELISA 44/84 (42 LOW, 2 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK	05-344	9/6/2005				+								INSPECTION	BKD; ELISA 20/84 (18 LOW, 2 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK	05-365	9/9/2005				+								INSPECTION	BKD; ELISA 16/46 (15 LOW, 1 HIGH)
BROOD	RAPID RIVER	SPRING CHINOOK	05-399	9/12/2005				+								INSPECTION	RS; ELISA 2/18 (2 LOW)

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
2004	RAPID RIVER	SPRING CHINOOK	05-448	11/9/2005	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10,
BROOD	RAPID RIVER	SPRING CHINOOK	06-337	9/1/2005				+								INSPECTION	BKD; ELISA 29/114 (26 LOW, 3 HIGH)
<b><u>SAWTOOTH HATCHERY</u></b>			Class	C													
BY03	REDFISH LAKE	SOCKEYE SALMON	05-032	2/2/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/4
BY03	REDFISH LAKE	SOCKEYE SALMON	05-033	2/5/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/4
BY03	REDFISH LAKE	SOCKEYE SALMON	05-043	2/20/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/9
2003	SAWTOOTH	SPRING CHINOOK	05-052	3/2/2005	-	-		+							-	INSPECTION	RS; VIRO 0/20, DFAT 0/20, ELISA 4/4, PTD-MYXOB 0/20
BY03	REDFISH LAKE	SOCKEYE SALMON	05-064	3/9/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2
BY03	REDFISH LAKE	SOCKEYE SALMON	05-068	3/12/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/3
2004	PAHSIMEROI	SUMMER CHINOOK SALMON	05-073	3/17/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10
BY03	REDFISH LAKE	SOCKEYE SALMON	05-074	3/17/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2
BY03	REDFISH LAKE	SOCKEYE SALMON	05-079	3/18/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2
BY03	REDFISH LAKE	SOCKEYE SALMON	05-080	3/18/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BY03	REDFISH LAKE	SOCKEYE SALMON	05-084	3/22/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1.
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-092	3/29/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7
BY03	REDFISH LAKE	SOCKEYE SALMON	05-093	3/28/2005	-	-										INSPECTION	NO PATHOGENS DETECTED, VIRO 0/3
BY03	REDFISH LAKE	SOCKEYE SALMON	05-100	3/31/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2.
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-101	3/31/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/25, NAVHS 0/4
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-106	4/4/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/25, NAVHS 0/10
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-113	4/7/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/45, NAVHS 0/6

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BY03	REDFISH LAKE	SOCKEYE SALMON	05-114	4/10/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2
BROOD	SQUAW CREEK	STEELHEAD B GROUP	05-117	4/12/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-118	4/11/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/54, NAVHS 0/6.
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-120	4/13/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/43
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-121	4/14/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/34
BY03	REDFISH LAKE	SOCKEYE SALMON	05-125	4/19/2005	-	-		-	-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, DFAT 0/60, ELISA 0/60, BACTE 0/30, PTD-MYXOB 0/60.
BROOD	EAST FORK SALMON RIVER NATURALS	STEELHEAD B GROUP	05-127	4/19/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	SQUAW CREEK	STEELHEAD B GROUP	05-128	4/19/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-130	4/18/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/46, NAVHS 0/6
BROOD	EAST FORK SALMON RIVER	STEELHEAD B GROUP	05-131	4/15/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-135	4/20/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/40, NAVHS 0/8
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-137	4/21/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/40
BROOD	SQUAW CREEK	STEELHEAD B GROUP	05-138	4/22/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	EAST FORK SALMON RIVER	STEELHEAD B GROUP	05-139	4/22/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-142	4/25/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, NAVHS 0/10
BROOD	SQUAW CREEK	STEELHEAD B GROUP	05-143	4/26/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-144	4/27/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/30
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-148	5/2/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/22
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-149	4/28/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/49

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BROOD	SQUAW CREEK	STEELHEAD B GROUP	05-150	4/29/2005	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	EAST FORK SALMON RIVER	STEELHEAD B GROUP	05-151	4/29/2005	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	EAST FORK SALMON RIVER	STEELHEAD B GROUP	05-153	5/3/2005	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-154	5/4/2005	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/45
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-155	5/5/2005	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/18
BROOD	EAST FORK SALMON RIVER	STEELHEAD B GROUP	05-157	5/9/2005	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BY03	REDFISH LAKE	SOCKEYE SALMON	05-158	5/9/2005	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	EAST FORK SALMON RIVER	STEELHEAD B GROUP	05-159	5/10/2005	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2
BROOD	EAST FORK SALMON RIVER	STEELHEAD B GROUP	05-164	5/13/2005	-	-									INSPECTION	NO PATHOGENS DETECTD; VIRO 0/2
2004	SAWTOOTH	SPRING CHINOOK	05-173	5/18/2005	-	-	-	-	-	-	-	+			DIAGNOSTIC	MAS; VIRO 0/5, DFAT 0/5, PSEUDOMONAS SPP. 1/5
BROOD	SAWTOOTH	STEELHEAD A GROUP	05-174	4/25/2005			+						+		INSPECTION	RS; WHD; ELISA 20/60 (LOW 19, HIGH 1), PTD-WHD 7/20
BROOD	SQUAW CREEK	STEELHEAD B GROUP	05-175	5/6/2005			+						+		INSPECTION	RS; WHD; ELISA 5/27 (ALL LOW), PTD-WHD 8/20
BROOD	EAST FORK SALMON RIVER	STEELHEAD B GROUP	05-176	5/10/2005			+						+		INSPECTION	RS; WHD; ELISA 5/24 (ALL LOW), PTD-WHD 5/20
2004	SAWTOOTH	CHINOOK SALMON	05-184	6/3/2005	-	-	-	-	-	-	-	+			DIAGNOSTIC	MAS; VIRO 0/10, DFAT 0/10, AEROMONAS SOBRIA 8/10, PSEUDOMONAS FLUORESCENS 9/10
2004	PAHSIMEROI	SUMMER CHINOOK SALMON	05-185	6/3/2005	-	-	-	-	-	+	+				DIAGNOSTIC	CWD, MAS; VIRO 0/10, DFAT 0/10, FLAVOBACTERIUM PSYCHROPHILUM 7/10, AEROMONAS SOBRIA 4/10
2004	SAWTOOTH	SPRING CHINOOK	05-188	6/10/2005	-	-	-	-	-	-	-	-			DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE 0/10, PCR-PARV 0/10
2004	PAHSIMEROI	SUMMER CHINOOK SALMON	05-211	7/6/2005	-	-	-	-	-	+	-				INSPECTION	CWD; VIRO 0/10, DFAT 0/10, FLAVOBACTERIUM PSYCHROPHILUM 3/10
ADULT	SAWTOOTH	SPRING CHINOOK	05-276	8/8/2005	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/13

ADULT

SAWTOOTH

SPRING CHINOOK

05-280

8/10/2005 - -

DIAGNOSTIC

NO PATHOGENS DETECTED; VIRO 0/9

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BROOD	SAWTOOTH	SPRING CHINOOK	05-288	8/11/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/8, NAVHS 0/2
BROOD	SAWTOOTH	SPRING CHINOOK	05-289	8/15/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/15, NAVHS 0/1
ADULT	SAWTOOTH	SPRING CHINOOK	05-290	8/11/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2
ADULT	SAWTOOTH	SPRING CHINOOK	05-291	8/15/2005	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2
BROOD	SAWTOOTH	SPRING CHINOOK	05-303	8/18/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/17
BROOD	SAWTOOTH	SPRING CHINOOK	05-304	8/22/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/28, NAVHS 0/3
CARCASS	UPPER SALMON RIVER	SPRING CHINOOK	05-305	8/22/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	SAWTOOTH	SPRING CHINOOK	05-306	8/18/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/3
ADULT	SAWTOOTH	SPRING CHINOOK	05-320	8/25/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2
ADULT	UPPER SALMON RIVER	CARCASS, SPRING CHINOOK SALMON	05-338	8/30/2005	-	-	-									RESEARCH	NO PATHOGENS DETECTED; VIRO 0/12, NAVHS 0/2
BROOD	SAWTOOTH	SPRING CHINOOK	05-339	8/29/2005	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/13, NAVHS 0/1
BY04	REDFISH LAKE	SOCKEYE SALMON	05-345	9/7/2005	-	-			-	-	+	-				DIAGNOSTIC	BGD, CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/5, 1/5 FISH OBSERVED TO HAVE GILL
BY04	REDFISH LAKE	SOCKEYE SALMON	05-346	9/7/2005	-	-		+	-	-	-	+	-			INSPECTION	MAS, RS; VIRO 0/60, DFAT 0/60, ELISA 3/12 (X5; 3 LOW), AEROMONAS HYDROPHILA 3/18, PTD-MYXOB 0/60
BROOD	SAWTOOTH	SPRING CHINOOK	05-351	8/11/2005	-	-	-	+								INSPECTION	RS, VIRO 0/8, NAVHS 0/2, ELISA 5/8 (5 LOW)
BROOD	SAWTOOTH	SPRING CHINOOK	05-352	8/15/2005	-	-	-	+								INSPECTION	RS; VIRO 0/15, NAVHS 0/15, ELISA 6/15 (6 LOW)
BROOD	SAWTOOTH	SPRING CHINOOK	05-353	8/22/2005										-		INSPECTION	NO PATHOGENS DETECTED; PTD-MYXOB 0/4
BROOD	SAWTOOTH	SPRING CHINOOK	05-354	8/29/2005				+						+		INSPECTION	RS, WHD; ELISA 28/72 (28 LOW), PTD 1/1 (X5)
BROOD	SAWTOOTH	SPRING CHINOOK	05-355	8/25/2005	-	-	-	+						-		INSPECTION	BKD; VIRO 0/34, NAVHS 0/5, ELISA 17/34 (15 LOW, 2 HIGH), PTD-MYXOB 0/6

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
BROOD	SAWTOOTH	SPRING CHINOOK	05-356	8/18/2005	-	-	-	+								INSPECTION	RS; VIRO 0/17, NAVHS 0/2, ELISA 2/17 (2 LOW)
BROOD	SAWTOOTH	SPRING CHINOOK	05-357	8/23/2005	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	SAWTOOTH	SPRING CHINOOK	05-358	9/1/2005									-			INSPECTION	NO PATHOGENS DETECTED; PTD 0/5
BROOD	SAWTOOTH	SPRING CHINOOK	05-359	9/6/2005	-	-		+								INSPECTION	RS; VIRO 0/2, ELISA 13/36 (13 LOW)
BROOD	SAWTOOTH	SPRING CHINOOK	05-373	8/22/2005	-	-	-	+								INSPECTION	RS; VIRO 0/28, NAVHS 0/3, ELISA 11/28 (10 LOW, 1 HIGH)
BROOD	SAWTOOTH	SPRING CHINOOK	05-390	9/1/2005				+								INSPECTION	RS; ELISA 25/73 (25 LOW)
CARCASS	UPPER SALMON RIVER	SPRING CHINOOK	05-391	9/5/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/8
CARCASS	UPPER SALMON RIVER	SPRING CHINOOK	05-392	9/9/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/5
BROOD	SAWTOOTH	SPRING CHINOOK	05-393	9/9/2005	-	-		+								INSPECTION	RS; VIRO 0/6, ELISA 2/8 (1 LOW, 1 HIGH)
CARCASS	UPPER SALMON RIVER	SPRING CHINOOK	05-394	9/14/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	SAWTOOTH	SPRING CHINOOK	05-398	9/13/2005				-								INSPECTION	NO PATHOGENS DETECTED; ELISA 0/2
BROOD	SAWTOOTH	SPRING CHINOOK	05-400	9/16/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, ELISA 0/4
CARCASS	UPPER SALMON RIVER	SPRING CHINOOK	05-401	9/13/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/6
2004	REDFISH LAKE	SOCKEYE SALMON	05-476	12/3/2005	-	-		-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1
2004	REDFISH LAKE	SOCKEYE SALMON	05-477	12/3/2005	-	-		-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1
2004	REDFISH LAKE	SOCKEYE SALMON	05-478	12/4/2005	-	-		-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1
2004	REDFISH LAKE	SOCKEYE SALMON	05-489	12/20/200	-	-		-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5, DFAT 0/5
2004	REDFISH LAKE	SOCKEYE SALMON	05-490	12/20/200	-	-		-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/7, DFAT 0/7
2004	SAWTOOTH	SPRING CHINOOK	05-491	12/20/200	-	-		-	-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5, DFAT 0/5, BACTE
2004	SAWTOOTH	SPRING CHINOOK	05-492	12/20/200	-	-		-	-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5, DFAT 0/5, BACTE

# SOUTH FORK TRAP

BroodYr	Stock	Species	Class D													ExamType	Diagnoses
			Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH		
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON	05-286	8/16/2005	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, ELISA 0/5, PTD-
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON	05-293	8/19/2005	-	-	-	+						-		INSPECTION	RS; VIRO 0/5, ELISA 3/5 (3 LOW), PTD-MYXOB 0/5
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-294	8/19/2005				+								INSPECTION	RS; ELISA 13/27 (13 LOW)
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-301	8/23/2005	-	-	-	+						-	+	INSPECTION	BKD, CSH, MYXOB; VIRO 0/60, NAVHS 0/6, ELISA 33/92 (32 LOW, 1 HIGH), CERATOMYXA SHASTA 1/4 (X5), PTD-MYXOB 1/4(x5), PCR-WHD 0/5
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON	05-302	8/23/2005	-	-	-	+						-	-	INSPECTION	RS; VIRO 0/8, NAVHS 0/1, ELISA 1/8 (1 LOW), CSH 0/8, PTD-MYXOB 0/8
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-322	8/26/2005				+								INSPECTION	RS; ELISA 81/87 (81 LOW)
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON	05-323	8/26/2005	-	-	-	+						-	-	INSPECTION	RS; VIRO 0/8, NAVHS 0/1, ELISA 3/8 (3 LOW), PTD-MYXOB 0/8, CSH 0/8
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON	05-325	8/30/2005	-	-		+						-	-	INSPECTION	BKD; VIRO 0/6, ELISA 3/6 (3 LOW), PTD-MYXOB 0/6, CSH
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-326	8/30/2005				+								INSPECTION	BKD; ELISA 67/120 (63 LOW, 4 HIGH)
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON	05-334	9/2/2005	-	-		-						-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2, PTD-MYXOB 0/2, CSH 0/2
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-335	9/2/2005				+								INSPECTION	BKD; ELISA 43/66 (38 LOW, 5 HIGH)
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	05-341	9/6/2005				+								INSPECTION	BKD; ELISA 24/43 (23 LOW, 1 HIGH)

# SPRINGFIELD HATCHERY

Class C

BroodYr	Stock	Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
FERAL	TROUTLODGE	RAINBOW TROUT	05-406	10/3/2005	-	-		+	-	-	-	+	-			INSPECTION	MAS, RS, SALMINCOLA, NEMATODES; VIRO 0/50, DFAT 0/50, ELISA-RS 1/10 (X5, 1 LOW), AEROMONAS SOBRIA 1/20, PKX 0/1, SALMINCOLA ~25/50, NEMATODES IN
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-444	11/8/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/50
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-445	11/8/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/50
2005	TROUTLODGE	RAINBOW TROUT-TRIPLOID	05-446	11/8/2005	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/45



LOCATION		Sample														Diagnoses
Experimental Group	Exposure Dates	Stock/Species	Accession	Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
IRON CREEK WD SENTINELS Pathologist: KEITH JOHNSON		RAINBOW TROUT	05-369	9/15/2005										-	NO PATHOGENS DETECTED; PTD-MYXOB 0/47	
IRON CREEK WD SENTINELS Pathologist: KEITH JOHNSON		RAINBOW TROUT	05-370	9/15/2005										+	WHD; PTD-WHD 35/35	
IRON CREEK WD SENTINELS: SALMON RIVER SITE Pathologist: KEITH JOHNSON		RAINBOW TROUT	05-371	9/15/2005										+	WHD; PTD-WHD 47/47	
CRYSTAL SPRGS HATCHERY UPPER POND Pathologist: DOUGLAS BURTON		TROUT LODGE RAINBOW TROUT - TRIPLOID	05-444	11/8/2005	-	-									NO PATHOGENS DETECTED; VIRO 0/50	
CRYSTAL SPRINGS LOWER POND Pathologist: DOUGLAS BURTON		TROUT LODGE RAINBOW TROUT - TRIPLOID	05-445	11/8/2005	-	-									NO PATHOGENS DETECTED; VIRO 0/50	
CRYSTAL SPRGS HATCHERY OUTLET Pathologist: DOUGLAS BURTON		TROUT LODGE RAINBOW TROUT - TRIPLOID	05-446	11/8/2005	-	-									NO PATHOGENS DETECTED; VIRO 0/45	
<b>OXBOW CSH 2005</b>																
OXBOW CSH 2005 Pathologist: A. DOUGLAS MUNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-181	5/31/2005										-	NO PATHOGENS DETECTED; CSH 0/50, PCR-CSH 0/50	
OXBOW CSH 2005 Pathologist: A. DOUGLAS MUNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-189	6/14/2005										-	NO PATHOGENS DETECTED; CSH 0/45, PCR 0/45	
OXBOW CSH 2005 Pathologist: A. DOUGLAS MUNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-201	6/30/2005										-	NO PATHOGENS DETECTED; CSH 0/42, PCR 0/42	
OXBOW CSH 2005 Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-206	7/8/2005	-	-								+	CSH 1/1, VIRO 0/1	

LOCATION			Sample													Diagnoses
Experimental Group	Exposure Dates	Stock/Species	Accession	Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
OXBOW CSH 2005 Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-207	7/9/2005	-	-									+	CSH 2/2, VIRO 0/2
OXBOW CSH 2005 Pathologist: KEITH JOHNSON		RAINBOW TROUT	05-222	7/11/2005	-	-									+	CSH; VIRO 0/1, CERATOMYXA SHASTA 1/1, PCR-CSH 1/1
OXBOW CSH 2005 Pathologist: A. DOUGLAS MUNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-230	7/13/2005	-	-									-	NO PATHOGENS DETECTED; VIRO 0/20, CSH 0/39, PCR 0/39
OXBOW CSH 2005 Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-242	7/19/2005	-	-									+	CSH 1/1, VIRO 0/1
OXBOW CSH 2005 Pathologist: A. DOUGLAS MUNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-243	7/20/2005	-	-									+	CSH; VIRO 0/5, CERATOMYXA SHASTA 5/5
OXBOW CSH 2005 Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-245	7/21/2005	-	-									-	NO PATHOGENS DETECTED; VIRO 0/1, CSH 0/1, PCR-CSH 0/1
OXBOW CSH 2005 Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-246	7/22/2005	-	-									+	CSH; VIRO 0/1, CSH 1/1
OXBOW CSHASTA 2005 Pathologist: A. DOUGLAS MUNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-256	7/27/2005	-	-									+	CSH; VIRO 0/20, CSH 23/29, PCR-CSH 3/25
OXBOW CSH 2005 Pathologist: A. DOUGLAS MUNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-257	7/27/2005	-	-									+	CSH; VIRO 0/5, CSH 5/5
OXBOW CSH 2005 Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-259	7/29/2005	-	-									+	CSH; VIRO 0/2, CSH 2/2
OXBOW CSH 2005 Pathologist: A. DOUGLAS MUNSON		HAYSPUR RAINBOW TROUT-TRIPLOID	05-307	8/24/2005											+	CSH; CERATOMYXA SHASTA 22/28
<b>SILVER CREEK VII 2004</b>																
KILPATRICK BRIDGE Pathologist: DOUGLAS BURTON		RAINBOW TROUT-TRIPLOID	05-023	1/20/2005											-	NO PATHOGENS DETECTED; PTD-MYXOB 0/50
TRESTLE Pathologist: DOUGLAS BURTON		HAYSPUR RAINBOW TROUT	05-024	1/20/2005											-	NO PATHOGENS DETECTED; PTD-MYXOB 0/44



**UPPER SALMON RIVER III 2005**

Experimental Group	Exposure Dates	Stock/Species	Accession	Sample											Diagnoses				
				Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH					
POLE CRK MOUTH Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-374	9/2/2005														+	WHD; PTD-WHD 26/32
USR III POLE CRK MIDWAY Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-375	9/20/2005														+	WHD; PTD-WHD 26/36
USR III POLE CRK HEADGATE Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-376	9/20/2005														+	WHD; PTD-WHD 9/21
USR III POLE CRK RS Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-377	9/20/2005														+	WHD; PTD-WHD 2/18
USR III POLE CRK Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-378	9/20/2005														-	NO PATHOGENS DETECTED; PTD-MYXOB 0/27
53 USR III SR HWY 75 TURNOUT Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-379	9/20/2005														-	NO PATHOGENS DETECTED; PTD-MYXOB 0/45
USR III SR @ POLE CRK RD BRIDGE Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-380	9/20/2005														-	NO PATHOGENS DETECTED; PTD-MYXOB 0/41
USR III SR> POLE CRK MOUTH Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-381	9/20/2005														+	WHD; PTD-WHD 24/46
USR III SR> WC Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-382	9/20/2005														+	WHD; PTD-WHD 13/13
USR III SR< WC Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-383	9/20/2005														+	WHD; PTD-WHD 30/30
USR III HUCKLEBERRY BRIDGE Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-384	9/20/2005														-	NO PATHOGENS DETECTED; PTD-MYXOB 0/7

LOCATION			Sample													
Experimental Group	Exposure Dates	Stock/Species	Accession	Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	Diagnoses	
USR III HUCKLEBERRY POND Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-385	9/20/2005									+		WHD; PTD-WHD 5/42	
USR III SR @ OBSIDIAN Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-386	9/20/2005									+		WHD; PTD-WHD 43/43	
USR III SR> SFH Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-387	9/20/2005									+		WHD; PTD-WHD 43/43	
USR III SFH HEAD BOX #2 Pathologist: KEITH JOHNSON		HAYSPUR RAINBOW TROUT	05-388	9/20/2005									+		WHD; PTD-WHD 35/35	

## Appendix C. Wild Fish Health Summary Report 2005

Sample Origin	Accession	Species	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	Diagnoses
<b>BOISE RIVER</b>															
MAJOR: BOISE RIVER	05-187	KOKANEE SALMON													NEUROTROPIC MYXOBOLUS; PTD-MYXOB 1/4(x5),
SECONDARY SOUTH FORK		Sample Date: 6/9/2005									+	-	+		PCR-WHD 0/5, PCR-NEURO 1/1(x5)
TERTIARY: ANDERSON RANCH RESERVOIR		Received Date: 6/9/2005	GPS				N,		W						
QUATERNARY			or	UTM Zone 11	633419	E,	4806531		N						
Sample site:		Submitted by: DAN BAKER													Pathologist KEITH JOHNSON
<b>PAYETTE RIVER</b>															
MAJOR: PAYETTE RIVER	05-318	KOKANEE-EARLY SPAWN													NO PATHOGENS DETECTED; VIRO 0/16
SECONDARY SOUTH FORK		Sample Date: 8/25/2005	-	-	-										
TERTIARY: DEADWOOD RIVER		Received Date: 8/25/2005	GPS				44.3436	N,	115.6562	W					
QUATERNARY DEADWOOD RESERVOIR			or	UTM Zone			E,		N						
Sample site:		Submitted by: DAN BAKER													Pathologist KEITH JOHNSON
<b>SALMON RIVER</b>															
MAJOR: SALMON RIVER	05-152	RAINBOW TROUT													NO PATHOGENS DETECTED; VIRO 0/11, NAVHS
SECONDARY LAKE CREEK		Sample Date: 4/29/2005	-	-	-										0/7
TERTIARY: WILLIAMS LAKE		Received Date: 5/5/2005	GPS				45.01531	N,	113.9898	W					
QUATERNARY			or	UTM Zone			E,		N						
Sample site:		Submitted by: BOB ESSELMAN													Pathologist DOUGLAS R. BURTON
MAJOR: SALMON RIVER	05-160	RAINBOW TROUT													NO PATHOGENS DETECTED; VIRO 0/10
SECONDARY LAKE CREEK		Sample Date: 5/6/2005	-	-											
TERTIARY: WILLIAMS LAKE		Received Date: 5/11/2005	GPS				45.01531	N,	113.9898	W					
QUATERNARY			or	UTM Zone			E,		N						
Sample site:		Submitted by: BOB ESSELMAN													Pathologist DOUGLAS R. BURTON
MAJOR: SALMON RIVER	05-177	KOKANEE SALMON													NO PATHOGENS DETECTED; PTD-MYXOB 0/13
SECONDARY ALTURAS LAKE CREEK		Sample Date: 5/20/2005													
TERTIARY: ALTURAS LAKE		Received Date: 5/20/2005	GPS				43.9129	N,	114.8616	W					
QUATERNARY			or	UTM Zone 11	671691	E,	4864455		N						
Sample site:		Submitted by: CATHERINE WILLARD													Pathologist KEITH JOHNSON
MAJOR: SALMON RIVER	05-178	KOKANEE SALMON													NEUROTROPIC MYXOBOLUS; PTD-MYXOB 5/5 (x5
SECONDARY REDFISH LAKE CREEK		Sample Date: 5/20/2005													& x1), PCR-WHD 0/5, PCR-NEURO 1/1(x5)
TERTIARY: REDFISH LAKE		Received Date: 5/20/2005	GPS				44.1427	N,	114.9204	W					
QUATERNARY FISH HOOK CREEK			or	UTM Zone			E,		N						
Sample site:		Submitted by: CATHERINE WILLARD													Pathologist KEITH JOHNSON

56

Sample Origin	Accession	Species	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	Diagnoses
MAJOR: SALMON RIVER SECONDARY REDFISH LAKE CREEK TERTIARY: QUATERNARY Sample site:	05-410	KOKANEE SALMON													NO PATHOGENS DETECTED; PTD-MYXOB 0/10
		Sample Date: 10/3/2005 Received Date: 10/7/2005									-	-	-		
		Submitted by: KURTIS PLASTER	GPS or UTM Zone				N, E,		W N						Pathologist KEITH JOHNSON
MAJOR: SALMON RIVER SECONDARY ALTURAS LAKE CREEK TERTIARY: ALTURAS LAKE QUATERNARY Sample site:	05-411	KOKANEE SALMON													NO PATHOGENS DETECTED; PTD-MYXOB 0/10
		Sample Date: 10/4/2005 Received Date: 10/7/2005													
		Submitted by: KURTIS PLASTER	GPS or UTM Zone11				43.9129 N, 671691 E,		114.8616 W 4864455 N						Pathologist KEITH JOHNSON
MAJOR: SALMON RIVER SECONDARY ALTURAS LAKE CREEK TERTIARY: PETTIT LAKE QUATERNARY Sample site:	05-412	KOKANEE SALMON													NO PATHOGENS DETECTED; PTD-MYXOB 0/10
		Sample Date: 10/4/2005 Received Date: 10/7/2005													
		Submitted by: KURTIS PLASTER	GPS or UTM Zone				43.9804 N, E,		114.8782 W N						Pathologist KEITH JOHNSON
MAJOR: SALMON RIVER SECONDARY MIDDLE FORK TERTIARY: BIG CREEK QUATERNARY Sample site:	06-029	WESTSLOPE CUTTHROAT TROUT													NO PATHOGENS DETECTED; PTD-MYXOB 0/5
		Sample Date: 5/15/2005 Received Date: 2/2/2006													
		Submitted by: KEN CAIN, UNIVERSITY OF	GPS or UTM Zone				45.1033 N, E,		114.85444 W N						Pathologist KEITH JOHNSON
MAJOR: SALMON RIVER SECONDARY REDFISH LAKE CREEK TERTIARY: REDFISH LAKE QUATERNARY Sample site:	06-057	BULL TROUT													NEUROTROPIC MYXOBOLUS; DFAT 0/2, PTD-MYXOB 2/6, PCR-MYXOB 0/2, PCR-NEURO 2/2
		Sample Date: 5/27/2005 Received Date: 3/3/2006													
		Submitted by: KURTIS PLASTER	GPS or UTM Zone11				666900 E, N,		4890469 N W						Pathologist KEITH JOHNSON
MAJOR: SALMON RIVER SECONDARY REDFISH LAKE CREEK TERTIARY: REDFISH LAKE QUATERNARY Sample site:	06-058	SOCKEYE SALMON													NEURO; DFAT 0/34, PTD-NEUROTROPIC MYXOBOLUS 1/7 (X5)
		Sample Date: 5/27/2005 Received Date: 3/3/2006													
		Submitted by: KURTIS PLASTER	GPS or UTM Zone11				666820 E, N,		4890732 N W						Pathologist KEITH JOHNSON
MAJOR: SNAKE RIVER SECONDARY POWDER RIVER (OR) TERTIARY: PHILLIPS RESERVOIR QUATERNARY Sample site:	05-034	YELLOW PERCH													NO PATHOGENS DETECTED; PCR-HETEROSPORIS 0/60
		Sample Date: 2/8/2005 Received Date: 2/9/2005													
		Submitted by: DALE ALLEN	GPS or UTM Zone11				419113 E, N,		4943990 N W						Pathologist DOUGLAS R. BURTON

Sample Origin	Accession	Species	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	Diagnoses
MAJOR: SNAKE RIVER SECONDARY BROWNLEE RESERVOIR SECONDARY BROWNLEE RESERVOIR TERTIARY: QUATERNARY Sample site:	05-251	CHANNEL CATFISH	-	-			-	-	-	+					MAS, SECONDARY MYCOSIS (EXTERNAL), PARASITISM; VIRO 0/15, AEROMONAS HYDROPHILA 16/16, ILLINOBDELLA (LEACH) 16/16
		Sample Date: 7/25/2005													
		Received Date: 7/26/2005	GPS					N,		W					
		Submitted by: BRIAN FLATTER	or	UTM Zone11	482310	E,	4912481	N							Pathologist DOUGLAS R. BURTON
MAJOR: SNAKE RIVER SECONDARY PALISADES RESERVOIR TERTIARY: MCCOY CREEK QUATERNARY IOWA CREEK Sample site:	05-462	YELLOWSTONE CUTTHROAT TROUT	-	-							-	-			NO PATHOGENS DETECTED; PTD-MYXOB 0/21
		Sample Date: 8/23/2005													
		Received Date: 11/30/2005	GPS					N,		W					
		Submitted by: DICK SCULLY	or	UTM Zone12	479938	E,	4777257	N							Pathologist KEITH JOHNSON
MAJOR: SNAKE RIVER SECONDARY SALT RIVER TERTIARY: STUMP CREEK QUATERNARY Sample site:	05-463	YELLOWSTONE CUTTHROAT TROUT	-	-							+	+			WHD; PTD-MYXOB 1/4 (X5), PTD-HENN 3/4 (X5), PCR-WHD 1/5
		Sample Date: 8/23/2005													
		Received Date: 11/30/2005	GPS					N,		W					
		Submitted by: DICK SCULLY	or	UTM Zone12	493788	E,	4737879	N							Pathologist KEITH JOHNSON
MAJOR: SNAKE RIVER SECONDARY SALT RIVER TERTIARY: CROW CREEK QUATERNARY SAGE CREEK Sample site:	05-464	BROWN TROUT	-	-							-	-			NO PATHOGENS DETECTED; PTD-MYXOB 0/3
		Sample Date: 11/22/2005													
		Received Date: 11/30/2005	GPS					N,		W					
		Submitted by: DICK SCULLY	or	UTM Zone12	491673	E,	4718599	N							Pathologist KEITH JOHNSON
MAJOR: SNAKE RIVER SECONDARY SALT RIVER TERTIARY: CROW CREEK QUATERNARY SAGE CREEK Sample site:	05-465	CUTTHROAT TROUT	-	-							+	+			WHD; PTD-MYXOB 2/11, PCR-MYXOB 0/1, PCR- NEURO 1/1
		Sample Date: 11/22/2005													
		Received Date: 11/30/2005	GPS					N,		W					
		Submitted by: DICK SCULLY	or	UTM Zone12	491673	E,	4718599	N							Pathologist KEITH JOHNSON
MAJOR: SNAKE RIVER SECONDARY SALT RIVER TERTIARY: CROW CREEK QUATERNARY SAGE CREEK Sample site:	05-466	BROWN TROUT	-	-							-	-			NO PATHOGENS DETECTED; PTD-MYXOB 0/5
		Sample Date: 11/22/2005													
		Received Date: 11/30/2005	GPS					N,		W					
		Submitted by: DICK SCULLY	or	UTM Zone12	491482	E,	4717800	N							Pathologist KEITH JOHNSON
MAJOR: SNAKE RIVER SECONDARY SALT RIVER TERTIARY: CROW CREEK QUATERNARY SAGE CREEK Sample site:	05-467	BROWN TROUT	-	-							+	-			WHD; PTD-MYXOB 1/7, PCR-MYXOB 1/5, PCR- NEURO 0/5
		Sample Date: 11/22/2005													
		Received Date: 11/30/2005	GPS					N,		W					
		Submitted by: DICK SCULLY	or	UTM Zone12	491482	E,	4717800	N							Pathologist KEITH JOHNSON

**Sample Origin**

MAJOR: SNAKE RIVER  
 SECONDARY SALT RIVER  
 TERTIARY: CROW CREEK  
 QUATERNARY SAGE CREEK  
 Sample site:

**Accession**

**Species**

05-468 CUTTHROAT TROUT

Sample Date: 11/22/2005  
 Received Date: 11/30/2005

IHN IPN NAVHS BKD FUR ERM CWD MAS MYXOB WHD NEUR CSH  
 - -  
 GPS N, W  
 or UTM Zone 12 491482 E, 4717800 N  
 Submitted by: DICK SCULLY Pathologist KEITH JOHNSON

**Diagnoses**

NO PATHOGENS DETECTED; PTD-MYXOB 0/3

MAJOR: SNAKE RIVER  
 SECONDARY SALT RIVER  
 TERTIARY: CROW CREEK  
 QUATERNARY SAGE CREEK  
 Sample site:

05-479 RAINBOW X CUTTHROAT TROUT HYBRID

Sample Date: 11/22/2005  
 Received Date: 11/30/2005

IHN IPN NAVHS BKD FUR ERM CWD MAS MYXOB WHD NEUR CSH  
 - -  
 GPS 42.6201 N, -111.0998 W  
 or UTM Zone E, N  
 Submitted by: DICK SCULLY Pathologist KEITH JOHNSON

NO PATHOGENS DETECTED; PTD-MYXOB 0/1

**WEISER RIVER**

MAJOR: WEISER RIVER  
 SECONDARY LOST VALLEY CREEK  
 TERTIARY: LOST VALLEY RESERVOIR  
 QUATERNARY  
 Sample site:

05-041 YELLOW PERCH

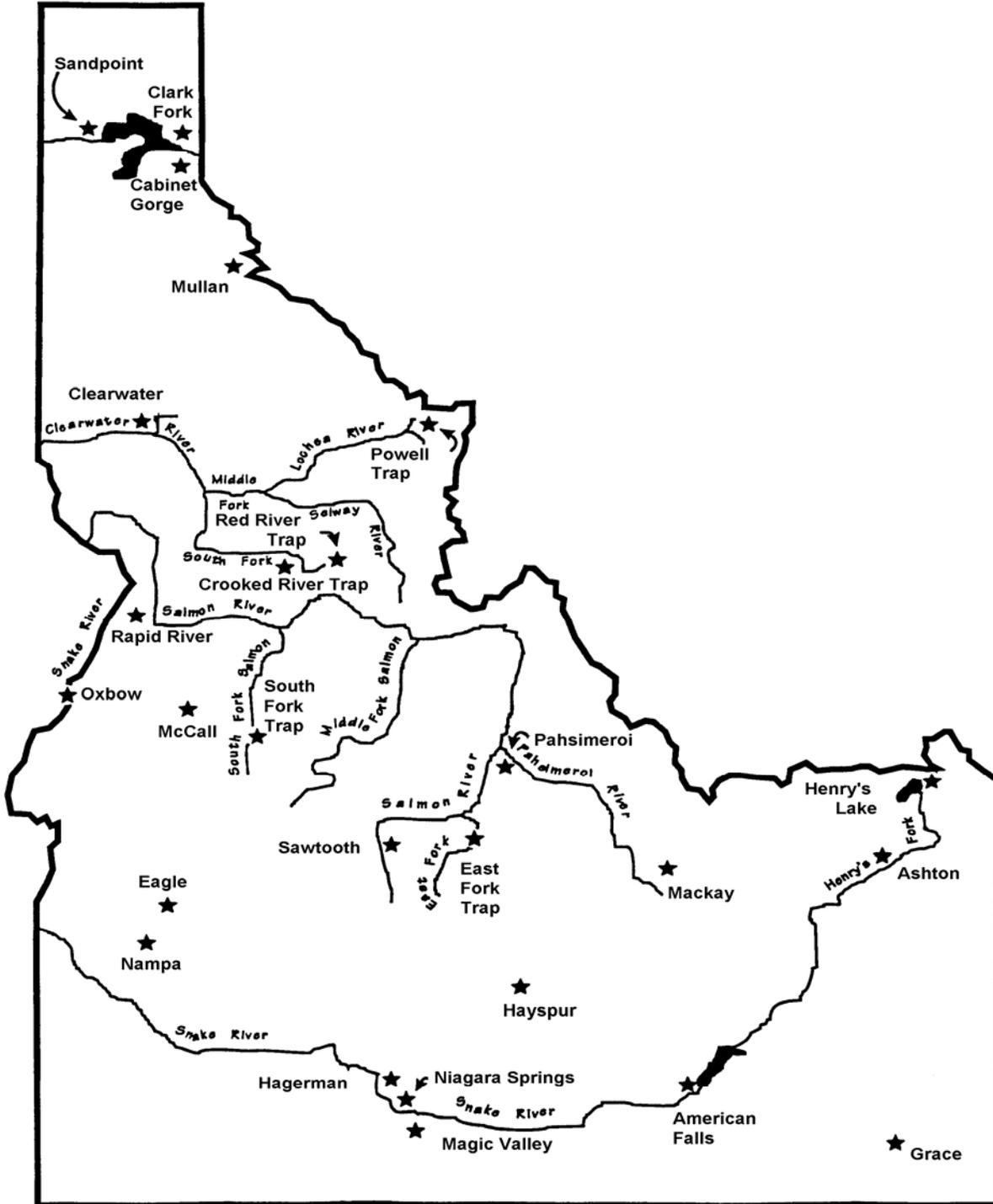
Sample Date: 2/15/2005  
 Received Date: 2/6/2005

IHN IPN NAVHS BKD FUR ERM CWD MAS MYXOB WHD NEUR CSH  
 GPS N, W  
 or UTM Zone 11 542741 E, 4978815 N  
 Submitted by: DALE ALLEN Pathologist DOUGLAS R. BURTON

NO PATHOGENS DETECTED; PCR-HETEROSPORIS  
 0/60

**Appendix D. Geographic location of Idaho Department of Fish and Game culture facilities.**

**IDAHO DEPARTMENT OF FISH AND GAME  
FISH HATCHERIES**



Submitted by:

Approved by:

IDAHO DEPARTMENT OF FISH AND GAME

Keith A. Johnson  
Fish Pathologist Supervisor

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Steve P. Yundt, Chief  
Bureau of Fisheries

Douglas Burton  
Resident Fish Pathologist

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Bill Hutchinson, Asst. Bureau Chief

A. Douglas Munson  
Anadromous Fish Pathologist