



FISH HEALTH MANAGEMENT

January 1 – December 31, 2004

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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	4
Hagerman State Hatchery	4
Hayspur Hatchery	4
Henrys Lake Hatchery	6
Mackay Hatchery	6
McCall Hatchery Resident Program	7
Nampa Hatchery	7
Other Activities	7
Anadromous Hatcheries	8
Clearwater Hatchery and Crooked River, Powell, and Red River Satellite Facilities	8
Magic Valley Hatchery	9
McCall Hatchery and South Fork Satellite	10
Niagara Springs Hatchery	10
Oxbow Hatchery	10
Pahsimeroi Hatchery	11
Rapid River Hatchery	11
Sawtooth Hatchery	12
Sockeye and Chinook Captive Broodstock	13
Redfish Lake Sockeye Salmon Captive Broodstock	13
Juvenile Smolt Quality Assessment in 2004	15
Salmon River Chinook Captive Rearing	16
Bacterial Pathogens	16
Viral Pathogens	16
Parasitic Pathogens	16
IDAHO WILD FISH HEALTH SURVEY	17
TRANSPORT AND IMPORT PERMITS	18
REPORTS AND PRESENTATIONS	18
PRODUCTION STUDIES AND SURVEYS TO ENHANCE FISH HEALTH	18
RECOMMENDATIONS	19
ACKNOWLEDGEMENTS	21
LITERATURE CITED	22
APPENDICES	23

List of Appendix

Appendix A. Fish Health Summary Report 2004.....	23
Appendix B. Wild Fish Health Summary Report 2004	45
Appendix C. Research Fish Health Summary Report 2004.....	53

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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 2004. 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 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. There was one new geographic occurrences of the whirling disease parasite this year, that being McCoy Creek, a tributary of Palisades Reservoir within drainage previously found positive. 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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FISH HEALTH MONITORING AND MANAGEMENT ACTIVITIES OF THE IDAHO DEPARTMENT OF FISH AND GAME

Resident Hatchery Activities

The Resident Hatchery Pathologist's (RHP) primary duties 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. The author, Douglas R. Burton, has held the RHP position since 1993. The RHP and the Anadromous Hatchery Pathologist (AHP) work closely together, often assisting each other in their respective programs and coordinating efforts when those programs overlap. Both pathologists work out of the Eagle Fish Health Laboratory (EFHL), and are supported by the personnel and facilities there. Both individuals are certified by the American Fisheries Society as Fish Health Inspectors.

The RHP is the Investigational New Animal Drug (INAD) monitor for the IDFG resident hatcheries. This is the process 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 in 1998. This group administers INAD programs for State, Tribal, and private aquaculture across the United States. Chemical compounds used under this program by IDFG resident hatcheries during 2004 included Oxytetracycline (OTC) and Chloramine-T (CHLOR-T). Oxytetracycline is used to treat fish with systemic bacterial infections, and CHLOR-T is used to treat bacterial gill infections. Statewide, the single most significant fish disease in the IDFG resident hatchery program continued to be bacterial coldwater disease (CWD). The bacterium that causes CWD, *Flavobacterium psychrophilum*, is usually susceptible to OTC but requires an INAD protocol for such treatment to be legal. The total of 23 INAD protocols needed to use OTC at resident hatcheries in 2004 was identical to the number needed in 2003. In addition, the RHP monitored an INAD research project by IDFG Research Biologist Joe Kozfkay to test Calcein as a marking agent for juvenile fish.

Another responsibility of the RHP was to issue import/transport permits when the fish or fish eggs involved were of resident species and the goal of the movement was the noncommercial release of fish into surface waters of the state. Such permits were issued to IDFG personnel, other governmental agents, and private individuals. This duty involves collecting fish health inspection and certification information from various sources. The goal of the program is to reduce jeopardy to Idaho's fishery resources by limiting the probability of importing unwanted pathogens or other exotic species. An additional aspect to this duty in 2004 was the coordination of the Federal Title 50 certifications for the import of Westslope cutthroat trout eggs, kokanee salmon eggs, and sterile brook trout eggs into Idaho from British Columbia, Canada.

The RHP and EFHL personnel examined 81 cases for IDFG resident hatchery programs during 2004 (46 diagnostic cases, 19 routine hatchery inspections, and 16 inspections of feral brood

fish). Compared to the previous year, these numbers reflect a decrease in inspections (29 routine and 24 feral brood in 2003) and an increase in diagnostics (34 in 2003). In addition, the RHP was responsible for 1 inspection done on fish from the Idaho Springs Hatchery (rainbow trout purchased from the University of Idaho by Idaho Power Co. for release in American Falls Reservoir), and 31 various research tests. A single diagnostic inspection was done on privately-owned Koi carp at the request of the Idaho Department of Agriculture, from which Koi herpes virus was confirmed for the first time in Idaho.

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

American Falls Hatchery

Five of six diagnostic examinations documented CWD as the most significant infectious disease at American Falls Hatchery in 2004. One of those cases also detected a carrier infection of an *Aeromonas* species. Two forms of CWD are observed at American Falls Hatchery. One form is an acute systemic bacteremia with the primary signs being an enlarged spleen, swollen, grey kidney, ascites, and occasionally a necrotic lesion on the lateral body wall over the spleen. Mortalities tend to climb rapidly. This form generally responds well to OTC-medicated feed at the standard dose and duration (3.75 grams OTC/100 pounds of fish/day for 10 days). The other form of CWD appears in larger fish, with less severe internal signs but external lesions very similar to the blisters of furunculosis (FUR) caused by *Aeromonas salmonicida*. Mortality rates from this manifestation of CWD are usually lower but persistent. Successful treatment of the second form usually requires use of a higher dose and duration OTC-treatment (10 grams/100 pounds of fish/day for 14 days). If the opportunity arises in 2005, we may try to compare Florfenicol, another INAD drug, to OTC as a treatment for CWD at American Falls.

Ashton Hatchery

The RFP visited the hatchery in March to sample the catchable rainbow trout population. No replicating viruses, *Renibacterium salmoninarum* (RS), or *Myxobolus* spores were detected from the samples. The hatchery manager reports that infestations of the external trematode *Gyrodactylus* continue to be the only significant disease problem on the station. 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 *Myxobolus cerebralis* (MC) contamination, because the hatchery water source is not completely enclosed. As more bodies of water in the vicinity are shown positive for the parasite, the greater the probability MC may enter the hatchery. In addition, the hatchery experiences heavy depredations by herons and other avian predators. These birds can also serve as vectors for disease agents. Portable screening that can be removed during times when snow is heavy and birds are not present would be a significant enhancement for this hatchery.

Cabinet Gorge Hatchery

Spawning kokanee adults were examined at the Sullivan Springs Trap at the end of November. No fish were available for sampling in the Clark Fork River trap. As in previous years,

the adult kokanee were tested for replicating viruses, for RS by both the direct fluorescent antibody test (FAT) and the enzyme-linked immunosorbent assay test (ELISA), and for *Myxobolus* spores. No pathogens were detected. A light infection of encysted cestodes was evident in the pyloric caecae of about half of the fish. These are seen every year at about the same intensity and prevalence, and do not appear to have any adverse effect upon the hosts.

Grace Hatchery

Grace Hatchery was at near full production levels in 2004, while continuing to experience a drought that significantly reduced water flow from the hatchery springs. In spite of these conditions, general fish health problems were better than in 2003. Specifically, CWD was the confirmed diagnosis in 2 cases versus 5 in 2003. Treatments with OTC-medicated feed under INAD protocols were generally successful in reducing mortalities.

The triploid lake trout were inspected because the hatchery personnel observed abnormal swimming behavior in a significant portion of the population. Neither replicating viruses nor bacteria were detected. It is speculated that the behavior was related to the genetics of the population or as a result of the treatment of the eggs that induced triploidy.

Hagerman State Hatchery

A total of 23 diagnostic cases were examined from Hagerman State Fish Hatchery in 2004. The severity of infectious hematopoietic necrosis (IHN) virus continues on a decline, with minor losses in only a few lots. Two significant bacterial diseases caused fish losses this year, CWD and columnaris disease (COL) caused by *Flavobacterium columnare*. These bacteria were often detected in conjunction with each other or with a motile *Aeromonas*. These pathogens are so prevalent at Hagerman State that they can even be isolated from fish in the healthiest appearing populations. Actual disease epizootics were treated with OTC-medicated feed when the situation warranted, and the treatments were generally successful. The number of OTC-INAD protocols to treat CWD and/or COL at Hagerman State in 2004 was identical (15) to that in 2003. All were applied to fingerling or larger fish and were generally successful. One production stage where antibiotic use has been significantly reduced was in the vat building. A daily 1/2-hour bath treatment with 100-mg/l hydrogen peroxide is now given to every egg incubator, beginning the day after the eggs arrive and continuing until the fish are moved out of the vat building. To date, the hatchery manager reports that the improvement in survival far outweighs any cost in time or chemical.

The protozoan parasite *Ichthyophthirius multifiliis* (ICH) had a significant impact on several lots of fish in December. The source has been much speculated upon, but has not been confirmed. Alternating treatments of formalin and potassium permanganate have been used to date to control the parasite. This was the first time that ICH has caused documented mortality on the hatchery.

Hayspur Hatchery

Intensive sampling of the replacement rainbow (R9) and Kamloops (K1) brood stock pairings continued to be the health priority at Hayspur Hatchery. Ovarian fluids were collected from every

female used in the pairings for virology and for RS analysis using the ovarian cell pellet fluorescent antibody test (OCP-FAT). Lethal sampling of a portion of the females was resumed, taking tissues for virology, kidney smears for direct FAT, and kidney tissues for ELISA. This practice had been discontinued because the loss of the BY-2001 replacement populations made every live female on station too valuable. Ample numbers of BY-2002 fish matured and contributed to this year's egg production, relieving this situation. In addition, good reagents for the ELISA test are again available, making lethal sampling for kidney tissues more valuable. Eggs from individual females were held in isolation until the test results were complete. Using established protocol, if a parent female tested positive for any virus, for RS by any FAT method, or for RS antigen by ELISA at an optical density (OD) above 0.200, the resulting group of eggs was culled.

The R9 brood stock replacement spawning was done on 6 days between October 14 and December 29, 2004. A total of 192 females were tested. No viruses were detected from any ovarian fluid or tissue samples. The RS tests were as follows: 3 of 192 ovarian fluid samples were RS-positive by OCP-FAT, 12 of 60 ELISA tests were positive (5 with OD>0.200), and 0 of 60 kidney smears were positive by FAT. As a result, 8 groups of eggs were culled.

Kamloops brood stock replacement spawning was done on 4 days, from October 28 to November 15. A total of 113 females were tested. No viruses were detected from any ovarian fluid or tissue samples. The RS tests were as follows: 3 of 113 ovarian fluid samples were RS-positive by OCP-FAT, 4 of 34 ELISA tests were positive for RS antigen (1 with OD>0.200), and 1 of 34 kidney smears was positive by FAT. As a result, 3 groups of eggs were culled.

Sixty-fish inspection samples (lethal) were taken from both BY-2002 R9 and K1 populations. The majority of the fish in these samples were excess males. No replicating viruses, RS by FAT, or *Myxobolus* spores were detected from either population. *Flavobacterium psychrophilum* bacteria were isolated from individuals in both populations although no signs of clinical disease were observed. *Renibacterium salmoninarum* antigen was detected by ELISA from 16 individual K1s (10 low OD, 6 high OD) and from 1 R9 male (low OD). These results, as well as those from the replacement parent spawning fish, indicate an increasing incidence of RS in these populations. This is of concern, even though no signs of clinical bacterial kidney disease (BKD) were observed. This trend may be a result of changing fish culture practices as well as the inability to cull eggs based on ELISA test results for several years when reliable ELISA reagents were not available. The presence of non-clinical RS in these populations has never affected IDFG programs, but could have an impact on any plans to move the eggs out of state.

This was the third year that eggs were taken from the BY-2000 Westslope cutthroat trout, originating from Connor Lake, Canada. Ovarian fluids from 29 females were tested for viruses and for RS by OCP-FAT, with no pathogens detected. A major problem with spawning the Connor Lake cutthroat continues to be that the males do not produce significant quantities of sperm early in the season, when the first females become ripe. This may contribute to poor fertilization rates in the early egg takes. To solve this problem, dried and sterilized pituitary glands harvested from mature male steelhead trout were reconstituted in sterile saline and injected into a portion of the Connor Lake cutthroat males. Within 2 weeks these males successfully produced more sperm, by volume, than uninjected males. These fish soon ceased to produce sperm, but by that time, the uninjected males had become ready. This technique will continue to be used in the future to allow for better fertilization of early eggs.

The use of sterile rainbow trout in all IDFG hatcheries has become an important part of statewide fishery management. With the exception of replacement brood stock groups, all eggs taken at Hayspur Hatchery are treated so that the resulting fish will be sterile triploids. To

accomplish this, groups of eggs are shocked 20 minutes post-fertilization in a 26° C water bath. A goal of 95% triploid induction has been set for this treatment. Hatchery personnel randomly selected lots of heat-treated eggs and gave the RHP sub samples of eyed eggs from those groups for incubation and rearing at the EFHL wet lab. When the resulting fish were large enough, the RFP took blood samples from 40 randomly selected individuals. The samples were then sent to the University of Washington for analysis. Thirteen groups were tested from the 2003-2004 spawning season. A total of 519 individual fish were tested of which 500 (96.3%) were triploid. Nine of the 13 groups met or exceeded the 95% goal, while 2 deficient groups were at 92.5%, and the other 2 were at 90%. It has become evident that temperature shocking is not 100% efficient in inducing triploidy, but an overall average of 95% is not an unreasonable expectation.

Henry's Lake Hatchery

Fish health inspection samples were taken from spawning Yellowstone cutthroat trout at Henry's Lake Hatchery from January 21 through April 27, 2004. Ovarian fluids were collected by hatchery personnel and shipped to EFHL where they were tested for viruses (182 females in 26 seven-fish pools) and RS by OCP-FAT (1575 females in 225 seven-fish pools). No viruses were detected in any of the ovarian fluid samples, but one ovarian fluid sample tested positive for RS, so the corresponding pool of eggs was discarded. A group of 60 fish (both males and females) were sacrificed for kidney FAT, tissue virology, bacteriology (12 fish) and *Myxobolus* tests. No viruses were detected. Kidney smears were all negative for RS by FAT, but 11 of 12 five-fish pooled kidney tissue samples were positive by ELISA at low OD levels. This finding is consistent with previous year's testing. Bacteriology samples showed carrier-level infections of *Aeromonas salmonicida*, the causative agent of FUR. This is the first time this bacterium has been detected in cutthroat from Henry's Lake in over 10 years, although brook trout from the same source have frequently tested positive. *Myxobolus* spores were not detected in 12 five-fish pools by the pepsin/trypsin digest (PTD) method, although MC has been previously confirmed in this population.

Mackay Hatchery

The AHP filled in to sample rainbow trout and Yellowstone cutthroat trout July when the RHP was on vacation. No replicating viruses were detected in either population. No bacteria were isolated from the cutthroat, but the rainbow trout were diagnosed with CWD and motile *Aeromonas* septicemia (MAS). Losses in the rainbow population were elevated for this station, but not extremely high. Unfortunately, the effected fish were in the top section of a raceway with a different lot of larger fish in the downstream sections. Any treatment of the fish in the upper section would have impacted the fish below. Management programs dictated that the fish from the lower sections had to be stocked out for fishing, (i.e. human consumption), before the withdrawal period for OTC could be met. Therefore, no treatment was recommended for the effected lot of rainbow. A 60-fish group of rainbow trout were sampled by the hatchery personnel in December to be tested for MC. No *Myxobolus* spores were detected.

Mackay Hatchery received green eggs from the early-spawning kokanee in Deadwood Reservoir. A 60-fish inspection was done on the spawning population August 23. No viruses were detected from tissue samples. Direct FAT tests of kidney smears detected no RS, but 2 of 12 pooled samples were positive (low) for RS antigen by ELISA. This population had not been tested by ELISA since 2000 due to a lack of good reagents, but this year's results are very similar in

prevalence and intensity to results from the 1990s. Kidney smears from 4 fish whose kidneys appeared somewhat swollen were tested for the presence of *Tetracapsula bryosalmonae*, the causative agent of proliferative kidney disease (PKD). None was detected. Large *Myxobolus* spores were detected by PTD in 7 of 12 five-fish pools of adult Deadwood kokanee. Similar samples were tested in 2003 by polymerase chain reaction (PCR). Those tests confirmed that the species present in Deadwood Reservoir is the unnamed neurotropic (having an affinity for nervous tissue) *Myxobolus* that has been identified in many waters of Idaho (Hogge, Campbell, and Johnson, 2004). At the same time, PCR did not detect the presence of MC in the same fish.

McCall Hatchery Resident Program

The McCall Resident Program experienced only minor disease problems in 2004. The Westslope cutthroat trout fry for mountain lakes had experienced episodes of CWD in previous years, so the RHP was called to look at the BY-2004 fry when losses seemed to be increasing. No bacterial pathogens were detected, and the fish were stocked out before further tests or treatments could be applied.

Nampa Hatchery

The RHP examined 10 diagnostic cases at Nampa Hatchery in 2004. 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 bacterial gill disease (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.

The protozoan parasite *Ichthyobodo* (formerly *Costia*) was diagnosed in rainbow trout fry that had been transferred from Sandpoint Hatchery. The fish were probably infected before transfer, but the parasite was able to flourish in the warmer water at Nampa. Formalin treatments were applied with success.

Catchable-sized rainbow trout were examined late in December. Filamentous organisms were observed in the lower gut similar to those diagnosed in the 1990s as blue green algae. However, numerous efforts to confirm that diagnosis failed. Michel, et.al. (2002) reported a very similar organism causing almost identical epidemiology in France. This organism was identified as a filamentous bacterium and given a tentative name of *Candidatus*.

Other Activities

The RHP completed a series of field trials exposing rainbow trout fry in live boxes around Hayspur Hatchery, in Loving Creek, in Silver Creek, and in the Big Wood River. A separate report is pending. In summary, no MC could be detected in any fish exposed on the hatchery, or in Loving or Silver Creeks. The only infected fish in the trials were those exposed to the Big Wood River and in the irrigation canal that carries Big Wood River water to the fields directly above the Loving Creek springs. This work may identify a possible source for the historic infections on the hatchery and

explain why the detection of those infections has been only intermittent. But the results also raise questions about why the parasite does not seem to be established in Loving Creek or in the hatchery's earthen ponds.

Anadromous Hatcheries

The IDFG hatchery facilities and associated satellites are funded through Lower Snake River Compensation Plan (LSRCP) and Idaho Power Company (IPC) contributions. The anadromous pathologist 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), Chloramine-T (INAD 9321), and luteinizing hormone-releasing hormone analogue (INAD 8061). The AHP reports all reportable pathogens detected at anadromous facilities to the local APHIS veterinarian-in-charge. The AHP also coordinates injectable erythromycin reporting needs between the wildlife veterinarian and hatchery personnel. Another responsibility of the anadromous pathologist is to issue import/export permits as needed. The annual summary of results for the hatcheries and satellite stations is presented in Appendix 1. In 2004, 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 Ace Development, Arraina Inc., and Epicenter Aquaculture. A total five certification samples for transport of live tilapia hybrids from Idaho into Canada were processed at EFHL in 2004.

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 spring Chinook salmon. A total of 24 inspection and diagnostic cases were attributed to Clearwater Hatchery. Brood Chinook salmon that were transported from Red River and Crooked River (South Fork of the Clearwater spring Chinook) were spawned at Clearwater Hatchery. ELISA technology was used to examine all 425 females for RS. Thirty-eight females (8.9%) had their eggs culled from production because the kidney ELISA values were at or above 0.25. Infectious Hematopoietic Necrosis Virus was found in one fish of 63 brood fish examined. This detection of IHNV was reported to the APHIS veterinarian-in-charge. Pre-spawning mortality decreased in the South Fork of the Clearwater spring Chinook stock held at Clearwater Hatchery, from 12% in 2003 to 8% in 2004.

Aeromonas hydrophila, *Aeromonas sobria*, and *Flavobacterium psychrophilum* were isolated from BY'02 North Fork of Clearwater group B steelhead. OTC medicated feed was applied at 3.75 g/100 lbs biomass for 10 days. Preliberation samples were taken from 20 North Fork of the Clearwater B group steelhead. These fish were examined for viral replicating agents, RS, and MC. No pathogens were detected. Serious pathogens were not detected during juvenile Chinook salmon inspection sampling.

An additional 2 inspection cases were performed on samples collected at Dworshak National Fish Hatchery (DNFH) for brood steelhead. These samples establish brood fish health status before

eggs are transferred from DNFH to Clearwater Hatchery. Infectious Hematopoietic Necrosis Virus was isolated in B Group steelhead brood fish at DNFH in 11 fish out of 201 (5.5%) fish sampled. The eggs from the positive fish were culled from the Clearwater Hatchery program. All IHNV detections were reported to the APHIS veterinarian-in-charge.

Crooked River Satellite Facility - All brood spring Chinook salmon trapped at this facility were given a prophylactic intra-peritoneal injection of erythromycin to limit pre-spawning mortality to RS. These fish were injected at a rate of 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.

Spring preliberation inspections were applied to acclimating Chinook salmon. Pathogens were not detected in 20 fish sample. Moribund Chinook salmon and steelhead were detected at the screw trap located in the river at the lower Crooked River satellite. *Pseudomonas spp.* and *Saprolegnia* were the only pathogens detected. It is speculated that stress after release maybe the cause.

Powell Satellite Facility - All brood spring Chinook salmon trapped at this facility were given a prophylactic intra-peritoneal injection of erythromycin to limit pre-spawning mortality to RS. These fish were injected at a rate of 20 mg/kg. The number of fish injected, the injection rate, and total amount of erythromycin were reported to the state's wildlife veterinarian.

Five inspection cases were of brood Chinook salmon spawned at this satellite. Infectious Hematopoietic Necrosis was detected in 14 of 60 fish examined during routine brood sampling. These detections of IHNV were reported to the APHIS veterinarian-in-charge. Four hundred and seventy-five brood Chinook salmon females were examined for RS with ELISA. Of these, 15 females (3.2%) had optical densities at or above 0.25 and the eggs from these fish were culled. Pre-spawning mortality decreased from 19% (2003) to 2% (2004) in the adult Powell spring Chinook salmon being held at Powell for spawning. *Myxobolus cerebralis* was not detected at this facility in adult Chinook salmon.

Juvenile fish were reared at this facility during 2004. Preliberation examinations did not detect pathogens in the spring (BY'02) and fall (BY'03) acclimation releases of Powell juvenile Chinook salmon.

Red River Satellite Facility - All brood spring Chinook salmon trapped at this facility were given a prophylactic intra-peritoneal injection of erythromycin to limit pre-spawning mortality to RS. These fish were injected at a rate of 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.

During 2004, juveniles were released from this facility following a brief acclimation period. Pathogens were not detected in BY'02 South Fork of the Clearwater spring Chinook during spring preliberation sampling.

Magic Valley Hatchery

Dworshak, East Fork, Pahsimeroi, and Sawtooth steelhead trout stocks required 20 inspection and diagnostic cases during 2004 at the Magic Valley Hatchery. The diagnostic cases indicated *F. psychrophilum* complicated by aeromonads and pseudomonades to be the etiological agents. Mortalities caused by *F. psychrophilum* were high enough to warrant medicated feed

treatment, and were controlled with OTC medicated feed applications (INAD 9332). The organosomatic index demonstrated a very robust fish, with plenty of stored energy. In 2004, IHNV, IPNV, ERM, furunculosis, RS, and MC were not found at Magic Valley Hatchery.

McCall Hatchery and South Fork Satellite

The anadromous portion of this program was responsible for 8 inspection cases at McCall Hatchery. Pathogens were not detected at preliberation sampling of BY'02 South Fork of the Salmon River and Johnson Creek summer Chinook salmon. Two prophylactic applications of erythromycin medicated feed (INAD 6013) were fed to the BY'03 Chinook juveniles to control RS.

The South Fork Trap had 15 accessions logged into the EFHL during 2004. Upon arrival at the trap, adult Chinook salmon were given an intra-peritoneal injection of erythromycin to limit pre-spawning mortality to RS. These fish were injected at a rate of 10 mg/kg. The number of fish injected, the dose of injection, and total amount of erythromycin were reported to the state's wildlife veterinarian. Brood summer Chinook salmon from the South Fork of the Salmon River and Johnson Creek were examined for RS, MC, and viral replicating agents. *Myxobolus cerebralis* and IHNV were not detected in adult Chinook salmon at this facility. Approximately 5 per cent (22/457) of the brood females of the South Fork summer Chinook salmon had optical densities at 0.25 or greater. The eggs from these higher risk females were culled from the hatchery program. Four of 27 Johnson Creek brood females (14.8%) had optical densities at 0.25 or greater. The eggs from these females were culled from this program. Pre-spawning mortality decreased from 32% in 2003 to 14.1% in 2004. Decrease in mortality is most likely due to the hatchery staff's management of fish destined for consumptive fisheries. This reduced handling and stress on ponded adults.

Niagara Springs Hatchery

Ten inspection cases were attributed to Niagara Springs Hatchery during 2004. Pahsimeroi and Hells Canyon A Group steelhead lots were examined and MAS and CWD were responsible for most mortality. Efforts for improving hatchery practices should focus on inventory manipulations to maintain densities below stressful levels and to manage around opportunistic pathogens such as CWD and MAS. Niagara Springs Hatchery has continued to vaccinate the steelhead against furunculosis (provided by AquaHealth LTD). Furunculosis, ERM, IHN, IPN, RS, and MC were not detected during routine sampling at this facility in 2004.

Oxbow Hatchery

Thirteen inspection and diagnostic trips were made to Oxbow Hatchery. Six inspection trips for Steelhead A Group adults were made during spawning to examine steelhead for pathogens such as IHNV, IPNV, RS and MC. Viral replicating agents and MC were not detected in the 277 steelhead adults examined at this facility during 2004. *Renibacterium* was detected in 3 of 91 fish sampled by ELISA. All optical densities were below 0.25.

The fall Chinook salmon culture program was in its fourth year at this facility. This facility had two inspections for fall Chinook salmon, including a preliberation sample. Since the rearing of fall

Chinook salmon was finished using water from the Snake River, *C. shasta* was an important potential pathogen. At preliberation, 60 fish were sampled microscopically for this parasite without detection. Pathogens such as IHNV, IPNV, *C. shasta* and MC were not detected during routine sampling. *Renibacterium* was detected using ELISA in 3 of 12 pools (5 fish per pool) of kidney tissue. Two pools had low optical densities (below 0.25) and one pool had a high optical density (0.271).

A *Ceratomyxa shasta* exposure trial was completed. This trial will establish emergence timing of the parasite. This will help hatchery staff to avoid host-parasite interaction by establishing appropriate release protocols for fall Chinook.

Pahsimeroi Hatchery

Sampling for pathogens of adult steelhead and Chinook salmon, juveniles and adults, from Pahsimeroi Hatchery resulted in 19 laboratory accessions to the EFHL in 2004. Viral replicating agents were not detected in any of the fish sampled from this facility during 2004. *Renibacterium* was not detected by ELISA in preliberation samples of BY 2002 summer Chinook salmon juveniles. ELISA high optical densities (0.25 and above) were found in 0.8% of the brood female Chinook salmon examined during routine sampling. The eggs from these higher risk females were culled from the hatchery program. Pre-spawning mortality decreased from 6% in 2003 to 2.6% in 2004. All brood summer Chinook salmon trapped at this facility were given an intra-peritoneal injection of erythromycin to limit pre-spawning mortality to *RS*. These fish were injected at a rate of 20 mg/kg. The number of fish injected, the dose of injection, and total amount of erythromycin were reported to the state's wildlife veterinarian.

Preliberation sampling in 2004 of juvenile Chinook salmon detected 1 positive fish for MC out of 20 fish sampled in BY 2002. In conjunction with IPC, the IDFG staff will continue to explore many options to manage around MC infection. Developing a well water source for early rearing remains the primary focus of this investigation. *Ichthyophthirius multifiliis* was detected in July 2004 in the BY'03 juvenile Chinook salmon. Formalin treatments were applied until water temperatures declined in the autumn. Estimated mortality due to ichthyophthiriasis was approximately 20,000 hatchery salmon. In 2005, formalin treatments will be implemented as soon as signs of ichthyophthiriasis are noticed.

Rapid River Hatchery

Twenty inspection cases were entered from Rapid River Hatchery during 2004. All of the cases were either brood inspection samples, primarily establishing ELISA optical densities for ELISA-based culling or routine juvenile inspection samples. BKD was detected during routine adult sampling. Pre-spawning mortality decreased from 32% in 2003 to 18.9% in 2004. All brood spring Chinook salmon trapped at this facility were given a prophylactic intra-peritoneal injection of erythromycin to limit pre-spawning mortality to *Renibacterium*. These fish were injected at a rate of 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. The culling rate due to high ELISA values (0.25 and above) was 6.2%. IHNV was detected in 2 of 60 brood fish during routine sampling. The ELISA-based BKD culling program has eliminated clinical BKD 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.

No pathogens were detected at preliberation sampling of BY'02 salmon. *Pseudomonas fluorescens* was detected in 7/10 fish (BY'03) during the July inspection sampling. Mortalities were not high enough to warrant medicated feed treatments.

Sawtooth Hatchery

During 2004 samples of steelhead, sockeye and Chinook salmon were taken from Sawtooth Hatchery. They included 47 inspections, 11 diagnostic cases and one research case. Samples of broodstock and juveniles were taken from steelhead, spring Chinook salmon and sockeye. Samples were also taken from carcasses of adult spring Chinook salmon that were released (above the weir) to spawn naturally.

In 2002, the BY'00 Sawtooth spring Chinook salmon experienced losses due to IHN. Because of these losses increased sampling of all fish spawned at this facility was implemented in 2003 to provide data concerning IHN in hatchery and natural fish stocks of the upper Salmon River. IHN was not detected in 512 steelhead, 370 spring Chinook sampled at the hatchery, and 60 spring Chinook salmon carcasses sampled above the Sawtooth Hatchery weir in 2004.

Renibacterium was detected in Sawtooth steelhead in 27 of 54 fish (all optical densities below 0.25) sampled using ELISA technology. *Myxobolus cerebralis* was detected in 1 of 19 Sawtooth steelhead sampled. Viral replicating agents were not detected in 19 Squaw Creek steelhead and 6 East Fork of the Salmon River steelhead. *Renibacterium* was detected in 12 of 19 Squaw Creek steelhead, while one of 5 steelhead spawned at the East Fork trap was ELISA positive for *Renibacterium*. Optical densities for both groups of steelhead were all below 0.25. *Myxobolus cerebralis* was detected in one of 20 adult steelhead at Squaw Creek, while MC was not detected in 5 fish sampled at the East Fork Trap.

Preliberation samples of juvenile Chinook salmon showed all four pools to be negative for RS. Viral replicating agents were not detected. One of 20 Chinook salmon was positive for MC. Preliberation sampling did not detect viral replicating agents, pathogenic bacteria, or MC in 60 sockeye from the BY'02 released into Redfish Lake. Two pools of 12 (5 fish per pool) were positive for RS (all optical densities were below 0.25).

Pre-spawning mortality of Sawtooth spring Chinook adults decreased from 5% in 2003 to 1% in 2004. Eleven fish out of the 434 Chinook salmon (approximately 2.5%) 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 fish out of 25 sampled was positive for MC. All brood spring Chinook salmon trapped at this facility were given a prophylactic intra-peritoneal injection of erythromycin to limit pre-spawning mortality to RS. These fish were injected at a rate of 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.

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 into managing around infection. It continues to be very important to rear the Chinook salmon at Sawtooth Hatchery until at least 75mm on well water. Due to higher demands for well water, expanding the well water supply at Sawtooth Hatchery is becoming a

necessity. Enhancement of well water supplies will also reduce the prevalence and intensity of RS and IHNV.

Sockeye and Chinook Captive Broodstock

The IDFG facilities at Eagle include both 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 and the resulting progeny for release. This program began in 1991 and continues to the present.

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). Both the sockeye salmon and Chinook salmon programs generate considerable case workload for the EFHL. Program activities for 2004 are reported by species.

Redfish Lake Sockeye Salmon Captive Broodstock

The IDFG Eagle 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. Sixty-five laboratory cases involving 513 individual fish were processed in 2004. 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 in 2004, which was consistent with results from all previous sampling years. Sixty fish from the BY03 presmolt group and 197 fish from calendar year 2004 broodstock crosses (BY00, BY01 spawners) were sampled without detection of viral pathogens. Additionally, two production sockeye groups reared at Sawtooth Fish Hatchery on Salmon River water were tested for viral pathogens in 2004. Sixty fish from the BY02 over winter smolt group were tested as part of a pre-release fish health sampling protocol and 6 mortalities from the BY03 over winter smolt group were tested as part of a routine fish health necropsy procedure. All virology samples from Sawtooth Fish Hatchery production sockeye groups resulted in negative detection of viral pathogens for 2004.

While the detection of viral pathogens in production and broodstock groups sampled in 2004 followed the historical trend of negative viral detections, calendar year 2004 marked the first detection of infectious hematopoietic necrosis virus (IHNV) in the Redfish Lake stock of sockeye salmon. IHNV was detected in 17 of the 24 anadromous adults that were trapped in 2004. The 24 anadromous adults (12 females, 12 males) trapped in Sawtooth Valley weirs were transferred from

the Sawtooth Fish Hatchery to Eagle Fish Hatchery on September 14 to await final spawn. Viral samples obtained from all adults post-spawn resulted in primary detection (serum neutralization) of IHNV in 13 adults (2 females, 11 males) and blind-pass detection in 4 additional adults (3 females, 1 male). Additional viral samples from 201 captive adults used in the 2004 spawn design were negative for the detection of IHNV, indicating that this pathogen was successfully quarantined to the anadromous adults held at Eagle Hatchery.

The detection of IHNV presents a new set of management implications for the future of Redfish Lake sockeye salmon culture and recovery, yet it is important to note that measures to protect against the spread of IHNV from anadromous adults to cultured populations are in place and have been established since the inception of the captive broodstock program in 1991. In 2004, all anadromous adults that returned to Eagle were cultured in rearing vessels that were physically segregated (spatially, as well as water supply/effluent) from program broodstock and production groups. At spawning, gametes (eggs, milt) from all anadromous adults were taken in an isolated area of the spawning compound and obtained with spawning gear that was restricted to anadromous adults only (buckets, totes, waders, nets, etc.). Gametes were collected in individual plastic sample bags and then re-combined in an area isolated from the egg-take area. After fertilization, eggs from all resulting anadromous crosses (anadromous female and/or anadromous male sub-families) were transferred to individual isolation incubators and allowed to water-harden in an iodophor solution (100 mg/L) for 20 minutes prior to final incubation. All isolation incubators from anadromous crosses were then placed in culture vessels segregated from regular production/broodstock crosses and allowed to incubate while awaiting final fish health sampling results.

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 that posed no risk to captive sockeye that were in culture at Eagle (separate water source, buildings spatially separated, treated effluent, restricted personnel). A total of 14,814 eggs from IHNV positive crosses were culled as a result of the SBSTOC management decision and 3,069 IHNV potentially positive eggs were retained in the Eagle Fish Health Lab for IHNV trials in 2005.

In an attempt to further protect the existing captive broodstock and production programs at both IDFG and NOAA facilities, the SBSTOC recommended that progeny produced from IHNV *negative* anadromous females (all males were IHNV positive) be excluded from the broodstock collection process and production rearing components of both programs. In 2004, this was accomplished by including the remaining eyed-eggs from IHNV negative anadromous females into the Pettit Lake egg-box program. In addition, the decision was made to source brood year 2004 broodstock at NOAA facilities from NOAA-produced pairings made in 2004. Historically, broodstocks for both facilities had been sourced from spawn crosses made at the Eagle Fish Hatchery.

Bacterial Pathogens

Clinical bacterial kidney disease (BKD), caused by *Renibacterium salmoninarum*, did not

occur in any production groups of sockeye salmon juveniles reared at Eagle or Sawtooth Fish Hatchery in 2004. Bacterial kidney disease antigen was not detected in smolts collected during emigration from Redfish, Pettit, or Alturas lakes in 2004. Additionally, captive adult sockeye salmon spawned in 2004 were free of clinical levels of BKD. ELISA optical density (O.D.) values from one anadromous adult (female) indicated clinical levels of BKD and two additional anadromous females had ELISA O.D. values that minimally exceeded background levels of BKD. Two of the three anadromous females with elevated ELISA O.D. values died prior to spawning and eggs from the third female were culled because of IHNV detection.

Furunculosis, caused by *Aeromonas salmonicida*, was not detected in anadromous adult sockeye salmon trapped in 2004. 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, *Myxobolus 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*. Alturas Lake trawl samples were found to be positive for *M. cerebralis* (1 of 3, 5-fish pools) in 2004 using both PTD and PCR testing methods. Sampling for *M. cerebralis* in 2003 yielded similar results, with parasite detection limited exclusively to Alturas Lake trawl samples. The Eagle Fish Health Laboratory continues to investigate infectivity of *M. cerebralis* in the river water supply of the Sawtooth Fish Hatchery 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 20 of the 24 anadromous adult sockeye salmon that returned in 2004. Detection of *P. minibicornis* was made with histology and PCR by Dr. Simon Jones, Department of Fisheries and Oceans, Canada. The detection of *P. minibicornis* in the Redfish Lake stock of anadromous sockeye salmon is 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 sockeye enter the Columbia River main stem.

In 2004, all anadromous adult sockeye salmon were examined for the presence of *Ceratomyxa shasta* and all results were negative for the pathogen, indicating that the *C. shasta* lifecycle has not become established in the upper Salmon River.

Juvenile Smolt Quality Assessment in 2004

In 1999, we initiated assessments of fish quality to juvenile sockeye salmon produced in this program to provide additional perspective on factors that may affect fish survival from outplanting through outmigration. General parameters considered for investigation included: 1) proximate body composition analysis, 2) organosomatic index, 3) fish health and 4) smoltification assay.

Broodyear 2002 sockeye smolts from traps on Alturas Lake Creek, Pettit Lake Creek, and Redfish Lake Creek were sampled in limited numbers for proximate analysis indicated very low fat

reserves in hatchery smolts compared to those of natural origin. This was also apparent from scores of body fat content in the organosomatic assessment. No pathogens were detected in any of the groups and smolt assessment indicated these were prepared for salt-water entry.

Salmon River Chinook Captive Rearing

Juvenile Chinook salmon from BY02 culture groups destined for transfer to Manchester for seawater rearing received intraperitoneal injections to provide a measure of protection from two common pathogens. Vaccines for both BKD and *Vibrio spp.* were administered on March 23, 2004.

In 2004, 25 laboratory accessions (representing 95 fish) were generated at the Eagle Fish Health Laboratory for captive-reared Chinook salmon. The magnitude of loss for Chinook salmon maintained at Eagle Hatchery was minimal during this reporting period.

Bacterial Pathogens

Monitoring for BKD in captive-reared Chinook salmon has been routinely conducted since the inception of the program in 1995. In 2004, pre-spawn BY00 WFYF adults reared at Manchester were experienced chronic mortality associated with BKD prior to freshwater transfer. A total of 79 BY00 WFYF adults were returned to Eagle Hatchery freshwater holding prior to release. Of the 79 adults transferred, 27 fish died with mortality attributed to clinical levels of BKD.

Viral Pathogens

In 2004, the Eagle Fish Health Lab processed 25 laboratory accessions (95 fish) that included virology screening for the major salmonid viral pathogens. Consistent with sampling conducted in all prior years, no viral pathogens were detected in captive-reared Chinook salmon adults cultured at Manchester or Eagle Hatchery in 2004.

Parasitic Pathogens

Principle parasitic fish health concerns include the presence of *Myxobolus cerebralis*, the causative agent of salmonid whirling disease, and gill parasite *Salmincola californiensis*. All WFYF and EFSR Chinook salmon adults examined for *M. cerebralis* and *S. californiensis* in 2004 tested negative for the presence of these parasites.

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 2004 focused on MC samples from Westslope cutthroat and redband trout from the Selway River and Middle Fork Salmon River (MFSR) while these populations were sampled for genetic analysis. Samples were processed and reported from five of seven IDFG fishery management regions.

One set of bull trout samples was obtained from the Little Lost River drainage by USFS biologists. All were negative for MC. These observations are consistent with all other observations from bull trout from Idaho and adds data on the listed species.

Westslope cutthroat trout were sampled at sites on the Selway River. No MC spores were detected but those of *Henneguya salmonis* and the *neurotropic myxobolus* species were present in these collections.

Wild trout examined from the MFSR samples indicated that Camas Creek was positive for MC. These results were followed-up on with gill-net and electro-fishing from private ponds and adjacent tributaries. These samples demonstrated that the private ponds in the upper reached of Camas Creek were where the parasite had become established. This effort demonstrated the vulnerability that private ponds stocking posed to Idaho fisheries resources and has lead to efforts to monitor producers of trout for stocking in a manner similar to that monitoring program practiced by IDFG.

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.

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 WC by the EFHL for five 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 2004 included exposures made on the Lemhi River, Oxbow Hatchery, Big Wood River-Silver Creek, Pahsimeroi River, Teton River, and upper Salmon River. Exposures were also made in the settling ponds of six IDFG hatcheries.

TRIPLOID INDUCTION MONITORING

2004 marked the first year in which the EFHL took over monitoring triploid induction rates for production groups. IDFG Fisheries Research provided a power analysis to provide a statically valid sampling scheme for this project. Thirteen 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. These demonstrated that the minimum standard of 95% induction was exceeded for both facilities. 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 113 transport or import permits for the IDFG Fisheries Bureau and regional offices during 2004. These permits are required when non-aquaculture species are released to public waters of the State of Idaho. Thirty-three 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 NMFS for importation of Redfish Lake sockeye eggs for release and adults for volitional spawning; to the USFWS for research activities in the Clearwater River system; to the Kootenai Tribe of Idaho for culture and release actions with endangered Kootenai River white sturgeon *Acipenser transmontanus*; to the Nez Perce Tribe for salmon culture activities; and to the University of Idaho Aquaculture Research Institute and Hagerman Fish Culture Experiment Station for research.

REPORTS AND PRESENTATIONS

Reports generated by the EFHL include the Annual Resident Hatchery report for 2002, 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 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, Oregon, Washington, Montana, British Columbia, Alaska); Rocky Plains Fish Health Committee (Arizona, Nebraska, Colorado, 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 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. Pathologists with the California Department of Fish and Game have demonstrated that the pathogen can be vertically transmitted and that Penicillin G can be effective in preventing vertical transmission. We recommend continuing to apply the practices developed in California 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 adult females with Erythromycin, 100% sampling of females by ELISA, segregation or culling of eggs from females deemed "high" 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. This program must continue as the highest fish health priority for IDFG hatcheries that raise Chinook salmon. This year, supplies of Kirkegaard-Perry Laboratories batch 1 antibodies for the BKD ELISA test were exhausted and we were forced to use those of batch 2. Our prior examination of Chinook salmon kidney tissues was reported in the American Fisheries Society Fish Health Section [Newsletter](#) (Scott and Johnson, 2001). The regression analysis provided an adjustment in optical density values for the BKD ELISA culling program. This was implemented in 2002 and was well documented and accepted by hatchery personnel and the National Marine Fisheries Service program oversight groups. The adjustment was from an OD of 0.25 to 0.19 but did not result in greater number of females deemed "high".

Expansion of the pathogen-free well water at Pahsimeroi Hatchery needs to be given a high priority for funding by Idaho Power Company. The current program for Pahsimeroi Chinook salmon is that they are reared at Sawtooth Hatchery to a length of seven cm has created considerable competition for well water between culture programs. A test well at the upper Pahsimeroi Hatchery was dug by IPC and EFHL sentinel exposures demonstrated water from this test well was free of MC infectivity.

The practice of collecting naturally produced parr to initiate broodstocks of the Chinook captive rearing program was discontinued. Losses to BKD and the handling stress from *Salmincola* control efforts had been unacceptably high and has limited the number of mature adults produced.

Using protocols and equipment similar to those used by the Washington Department of Fisheries and Wildlife, staff of Eagle Hatchery safely removing eyed-eggs from naturally-produced redds by hydraulic pumping. This technique has avoided health-related problems in this program.

The IDFG has cooperated in past years with the program of the International Association of Fish and Wildlife Agencies for registration of additional therapeutic agents for aquaculture. Progress toward FDA registration has been slow although there has been expansion of label claims for two compounds. Funding from IDFG license sources was discontinued due to fiscal constraints.

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.

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APPENDICES

Appendix A. Fish Health Summary Report 2004

FISH HEALTH SUMMARY REPORT

Idaho Department of Fish and Game

Eagle Fish Health Laboratory

REPORT FOR SAMPLE DATES: 01/01/04 T 12/31/04

22

BroodYr	Stock	Species	Class	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
3 SOUTHWEST REGION			D															
BROOD	DEADWOOD RESERVOIR	KOKANEE-EARLY SPAWN		04-346	8/23/2004	-	-	-	+					-			INSPECTION	RS, NEURO; VIRO 0/60, NAVHS 0/5, FAT 0/60, ELISA 2/12(X5) (LOW 2), PTD-NEUROTROPIC MYXOBOLUS 7/12
7 SALMON REGION			D															
BY02	REDFISH LAKE	SOCKEYE SALMON - WILD SMOLT		04-213	5/11/2004	-	-		-	-	-		-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, DFAT 0/2, ELISA 0/2, BACTE 0/2, PTD-MYXOB 0/2
BY02	REDFISH LAKE	SOCKEYE SALMON - HATCHERY SMOLT		04-214	5/11/2004	-	-		-	-	-		-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, DFAT 0/4, ELISA 0/4, BACTE 0/4, PTD-MYXOB 0/4
BY02	REDFISH LAKE	SOCKEYE SALMON - HATCHERY SMOLT		04-215	5/11/2004	-	-		-	-	-		-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, ELISA 0/10, BACTE 0/10, PTD-MYXOB 0/10
BY02	REDFISH LAKE	SOCKEYE SALMON - WILD SMOLT		04-216	5/11/2004	-	-		-	-	-		-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, ELISA 0/10, BACTE 0/10, PTD-MYXOB 0/10
BY02	REDFISH LAKE	SOCKEYE SALMON - HATCHERY SMOLT		04-217	5/11/2004	-	-		-	-	-		-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, ELISA 0/10, BACTE 0/10, PTD-MYXOB 0/10
BY02	REDFISH LAKE	SOCKEYE SALMON - HATCHERY SMOLT		04-244	5/15/2004	-	-	-	+					-			INSPECTION	RS; VIRO 0/2, NAVHS 0/2, DFAT 0/2, ELISA 1/2 (LOW), PTD-
BY02	REDFISH LAKE	SOCKEYE SALMON - WILD SMOLT		04-245	5/15/2004	-	-	-	-					-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, NAVHS 0/2, DFAT 0/2, ELISA 0/2, PTD-MYXOB 0/2

BroodYr	Stock	Species	Class	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
ACE DEVELOPMENT			D															
2003 1/60,	HYBRID	TILAPIA		04-199	5/4/2004	-	-		-	-	-		+				CERTIFICATIO	N MAS; VIRO 0/60, DFAT 0/60, AEROMONAS SOBRIA
																		N HAFNIA SPP. 1/60
ADULT SHIGELLOIDES	HYBRID	TILAPIA		04-452	9/28/2004	-	-		-	-	-	-	+				CERTIFICATIO	N MAS; VIRO 0/60, FAT 0/60, PLESIOMONAS
AMERICAN FALLS HATCHERY			A															
2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-025	1/6/2004	-	-			-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 4/4
2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-053	1/14/2004					-	-	+	-				DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 4/4
2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-097	2/19/2004					-	-	+	-				DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 8/8
2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-098	2/19/2004					-	-	+	+				DIAGNOSTIC	CWD, MAS; FLAVOBACTERIUM PSYCHROPHILUM 3/6, AEROMONAS SOBRIA 1/6
2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-099	2/19/2004					-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; BACTE 0/4
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-511	10/25/200					-	-	+	-				DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 2/8
ARRANIA			D															
2003 SHIGELLOIDES	HYBRID	TILAPIA		04-200	5/4/2004	-	-		-	-	-		+				CERTIFICATIO	N MAS; VIRO 0/60, DFAT 0/60, PLESIOMONAS
ADULT BACTE	HYBRID	TILAPIA		04-453	9/28/2004	-	-		-	-	-	-	-				CERTIFICATIO	N NO PATHOGENS DETECTED; VIRO 0/60, FAT 0/60,
ASHTON HATCHERY			B															
2003	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-151	3/31/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, DFAT 0/60, PTD-MYXOB 0/60
CABINET GORGE HATCHERY			A															
BROOD	SULLIVAN SPRINGS	KOKANEE SALMON		04-552	11/29/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, NAVHS 0/10, FAT 0/60, ELISA 0/60, PTD-MYXOB 0/60
CLEARWATER HATCHERY			C															
2002	POWELL	SPRING CHINOOK		04-051	1/8/2004	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE

24

BroodYr	Stock	Species	Class	Accession	Sample											ExamType	Diagnoses	
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH			ICH
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-091	2/19/2004												RESEARCH	NO PATHOGENS DETECTED; DFAT 0/20, ELISA 0/20
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-092	2/19/2004												RESEARCH	NO PATHOGENS DETECTED; DFAT 0/20, ELISA 0/20
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-093	2/19/2004												RESEARCH	RS; FAT 0/20, ELISA 1/20 (LOW 1)
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-094	2/19/2004												RESEARCH	RS; FAT 0/20, ELISA 1/19 (LOW 1)
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-095	2/19/2004												RESEARCH	NO PATHOGENS DETECTED; FAT 0/20, ELISA 0/20
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-096	2/19/2004												RESEARCH	RS; FAT 0/20, ELISA 2/20 (LOW 2)
2003	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-116	3/10/2004	-	-			-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5, BACTE 0/5
2003	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-117	3/10/2004	-	-			-	-	-	+				DIAGNOSTIC	MAS; VIRO 0/5, PSEUDOMONAS FLUORENSCENS 5/5
2003	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP		04-141	3/26/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, NAVHS 0/20, FAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2003	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-262	6/24/2004	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
2004	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP		04-263	6/24/2004	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/10
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-315	8/6/2004												INSPECTION	BKD; ELISA 21/24 (LOW 20, HIGH 1)
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-317	8/10/2004												INSPECTION	BKD; ELISA 24/26 (LOW 21, HIGH 3)
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-319	8/13/2004	+	-	-									INSPECTION	IHN, BKD; IHN 1/19(X3) IPN 0/55, NAVHS 0/49, ELISA 48/53 (LOW 43, HIGH 5), PTD-MYXOB 0/20
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-357	8/20/2004												INSPECTION	BKD; ELISA 114/123 (LOW 95, HIGH 19)
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-358	8/24/2004												INSPECTION	BKD; ELISA 64/81(LOW 62, HIGH 2)
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-382	8/27/2004												INSPECTION	BKD; ELISA 24/32 (LOW 22, HIGH 2)
2004	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP		04-419	9/10/2004												DIAGNOSTIC	NO PATHOGENS DETECTED; PTD-MYXOB 0/4
2003	DWORSHAK	SPRING CHINOOK		04-448	9/22/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/4, PTD-MYXOB 0/20
2004	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP		04-473	10/4/2004	-	-			-	-		+				DIAGNOSTIC	CWD, MAS; VIRO 0/7, FLAVOBACTERIUM PSYCHROPHILUM 7/7, AEROMONAS HYDROPHILA 7/7, AEROMONAS SOBRIA
2003	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-547	11/18/200	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
2004	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP		04-548	11/18/200	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/10

BroodYr	Stock	Species	Class	Accession	Sample											ExamType	Diagnoses	
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH			ICH
CROOKED RIVER SATELLITE			C															
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-140	3/26/2004	-	-	-	-						-		INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, NAVHS 0/20, FAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-208	5/4/2004	-	-		-	-	-						DIAGNOSTIC	MAS; VIRO 0/5, DFAT 0/5, PSEUDOMONAS SPP. 2/5
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-209	5/4/2004	-	-		-	-	-						DIAGNOSTIC	MAS; VIRO 0/6, DFAT 0/6, PSEUDOMONAS SPP. 1/6
2003	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP		04-219	5/15/2004	-	-		-	-	-						DIAGNOSTIC	MYCOSIS-SAPROLEGNIA; VIRO 0/4, SAPROLEGNIA SPP.
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-220	5/15/2004	-	-		-	-	-						DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2, BACTE 0/2
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-228	5/21/2004												DIAGNOSTIC	NO PATHOGENS DETECTED; PCR-NUCLEOSPORA 0/6
2003	N. F. CLEARWATER RIVER	STEELHEAD, B GROUP		04-229	5/21/2004												DIAGNOSTIC	NO PATHOGENS DETECTED; PCR-NUCLEOSPORA 0/5
DWORSHAK NFH			C															
25	BROOD	N. F. CLEARWATER RIVER		04-107	3/2/2004	+	-	-									INSPECTION	IHNV; IHNV 3/112; IPNV 0/112, NAVHS 0/12
	BROOD	N. F. CLEARWATER RIVER		04-115	3/9/2004	+	-	-									INSPECTION	IHNV; IHNV 8/89, IPNV 0/89, NAVHS 0/17
EAGLE HATCHERY			D															
BY01	REDFISH LAKE	SOCKEYE SALMON		04-121	3/16/2004	-	-		-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA 0/1
BY00	W.F. YANKEE FORK	SPRING CHINOOK		04-221	5/18/2004	-	-		+	-	-	-	-				INSPECTION	BKD; VIRO 0/1, DFAT 1/1, ELISA 1/1 (HIGH 1), BACTE 0/1
BY00	W.F. YANKEE FORK	SPRING CHINOOK		04-223	5/24/2004	-	-		+	-	-	-	-				DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1, ELISA 1/1 (HIGH 1), BACTE 0/1
BY00	W.F. YANKEE FORK	SPRING CHINOOK		04-230	5/30/2004	-	-		+	-	-	-	-				DIAGNOSTIC	BKD; VIRO 0/1, DFAT 1/1, ELISA 1/1 (HIGH 1), BACTE 0/1
BY00	W.F. YANKEE FORK	SPRING CHINOOK		04-231	6/2/2004	-	-		+	-	-	-	+				DIAGNOSTIC	BKD, MAS; VIRO 0/1, DFAT 1/1, ELISA 1/1 (HIGH 1), PSEUDOMONAS FLUORENSCENS 1/1, AUREOFACIENS
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK		04-232	6/2/2004	-	-		-	-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA 0/1, BACTE 0/1
BY01	EAST FORK SALMON RIVER	SPRING CHINOOK		04-233	6/2/2004	-	-		-	-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA 0/1, BACTE 0/1,
BY00	W.F. YANKEE FORK	SPRING CHINOOK		04-236	6/3/2004	-	-		+	-	-	-	-				DIAGNOSTIC	BKD; VIRO 0/1, DFAT 1/1, ELISA 1/1 (1 HIGH), BACTE 0/1
BY00	W.F. YANKEE FORK	SPRING CHINOOK		04-237	6/4/2004	-	-		+	-	-	-	-				DIAGNOSTIC	BKD; VIRO 0/1, DFAT 1/1, ELISA 1/1 (1 HIGH), BACTE 0/1
BY02	REDFISH LAKE	SOCKEYE SALMON		04-266	7/1/2004	-	-		-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2, DFAT 0/2, ELISA 0/2

BroodYr	Stock	Class Species	Accession	Sample													ExamType	Diagnoses
				Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH			
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK	04-273	7/2/2004	-	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA 0/1, BACTE 0/1
BY03	REDFISH LAKE	SOCKEYE SALMON	04-385	9/3/2004	-	-	-	-	-	-	-	+	-	-	-	INSPECTION	MAS; VIRO 0/60, FAT 0/60, ELISA 0/60, PSEUDOMONAS FLUORENSCENS 8/60, PTD-MYXOB 0/60, CSH 0/60	
BY99	EAST FORK SALMON RIVER	SPRING CHINOOK	04-395	9/7/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, NAVHS 0/1, ELISA	
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK	04-402	9/10/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, NAVHS 0/2, ELISA	
BY01	EAST FORK SALMON RIVER	SPRING CHINOOK	04-414	9/13/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK	04-415	9/13/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5, NAVHS 0/1, ELISA	
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK	04-427	9/17/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2	
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK	04-431	9/20/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/6, ELISA 0/6	
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK	04-438	9/21/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, ELISA 0/4	
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK	04-440	9/23/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/9, ELISA 0/9	
BY01	REDFISH LAKE	SOCKEYE SALMON	04-450	9/24/2004	-	-	-	-	-	-	-	-	-	-	-	DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA 0/1, BACTE 0/1	
AN04	REDFISH LAKE	SOCKEYE SALMON	04-451	9/25/2004	-	-	-	+	-	-	-	+	+	-	-	DIAGNOSTIC	BKD, MAS, WHD, PARV; VIRO 0/1, DFAT 1/1, ELISA 1/1 (HIGH 1), AEROMONAS HYDROPHILA 1/1, PSEUDOMONAS FLUORENSCENS 1/1, PSEUDOMONAS VESICULARIS 1/1, PSEUDOMONAS SPP. 1/1, PTD-MYXOBOLUS CEREBRALIS 1/1, PCR-PARVICAPSULA 1/1, CSH 0/1	
AN04	REDFISH LAKE	SOCKEYE SALMON	04-454	9/27/2004	-	-	-	-	-	-	-	+	-	-	-	DIAGNOSTIC	MAS, WHD, PARV; VIRO 0/1, FAT 0/1, ELISA 0/1, PSEUDOMONAS FLUORENSCENS 1/1, AEROMONAS HYDROPHILA 1/1, PTD-MYXOBOLUS CEREBRALIS 1/1, CSH	
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK	04-455	9/27/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2	
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK	04-468	9/30/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5, NAVHS, 0/1, ELISA	
BY01	EAST FORK SALMON RIVER	SPRING CHINOOK	04-469	9/30/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
AN04	REDFISH LAKE	SOCKEYE SALMON	04-470	10/4/2004	+	-	-	-	-	-	+	+	+	-	-	INSPECTION	IHNV, MAS, CWD, WHD, PARV; IHNV 1/2, IPNV 0/2, NAVHS 0/1, FAT 0/2, ELISA 0/2, FLAVOBACTERIUM PSYCHROPHILUM 2/2, AEROMONAS HYDROPHILA 2/2, PSEUDOMONAS FLUORENSCENS 2/2, PTD-MYXOBOLUS CEREBRALIS 2/2, CSH 0/2, PCR-PARVICAPSULA 1/2	
BY00	EAST FORK SALMON RIVER	SPRING CHINOOK	04-471	10/4/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY02	EAST FORK SALMON RIVER	SPRING CHINOOK	04-472	10/4/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2	
BY02	EAST FORK SALMON RIVER	SPRING CHINOOK	04-474	10/5/2004	-	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2	

BroodYr	Stock	Species	Class	Accession	Sample											ExamType	Diagnoses
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
AN04	REDFISH LAKE	SOCKEYE SALMON		04-486	10/7/2004	+	-	-	+	-	-	+	+	+	-	INSPECTION	IHNV, RS, CWD, MAS, WHD, PARV; IHNV 2/2, IPNV 0/2, NAVHS 0/2, DFAT 0/2, ELISA 1/2 (LOW), FLAVOBACTERIUM PSYCHROPHILUM 1/2, PSEUDOMONAS FLUORENSCENS 1/2, PTD-MYXOB 1/1(X2), PCR-MYXOBOLUS CEREBRALIS 1/2, CSH 0/2, PCR-PARVICAPSULA 2/2
BY01	REDFISH LAKE	SOCKEYE SALMON		04-487	10/7/2004	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
AN04	REDFISH LAKE	SOCKEYE SALMON		04-488	10/8/2004	+	-	-	-	-	-	-	+	-	-	INSPECTION	IHNV, MAS; IHNV 1/1, IPNV 0/1, NAVHS 0/1, DFAT 0/1, ELISA 0/1, AEROMONAS SPP. 1/1, PTD-MYXOB 0/1, CSH 0/1, PCR-PARVICAPSULA 0/1
AN04	REDFISH LAKE	SOCKEYE SALMON		04-489	10/9/2004	+	-	-	-	-	-	+	+	+	-	INSPECTION	IHNV, CWD, MAS, WHD, PARV; IHNV 2/2, IPNV 0/2, NAVHS 0/2, DFAT 0/2, ELISA 0/2, FLAVOBACTERIUM PSYCHROPHILUM 2/2, MOTILE AEROMONAS SPP. 2/2, PTD-MYXOBOLUS CEREBRALIS 2/2, CSH 0/2, PCR-
AN04	REDFISH LAKE	SOCKEYE SALMON		04-490	10/10/200	+	-	-	-	-	-	-	+	-	-	INSPECTION	IHNV, MAS, PARV; IHNV 1/1, IPNV 0/1, NAVHS 0/1, DFAT 0/1, ELISA 0/1, AEROMONAS SPP. 1/1, PTD-MYXOBOLUS 0/1, CSH 0/1, PCR-PARVICAPSULA 1/1
27 AN04	REDFISH LAKE	SOCKEYE SALMON		04-491	10/12/200	+	-	-	+	-	-	+	+	+	-	INSPECTION	IHNV, RS, CWD, MAS, WHD, PARV; IHNV 2/6, IPNV 0/6, NAVHS 0/6, DFAT 1/6, ELISA 1/6 (LOW), FLAVOBACTERIUM PSYCHROPHILUM 5/6, AEROMONAS HYDROPHILA 5/6, PTD-MYXOBOLUS CEREBRALIS 4/6, CSH 0/6, PCR-
BY01	REDFISH LAKE	SOCKEYE SALMON		04-492	10/12/200	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2
AN04	REDFISH LAKE	SOCKEYE SALMON		04-494	10/13/200	+	-	-	-	-	-	+	+	+	-	INSPECTION	IHN, MAS, CWD, WHD, PARV; IHNV 2/2, IPNV 0/2, NAVHS 0/2, DFAT 0/2, ELISA 0/2, AEROMONAS HYDROPHILA 2/2, FLAVOBACTERIUM PSYCHROPHILUM 1/2, PTD-MYXOB 1/1(X2), PCR-MYXOBOLUS CEREBRALIS 1/2, CSH 0/2, PCR-
BY01	EAST FORK SALMON RIVER	SPRING CHINOOK		04-495	10/13/200	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, ELISA 0/7
BY02	EAST FORK SALMON RIVER	SPRING CHINOOK		04-496	10/13/200	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/36, ELISA 0/36
AN04	REDFISH LAKE	SOCKEYE SALMON		04-497	10/14/200	+	-	-	-	-	-	+	+	+	-	INSPECTION	IHNV, CWD, MAS, WHD, PARV; IHNV 3/3, IPNV 0/3, NAVHS 0/1, DFAT 0/3, ELISA 0/3, FLAVOBACTERIUM PSYCHROPHILUM 3/3, MOTILE AEROMONAS SPP. 3/3, PSEUDOMONAS SPP. 3/3, PTD-MYXOBOLUS CEREBRALIS
BY01	REDFISH LAKE	SOCKEYE SALMON		04-499	10/15/200	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2
AN04	REDFISH LAKE	SOCKEYE SALMON		04-500	10/15/200	+	-	-	-	-	-	-	+	+	-	INSPECTION	IHNV, MAS, WHD, PARV; IHNV 2/2, IPNV 0/2, NAVHS 0/2, DFAT 0/2, ELISA 0/2, PSEUDOMONAS FLUORENSCENS 2/2, PTD-MYXOBOLUS CEREBRALIS 2/2, CSH 0/2, PCR-
BY01	REDFISH LAKE	SOCKEYE SALMON		04-501	10/16/200	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY01	REDFISH LAKE	SOCKEYE SALMON		04-505	10/18/200	-	-	-	-	-	-	-	-	-	-	INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, NAVHS 0/4, ELISA

BroodYr	Stock	Species	Class	Accession	Sample											ExamType	Diagnoses	
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH			ICH
BY01	REDFISH LAKE	SOCKEYE SALMON		04-506	10/21/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/9, NAVHS 0/2, ELISA
AN04	REDFISH LAKE	SOCKEYE SALMON		04-507	10/21/200	+	-	-	-	-	-	-	-	-	+	-	INSPECTION	IHNV, WHD, PARV; IHNV 1/1, IPHV 0/1, NAVHS 0/1, DFAT 0/1, ELISA 0/1, BACTE 0/1, PTD-MYXOBOLUS CEREBRALIS 1/1, CSH 0/1, PCR-PARVICAPSULA 1/1
BY01	REDFISH LAKE	SOCKEYE SALMON		04-508	10/23/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY01	REDFISH LAKE	SOCKEYE SALMON		04-509	10/24/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY01	REDFISH LAKE	SOCKEYE SALMON		04-510	10/25/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, NAVHS 0/3, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-512	10/26/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2
BY01	REDFISH LAKE	SOCKEYE SALMON		04-514	10/26/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY00	REDFISH LAKE	SOCKEYE SALMON		04-515	10/27/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, NAVHS 0/1, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-516	10/27/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/11, NAVHS 0/2, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-517	10/27/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/3, NAVHS 0/1, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-519	10/28/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/19, NAVHS 0/4, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-521	10/29/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, ELISA 0/7
BY01	REDFISH LAKE	SOCKEYE SALMON		04-522	10/31/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, NAVHS 0/2, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-523	10/31/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/6, NAVHS 0/2, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-525	11/1/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/18, NAVHS 0/2, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-526	11/2/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5, NAVHS 0/1, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-527	11/3/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, ELISA 0/7
BY01	REDFISH LAKE	SOCKEYE SALMON		04-530	11/4/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/24, NAVHS 0/3, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-533	11/5/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/19, NAVHS 0/2, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-534	11/6/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/14, NAVHS 0/3, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-535	11/7/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2
BY01	REDFISH LAKE	SOCKEYE SALMON		04-536	11/8/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY01	REDFISH LAKE	SOCKEYE SALMON		04-537	11/9/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/6, NAVHS 0/2, ELISA
BY01	REDFISH LAKE	SOCKEYE SALMON		04-542	11/12/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, NAVHS 0/2, ELISA
BY02	REDFISH LAKE	SOCKEYE SALMON		04-557	12/6/2004	-	-	-	-	-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2, DFAT 0/2, ELISA 0/2, BACTE 0/2
BY02	REDFISH LAKE	SOCKEYE SALMON		04-560	12/10/200	-	-	-	-								DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, DFAT 0/1, ELISA 0/1

BroodYr	Stock	Species	Class	Accession	Sample		NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
					Date	IHN											
EPICENTER AQUACULTURE			D														
2004	HYBRID	TILAPIA		04-564	12/14/200	-	-	-	-	-		+				INSPECTION	MAS; VIRO 0/60, FAT 0/60, PSEUDOMONAS SHIGELLOIDES
GRACE HATCHERY			A														
2003	STOREY HATCHERY, WY	LAKE TROUT		04-295	7/21/2004	-	-	-	-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/20, BACTE 0/10
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-544	11/16/200	-	-	-	-	-	+	-	-			DIAGNOSTIC	CWD; VIRO 0/60, DFAT 0/60, FLAVOBACTERIUM PSYCHROPHILUM 3/6, PTD-MYXOB 0/60
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-558	12/6/2004			-	-	+	+					DIAGNOSTIC	CWD, MAS; FLAVOBACTERIUM PSYCHROPHILUM 3/8, AEROMONAS SPP. 1/8
HAGERMAN SFH			C														
2003	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-054	1/14/2004			-	-	-	+					DIAGNOSTIC	FLAVOBACTERIOSIS; FLAVOBACTERIUM INDOLOGENES/MENIGOSEPTICUM 5/8, HAFNIA ALVEI 2/8, SERRATIA LIQUEFACIENS 2/8
2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-064	2/4/2004	-	-	-	-	+	-					DIAGNOSTIC	CWD, BACTEREMIA; VIRO 0/3, CITROBACTER/ENTEROBACTER 3/3, FLAVOBACTERIUM
2003	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-065	2/4/2004	-	-	-	-	-	+					DIAGNOSTIC	MAS; VIRO 0/2, AEROMONAS HYDROPHILA 2/2, PCR-PKX 0/1
2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-100	2/19/2004			-	-	-	+					DIAGNOSTIC	COL, MAS; FLAVOBACTERIUM COLUMNNARE 4/4, AEROMONAS CAVIAE 4/4, AEROMONAS SOBRIA 1/4
2003	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-101	2/19/2004			-	-	+	-					DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 1/4
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-122	3/16/2004	-	-	-	-	-	+					DIAGNOSTIC	MAS, COL; VIRO 0/5, PSEUDOMONAS FLUORENSCENS 3/4, XANTHOMONAS MALTOPHILIA 3/4, FLAVOBACTERIUM COLUMNNARE 2/4
2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-123	3/16/2004			-	-	+	+					DIAGNOSTIC	BGD, MAS, CWD, COL; AEROMONAS HYDROPHILA 4/4 (FROM GILLS), AEROMONAS HYDROPHILA 1/4 (FROM KIDNEYS), FLAVOBACTERIUM PSYCHROPHILUM 1/4, FLAVOBACTERIUM COLUMNNARE 1/4
2003	PAHSIMEROI	STEELHEAD, A GROUP		04-124	3/16/2004			-	-	-	+					DIAGNOSTIC	MAS; AEROMONAS HYDROPHILA 3/4, SPHINGOMONAS PAUCIMOBILIS 2/4
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-153	4/1/2004	-	-	-	-	+	+					DIAGNOSTIC	CWD, MAS; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/4, AEROMONAS HYDROPHILA 2/4
2003	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-154	4/1/2004	-	-	-	-	+	+					DIAGNOSTIC	CWD, MAS; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/4, PSEUDOMONAS SPP. 1/4

BroodYr	Stock	Species	Class	Accession	Sample		NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
					Date	IHN											
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-187	4/26/2004	-	-		-	-	-	+				DIAGNOSTIC	MAS; VIRO 0/5, AEROMONAS SOBRIA 1/4, AEROMONAS HYDROPHILA 1/4
2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-188	4/26/2004	+	-		-	-	-	+				DIAGNOSTIC	IHNV, COL, MAS; IHNV 1/1 (X5), IPNV 0/5, FLAVOBACTERIUM COLUMNARE 3/4, PSEUDOMONAS FLUORESCENS 3/4, SPHINGOMONAS PAUCIMOBILIS 1/4
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-211	5/11/2004	-	-		-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 4/4
2003	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-255	6/24/2004	+	-		-	-	-	+				DIAGNOSTIC	IHNV, COL, MAS; IHNV 1/1(X5), IPNV 0/5, FLAVOBACTERIUM COLUMNARE 3/4, PSEUDOMONAS
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-307	8/11/2004	-	-		-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/4
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-308	8/11/2004	-	-		-	-	+	+				DIAGNOSTIC	CWD, MAS; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 2/4, PSEUDOMONAS DIMINUTA 1/4, PSEUDOMONAS
2003	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-309	8/11/2004	-	-		-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/4
2003	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-310	8/11/2004	-	-		-	-	+	+				DIAGNOSTIC	CWD, MAS; VIRO 0/3, FLAVOBACTERIUM PSYCHROPHILUM 2/3, PSEUDOMONAS SP. 3/3
30 2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-360	8/26/2004	-	-		-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 1/4
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-361	8/26/2004	-	-		-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 3/4
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-532	11/4/2004				-	-	+	-				DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 4/4
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-563	12/10/200				-	-	+	-				DIAGNOSTIC	COL, CWD; FLAVOBACTERIUM PSYCHROPHILUM 1/4, EXTENSIVE COLUMNARIS LESIONS ON GILLS-NOT
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-582	12/17/200	-	-		-	-	+	-		+		DIAGNOSTIC	CWD, ICH; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 2/7, ICHTHYOPHTHIRIUS MULTIFILIS 4/4
HAYSPUR HATCHERY				C													
BROOD	HAYSPUR	RAINBOW TROUT		04-056	1/21/2004	-	-		-		-					INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, DFAT 0/2, ELISA 0/4, BACTE 0/12
2001	HAYSPUR	RAINBOW TROUT		04-057	1/21/2004	-	-		+							INSPECTION	BKD; VIRO 0/43, DFAT 0/30, OCP-FAT 0/13, ELISA 11/30 (LOW 7, HIGH 4)
2003	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-060	1/27/2004											INSPECTION	TRIPLOID INDUCTION RATE 39/40 (97.5%)
2003	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-061	1/17/2004											INSPECTION	TRIPLOID INDUCTION RATE 40/40 (100%)
2003	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-062	1/27/2004											INSPECTION	TRIPLOID INDUCTION RATE 36/40 (90.0%)
BROOD	HAYSPUR	KAMLOOPS RBT		04-067	2/5/2004	-	-	-	+							INSPECTION	BKD; VIRO 0/30, NAVHS 0/15, DFAT 0/30, ELISA 1/30 (HIGH
2003	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-135	3/22/2004											INSPECTION	TRIPLOID INDUCTION RATE 40/40 (100%)

BroodYr	Stock	Species	Class	Accession	Sample										ExamType	Diagnoses	
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD			CSH
2003	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-136	3/22/2004											INSPECTION	TRIPLOID INDUCTION RATE 39/40 (97.5%)
2003	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-137	3/22/2004											INSPECTION	TRIPLOID INDUCTION RATE 37/40 (92.5%)
2003	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-138	3/22/2004											INSPECTION	TRIPLOID INDUCTION RATE 37/40 (92.5%)
2000	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT		04-167	4/15/2004	-	-	-	-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/19, NAVHS 0/6, OCP-
2000	CONNOR LAKE (CANADA)	WESTSLOPE CUTTHROAT TROUT		04-210	5/6/2004	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, OCP-FAT 0/10
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-224	5/24/2004											RESEARCH	TRIPLOID INDUCTION RATE 36/40 (90%)
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-225	5/24/2004											RESEARCH	TRIPLOID INDUCTION RATE 40/40 (100%)
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-226	5/24/2004											RESEARCH	TRIPLOID INDUCTION RATE 38/40 (95%)
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-227	5/24/2004											INSPECTION	TRIPLOID INDUCTION RATE 40/40 (100%)
2003	HAYSPUR	RAINBOW TROUT		04-254	6/24/2004					-	-	-	+			DIAGNOSTIC	BACTEREMIA, MAS; PSEUDOMONAS VESICULARIS 2/5, VIBRIO HOLLISAE 3/4, PSEUDOMONAS SP. 3/4
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-339	8/16/2004											INSPECTION	TRIPLOID INDUCTION RATE 40/40 (100%)
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-340	8/16/2004											INSPECTION	TRIPLOID INDUCTION RATE 38/39 (97.4%)
BROOD	HAYSPUR	RAINBOW TROUT		04-498	10/14/200	-	-	-	+							INSPECTION	BKD; VIRO 0/20, NAVHS 0/2, OCP-FAT 2/20
BROOD	HAYSPUR	KAMLOOPS RBT		04-520	10/28/200	-	-	-	+							INSPECTION	BKD; VIRO 0/25, NAVHS 0/2, DFAT 1/15, OCP-FAT 2/25, ELISA 4/15 (LOW 3, HIGH 1)
BROOD	HAYSPUR	RAINBOW TROUT		04-528	11/3/2004	-	-	-	+							INSPECTION	BKD; VIRO 0/30, NAVHS 0/3, OCP-FAT 1/30, ELISA 8/15 (LOW 6, HIGH 2)
BROOD	HAYSPUR	KAMLOOPS RBT		04-541	11/10/200	-	-	-	-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/34, NAVHS 0/4, OCP-FAT 0/34, ELISA 0/15
BROOD	HAYSPUR	RAINBOW TROUT		04-545	11/17/200	-	-	-	-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/50, NAVHS 0/5, OCP-FAT 0/50, ELISA 0/15
2002	HAYSPUR	KAMLOOPS RBT		04-550	11/23/200	-	-	-	+	-	-	+	-	-		INSPECTION	CWD, BKD; VIRO 0/60, NAVHS 0/30, DFAT 0/60, ELISA 16/60 (LOW 10, HIGH 6), FLAVOBACTERIUM PSYCHROPHILUM 1/20, PTD-MYXOB 0/60
BROOD	HAYSPUR	RAINBOW TROUT		04-554	12/2/2004	-	-	-	+							INSPECTION	BKD; VIRO 0/50, NAVHS 0/5, OCP-FAT 0/50, ELISA 2/15 (LOW 1, HIGH 1)
BROOD	HAYSPUR	KAMLOOPS RBT		04-555	12/2/2004	-	-		+							INSPECTION	BKD; VIRO 0/24, OCP-FAT 1/24
2002	HAYSPUR	RAINBOW TROUT		04-559	12/8/2004	-	-		+	-	-	+	+	-		INSPECTION	RS, CWD, MAS; VIRO 0/60, DFAT 0/60, ELISA 1/60 (LOW 1), FLAVOBACTERIUM PSYCHROPHILUM 5/15,

BroodYr	Stock	Species	Class	Accession	Sample										ExamType	Diagnoses		
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD			CSH	ICH
BROOD	HAYSPUR	RAINBOW TROUT		04-577	12/15/200	-	-	-	+								INSPECTION	BKD; VIRO 0/29, NAVHS 0/5, DFAT 0/15, OCP-FAT 0/29, ELISA 2/15 (1 low, 1 high)
BROOD	HAYSPUR	KAMLOOPS RBT		04-578	12/15/200	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/30, NAVHS 0/6, DFAT 0/4, OCP-FAT 0/30, ELISA 0/4
BROOD	HAYSPUR	RAINBOW TROUT		04-584	12/29/200	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/13, OCP-FAT 0/13
HENRYS LAKE			C															
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-058	1/21/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/28, NAVHS 0/14, OCP-
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-059	1/26/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/21, OCP-FAT 0/105
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-063	1/28/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/28, OCP-FAT 0/175
32	BROOD	HENRYS LAKE		04-106	3/1/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/21, OCP-FAT 0/154
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-113	3/4/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/21 OCP-FAT 0/147
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-128	3/10/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/21, OCP-FAT 0/210
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-129	3/15/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/14, OCP-FAT 0/140
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-132	3/18/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, OCP-FAT 0/105
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-133	3/22/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, OCP-FAT 0/70
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-146	3/25/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, OCP-FAT 0/70
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-147	3/29/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, OCP-FAT 0/49
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-152	4/1/2004	-	-		+	+	-	-	-	-			INSPECTION	RS, FUR; VIRO 0/60, FAT 0/60, ELISA 11/12(X5, ALL LOW), AEROMONAS SALMONICIDA 5/12, PTD-MYXOB 0/60

BroodYr	Stock	Species	Class	Accession	Sample											ExamType	Diagnoses	
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH			ICH
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-164	4/8/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/21, OCP-FAT 0/140
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-174	4/15/2004				+								INSPECTION	BKD; OCP-FAT 1/12(X7)
BROOD	HENRYS LAKE	YELLOWSTONE CUTTHROAT TROUT		04-191	4/27/2004				-								INSPECTION	NO PATHOGENS DETECTED; OCP-FAT 0/70
IDAHO DEPARTMENT OF AGRICULTURE																		
	UNKNOWN	KOI CARP		04-249	6/22/2004	-	-			-	-						DIAGNOSTIC	KOI HERPES VIRUS (presumptive), MAS; VIRO 0/2, SHEWANELLA PUTRAFACIENS 1/2, AEROMONAS SOBRIA
MACKAY HATCHERY																		
			B															
33	2004	HAYSPUR		RAINBOW TROUT	04-275	7/8/2004	-	-		-	-	+	+				DIAGNOSTIC	CWD, MAS; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 5/5, AEROMONAS SOBRIA 2/5
	2004	HENRYS LAKE		CUTTHROAT TROUT	04-276	7/8/2004	-	-		-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5, BACTE 0/5
	2004	HAYSPUR		RAINBOW TROUT-TRIPLOID	04-586	12/31/200									-		INSPECTION	NO PATHOGENS DETECTED; PTD-MYXOB 0/60
MAGIC VALLEY HATCHERY																		
			C															
	2003	PAHSIMEROI		STEELHEAD, A GROUP	04-102	3/2/2004	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, PTD-MYXOB 0/20
	2003	SAWTOOTH		STEELHEAD, A GROUP	04-103	3/2/2004	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, PTD-MYXOB 0/20
	2003	UPPER SALMON RIVER		STEELHEAD, B GROUP	04-104	3/2/2004	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, PTD-MYXOB 0/20
	2003	DWORSHAK		STEELHEAD, B GROUP	04-105	3/2/2004	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, PTD-MYXOB 0/20
	2003	DWORSHAK		STEELHEAD, B GROUP	04-118	3/11/2004	-	-		-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/10, FLAVOBACTERIUM PSYCHROPHILUM 1/8
	2003	SAWTOOTH		STEELHEAD, A GROUP	04-119	3/11/2004	-	-		-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/7, FLAVOBACTERIUM PSYCHROPHILUM 1/7

BroodYr	Stock	Species	Accession	Sample Date	Class										ExamType	Diagnoses
					IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
2004	DWORSHAK	STEELHEAD, A GROUP	04-242	6/11/2004	-	-			-	-	+	-			DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 4/4
2004	EAST FORK SALMON RIVER NATURALS	STEELHEAD	04-443	9/23/2004	-	-		-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
2004	UPPER SALMON RIVER	STEELHEAD, B GROUP	04-444	9/23/2004	-	-		-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
2004	DWORSHAK	STEELHEAD, B GROUP	04-445	9/23/2004	-	-		-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
2004	SAWTOOTH	STEELHEAD, A GROUP	04-446	9/23/2004	-	-		-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
2004	PAHSIMEROI	STEELHEAD, A GROUP	04-447	9/23/2004	-	-		-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
2004	DWORSHAK	STEELHEAD, B GROUP	04-531	11/4/2004					-	-	+	-			DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 3/4

MCCALL HATCHERY

C

2002	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	04-049	1/7/2004	-	-		-	-	-	+	+			INSPECTION	CWD, MAS; VIRO 0/10, DFAT 0/10, FLAVOBACTERIUM PSYCHROPHILUM 3/10, PSEUDOMONAS SP. 2/10
2003	JOHNSON CREEK	SUMMER CHINOOK SALMON	04-090	2/17/2004					-	-	+	-			DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 3/5
2002	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	04-110	3/9/2004	-	-		-					-		INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2002	JOHNSON CREEK	SUMMER CHINOOK SALMON	04-111	3/9/2004	-	-		-					-		INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2002	JOHNSON CREEK	SUMMER CHINOOK SALMON	04-112	3/9/2004				-							INSPECTION	NO PATHOGENS DETECTED; DFAT 0/2
2003	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	04-234	6/2/2004	-	-		-	-	-	-	+			INSPECTION	MAS; VIRO 0/10, DFAT 0/10, PSEUDOMONAS SPP. 2/10
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID	04-296	7/22/2004					-	-	-	-			DIAGNOSTIC	NO PATHOGENS DETECTED; BACTE 0/10
2003	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	04-420	9/15/2004	-	-		-					-		INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2003	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	04-580	12/16/200	-	-		-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE

NAMPA HATCHERY

A

2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID	04-055	1/20/2004					-	-	+	-			DIAGNOSTIC	CWD; FLAVOBACTERIUM PSYCHROPHILUM 6/7
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BroodYr	Stock	Species	Class	Accession	Sample		IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	ICH	ExamType	Diagnoses
					Date														
2003	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-125	3/17/2004						-	-	-	+				DIAGNOSTIC	MAS; AEROMONAS CAVIAE 6/8
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-139	3/29/2004						-	-	-	+				DIAGNOSTIC	MAS; PSEUDOMONAS SPP. 2/6, AEROMONAS SOBRIA 3/6
2003	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-239	6/10/2004						-	-	+	-				DIAGNOSTIC	CWD, BGD; FLAVOBACTERIUM PSYCHROPHILUM 2/2, AEROMONAS HYDROPHILA 2/2, SHEWENELLA
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-359	8/26/2004						-	-	+	+				DIAGNOSTIC	CWD, MAS; FLAVOBACTERIUM PSYCHROPHILUM 2/4, AEROMONAS HYDROPHILA 4/4, PLESIOMONAS
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-388	9/3/2004	-	-				-	-	-	+				DIAGNOSTIC	MAS; VIRO 0/10, SHEWANELLA PUTRAFACIENS 10/10, AEROMONAS HYDROPHILA 10/10
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-493	10/12/200	-	-				-	-	+	-				DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 1/8, FLAVOBACTER SPP. 1/8
2004	HAYSPUR	RAINBOW TROUT-TRIPLOID		04-524	10/30/200													DIAGNOSTIC	COS; ICHTHYOBODO (COSTIA) 4/4
2004	TROUTLODGE	RAINBOW TROUT-TRIPLOID		04-551	11/30/200	-	-				-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/8, BACTE 0/8
2004	HAYSPUR	KAMLOOPS RBT-TRIPLOID		04-585	12/30/200													DIAGNOSTIC	ENTERIC BACTERIA; CANDIDATUS ARTHROMITUS 3/3
NIAGARA SPRINGS HATCHERY			C																
2003	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-026	1/6/2004	-	-				-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5, BACTE 0/4
2003	PAHSIMEROI	STEELHEAD, A GROUP		04-027	1/6/2004	-	-				-	-	+	+				DIAGNOSTIC	CWD, MAS; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 2/4, PSEUDOMONAS PAUCIMOBILIS 1/4
2003	PAHSIMEROI	STEELHEAD, A GROUP		04-108	3/3/2004	-	-				-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, PTD-MYXOB 0/20
2003	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-109	3/3/2004	-	-				-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, PTD-MYXOB 0/20
2004	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-441	9/23/2004	-	-				-	-	+	-				INSPECTION	CWD; VIRO 0/10, DFAT 0/10, FLAVOBACTERIUM PSYCHROPHILUM 2/4
2004	PAHSIMEROI	STEELHEAD, A GROUP		04-442	9/23/2004	-	-				-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
2004	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-561	12/10/200	-	-				-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5, BACTE 0/6
2004	PAHSIMEROI	STEELHEAD, A GROUP		04-562	12/10/200	-	-				-	-	+	+				INSPECTION	CWD, MAS; VIRO 0/5, FLAVOBACTERIUM PSYCHROPHILUM 4/7, AEROMONAS HYDROPHILA 5/7

BroodYr	Stock	Species	Class	Accession	Sample											ExamType	Diagnoses	
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH			ICH
NOAA/NMFS/NWT-C/CB DIV																		
BROOD	RAPID RIVER	SPRING CHINOOK		04-372	8/30/2004	+	-	-	+								RESEARCH	RS, IHNV; IHNV 2/20 IPNV 0/20, NAVHS 0/2, ELISA 15/19
OPALINE AQUAFARMS																		
2003	OPALINE	KOI CARP		04-186	4/26/2004	-	-			-	-	-	+				DIAGNOSTIC	MAS, COL; VIRO 0/5, AEROMONAS HYDROPHILA 5/5, FLAVOBACTERIUM COLUMNARE 3/5
OXBOW HATCHERY																		
			C															
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-130	3/18/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, NAVHS 0/2, ELISA 0/4, PTD-MYXOB 0/4
2003	LYONS FERRY (SNAKE RIVER)	FALL CHINOOK SALMON		04-131	3/18/2004	-	-		-	-	-	-					INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-134	3/29/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/12, NAVHS 0/8
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-150	4/1/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/24
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-155	4/5/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/18
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-158	4/8/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, PTD-WHD 0/15
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-160	4/12/2004	-	-	-	+								INSPECTION	RS; VIRO 0/21, NAVHS 0/1, ELISA 1/19 (LOW 1)
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-168	4/15/2004	-	-	-	+								INSPECTION	RS; VIRO 0/18, ELISA 1/14 (LOW 1)
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-171	4/19/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/18, NAVHS 0/6, ELISA
2003	LYONS FERRY (SNAKE RIVER)	FALL CHINOOK SALMON		04-175	4/22/2004	-	-		+								INSPECTION	RS; VIRO 0/60, FAT 0/60, ELISA 3/12 (X5, LOW 2, HIGH 1), PTD-MYXOB 0/60, CSH 0/60
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP		04-184	4/22/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, PTD-

36

BroodYr	Stock	Species	Accession	Sample Date	Class										ExamType	Diagnoses		
					IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH			ICH	
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	04-185	4/26/2004	-	-		+								INSPECTION	RS; VIRO 0/10, ELISA 1/10 (LOW 1)	
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	04-201	5/2/2004	-	-		-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/12, ELISA 0/6	
PAHSIMEROI HATCHERY		C																
2002	PAHSIMEROI	SUMMER CHINOOK SALMON	04-127	3/16/2004	-	-		-							+	INSPECTION	WHD; VIRO 0/20, FAT 0/20, ELISA 0/20, PTD-MYXOBOLUS CEREBRALIS 1/20	
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	04-148	3/29/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, NAVHS 0/8	
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	04-165	4/12/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/50, NAVHS 0/8	
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	04-176	4/2/2004				+								INSPECTION	RS; ELISA 3/12 (LOW 3)	
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	04-177	4/19/2004	-	-		+								INSPECTION	RS; VIRO 0/40, ELISA 11/48 (LOW 11)	
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	04-192	4/22/2004											+	INSPECTION	WHD; PTD-MYXOBOLUS CEREBRALIS 1/20	
2003	PAHSIMEROI	SUMMER CHINOOK SALMON	04-241	6/10/2004	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE	
2003	PAHSIMEROI	SUMMER CHINOOK SALMON	04-299	7/27/2004				-								+	DIAGNOSTIC	ICH; DFAT 0/10, ICHTHYOPHTHIRIUS MULTIFILIUS 10/10
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	04-383	8/30/2004				+								INSPECTION	RS; ELISA 5/25 (LOW 5)	
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	04-391	9/2/2004				-								INSPECTION	NO PATHOGENS DETECTED; ELISA 0/22	
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	04-400	9/7/2004				+								INSPECTION	RS; ELISA 9/52 (LOW 9)	
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	04-416	9/9/2004				+								INSPECTION	RS; ELISA 3/52 (LOW 3)	
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	04-417	9/13/2004	-	-	-	+						-		INSPECTION	BKD; VIRO 0/60, NAVHS 0/9, ELISA 4/63 (LOW 2, HIGH 2), PTD-MYXOB 0/20	
2003	PAHSIMEROI	SUMMER CHINOOK SALMON	04-418	9/13/2004	-	-		-	-	-	+	+				INSPECTION	MAS, CWD; VIRO 0/10, FAT 0/10, FLAVOBACTERIUM PSYCHROPHILUM 2/10, AEROMONAS CAVIAE 4/10	

37

BroodYr	Stock	Species	Accession	Sample Date	Class										ExamType	Diagnoses
					IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH		
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	04-423	9/16/2004				+							INSPECTION	BKD; ELISA 4/60 (LOW 3, HIGH 1)
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	04-432	9/20/2004				-							INSPECTION	NO PATHOGENS DETECTED; ELISA 0/36
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	04-466	9/23/2004				+							INSPECTION	RS; ELISA 4/36 (LOW 4)
BROOD	PAHSIMEROI	SUMMER CHINOOK SALMON	04-467	9/27/2004				-							INSPECTION	NO PATHOGENS DETECTED; ELISA 0/22
2003	PAHSIMEROI	SUMMER CHINOOK SALMON	04-540	11/9/2004	-	-		-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
POWELL SATELLITE																
2002	POWELL	SPRING CHINOOK	04-142	3/27/2004	-	-	-	-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, NAVHS 0/20, FAT 0/20, ELISA 0/20, PTD-MYXOB 0/19
BROOD	POWELL	SPRING CHINOOK	04-316	8/9/2004				+							INSPECTION	BKD; ELISA 97/122 (LOW 94, HIGH 3)
BROOD	POWELL	SPRING CHINOOK	04-318	8/12/2004	+	-	-	+							INSPECTION	IHNV, BKD; IHN 14/20(X3), IPN 0/60, NAVHS 0/9, ELISA 66/84 (LOW 62,HIGH 4), PTD-MYXOB 0/20
BROOD	POWELL	SPRING CHINOOK	04-338	8/16/2004				+							INSPECTION	BKD; ELISA 72/165 (LOW 67, HIGH 5)
BROOD	POWELL	SPRING CHINOOK	04-355	8/19/2004				+							INSPECTION	BKD; ELISA 58/82 (LOW 56, HIGH 2)
BROOD	POWELL	SPRING CHINOOK	04-356	8/23/2004				+							INSPECTION	BKD; ELISA 10/22 (LOW 9, HIGH 1)
2003	POWELL	SPRING CHINOOK	04-449	9/22/2004	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/19, ELISA 0/20, PTD-MYXOB 0/20
RAPID RIVER HATCHERY																
2002	RAPID RIVER	SPRING CHINOOK	04-050	1/7/2004	-	-		-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
2002	RAPID RIVER	SPRING CHINOOK	04-114	3/10/2004	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, DFAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
2003	RAPID RIVER	SPRING CHINOOK	04-235	6/2/2004	-	-		-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE

39

BroodYr	Stock	Species	Class	Accession	Sample										ExamType	Diagnoses		
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD			CSH	ICH
2003	RAPID RIVER	SPRING CHINOOK		04-265	6/29/2004	-	-		+	-	-	+	-				INSPECTION	BKD, CWD; VIRO 0/7, DFAT 5/7, FLAVOBACTERIUM PSYCHROPHILUM 1/7
2003	RAPID RIVER	SPRING CHINOOK		04-301	7/30/2004				-	-	-	-	+				INSPECTION	MAS; DFAT 0/10, PSEUDOMONAS FLUORENSCENS 7/10
BROOD	RAPID RIVER	SPRING CHINOOK		04-341	8/16/2004				+								INSPECTION	RS; ELISA 6/13 (LOW 5, HIGH 1)
BROOD	RAPID RIVER	SPRING CHINOOK		04-342	8/19/2004	-	-		+						-		INSPECTION	BKD; VIRO 0/24, ELISA 20/22 (LOW 18, HIGH 2), PTD-MYXOB
BROOD	RAPID RIVER	SPRING CHINOOK		04-347	8/23/2004	+	-	-	+								INSPECTION	BKD, IHNV; IHNV 2/12(X3) IPNV 0/36, ELISA 59/68 (LOW 53,
BROOD	RAPID RIVER	SPRING CHINOOK		04-349	8/24/2004				+								INSPECTION	BKD; ELISA 27/29 (LOW 24, HIGH 3)
BROOD	RAPID RIVER	SPRING CHINOOK		04-362	8/26/2004				+								INSPECTION	BKD; ELISA 60/98 (LOW 57, HIGH 3)
BROOD	RAPID RIVER	SPRING CHINOOK		04-366	8/27/2004				+								INSPECTION	BKD; ELISA 26/52 (LOW 23, HIGH 3)
BROOD	RAPID RIVER	SPRING CHINOOK		04-373	8/30/2004				+								INSPECTION	BKD; ELISA 75/170 (LOW 70, HIGH 5)
BROOD	RAPID RIVER	SPRING CHINOOK		04-374	8/31/2004				+								INSPECTION	BKD; ELISA 33/82 (LOW 27, HIGH 6)
BROOD	RAPID RIVER	SPRING CHINOOK		04-384	9/2/2004				+								INSPECTION	BKD; ELISA 175/226 (LOW 161, HIGH 14)
BROOD	RAPID RIVER	SPRING CHINOOK		04-389	9/3/2004				+								INSPECTION	BKD; ELISA 60/141 (LOW 45, HIGH 15)
BROOD	RAPID RIVER	SPRING CHINOOK		04-390	9/6/2004				+								INSPECTION	BKD; ELISA 45/170 (LOW 40, HIGH 5)
BROOD	RAPID RIVER	SPRING CHINOOK		04-398	9/7/2004				+								INSPECTION	BKD; ELISA 44/95 (LOW 35, HIGH 9)
BROOD	RAPID RIVER	SPRING CHINOOK		04-401	9/9/2004				+								INSPECTION	BKD; ELISA 17/53 (LOW 14, HIGH 3)
BROOD	RAPID RIVER	SPRING CHINOOK		04-465	9/13/2004				+								INSPECTION	RS; ELISA 8/9 (LOW 8)
2003	RAPID RIVER	SPRING CHINOOK		04-581	12/16/200	-	-		-	-	-	+	-				INSPECTION	CWD; VIRO 0/10, DFAT 0/10, FLAVOBACTERIUM PSYCHROPHILUM 1/10
RED RIVER SATELLITE			C															
2002	S.F. CLEARWATER RIVER	SPRING CHINOOK		04-143	3/29/2004	-	-	-	-								INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, NAVHS 0/20, FAT 0/20, ELISA 0/20, PTD-MYXOB 0/20
SAWTOOTH HATCHERY			C															
2002	SAWTOOTH	SPRING CHINOOK		04-126	3/16/2004	-	-		-								INSPECTION	WHD; VIRO 0/20, FAT 0/20, ELISA 0/20, PTD-MYXOBOLUS CEREBRALIS 1/20
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-145	3/29/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/40
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-156	4/1/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/52, NAVHS 0/14

BroodYr	Stock	Species	Class	Accession	Sample											ExamType	Diagnoses	
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH			ICH
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-157	4/5/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/80
BROOD	SQUAW CREEK	STEELHEAD, B GROUP		04-159	4/6/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-161	4/8/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/80, NAVHS 0/12
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP		04-162	4/9/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2
BROOD	SQUAW CREEK	STEELHEAD, B GROUP		04-163	4/9/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-166	4/12/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/76, NAVHS 0/10
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP		04-169	4/13/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4
BROOD	SQUAW CREEK	STEELHEAD, B GROUP		04-170	4/13/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-172	4/15/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/69, NAVHS 0/56
BROOD	SQUAW CREEK	STEELHEAD, B GROUP		04-173	4/16/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-182	4/19/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/58, NAVHS 0/15
BROOD	SQUAW CREEK	STEELHEAD, B GROUP		04-183	4/20/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4
BROOD	SQUAW CREEK	STEELHEAD, B GROUP		04-189	4/23/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/3, NAVHS 0/2
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-190	4/22/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/19, NAVHS 0/6
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-196	4/26/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/24
BROOD	SQUAW CREEK	STEELHEAD, B GROUP		04-197	4/27/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-202	4/12/2004												INSPECTION	RS, WHD; ELISA 27/54 (LOW 27) PTD-MYXOBOLUS
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP		04-203	4/12/2004												INSPECTION	RS; ELISA 1/5 (LOW 1), PTD-MYXOB 0/6
BROOD	SQUAW CREEK	STEELHEAD, B GROUP		04-204	4/16/2004												INSPECTION	RS, WHD; ELISA 12/19 (LOW 12), PTD-MYXOBOLUS CEREBRALIS 1/20
BROOD	SAWTOOTH	STEELHEAD, A GROUP		04-205	4/29/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/14
BY02	REDFISH LAKE	SOCKEYE SALMON		04-212	5/11/2004	-	-										INSPECTION	RS; VIRO 0/60, DFAT 0/55, ELISA 2/12(X5, LOW 2), BACTE 0/30, PTD-MYXOB 0/60
BY03	REDFISH LAKE	SOCKEYE SALMON		04-238	6/7/2004	-	-										DIAGNOSTIC	MAS, CWD; VIRO 0/20, DFAT 0/8, STREPTOCOCCUS SPP. 9/15, PSEUDOMONAS FLUORENSCENS/ CHLOROAPHIS/ AUREOFECIENS 13/15, FLAVOBACTERIUM
2003	SAWTOOTH	SPRING CHINOOK		04-240	6/9/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
2003	SAWTOOTH	SPRING CHINOOK		04-297	7/27/2004	-	-										INSPECTION	MAS; VIRO 0/10, DFAT 0/10, PSEUDOMONAS FLUORENSCENS 8/10, PSEUDOMONAS SPP. 6/10
ADULT	SAWTOOTH	SPRING CHINOOK		04-298	7/26/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1

40

BroodYr	Stock	Species	Class	Accession	Sample										ExamType	Diagnoses		
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD			CSH	ICH
BROOD	SAWTOOTH	SPRING CHINOOK		04-302	8/9/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/3, ELISA 0/1
ADULT	SAWTOOTH	SPRING CHINOOK		04-303	7/28/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, NAVHS 0/1
ADULT	SAWTOOTH	SPRING CHINOOK		04-304	8/9/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, NAVHS 0/1
AN04	REDFISH LAKE	SOCKEYE SALMON		04-305	8/9/2004					-	-	-	+				DIAGNOSTIC	MAS; AEROMONAS HYDROPHILA 3/3
BROOD	SAWTOOTH	SPRING CHINOOK		04-306	8/9/2004												DIAGNOSTIC	AMELIOBLASTOMA OR SQUAMOUS CELL CARCINOMA, WE WILL UPDATE WHEN TUMOR REGISTARY REPORT COMES IN; TUMORS ON MOUTH & TONGUE
BROOD	SAWTOOTH	SPRING CHINOOK		04-331	8/16/2004	-	-	-	+								INSPECTION	RS; VIRO 0/7, NAVHS 0/1, ELISA 2/7 (LOW 2)
BROOD	SAWTOOTH	SPRING CHINOOK		04-352	8/19/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/15
BROOD	SAWTOOTH	SPRING CHINOOK		04-353	8/23/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/32
ADULT	UPPER SALMON RIVER	CARCASS, SPRING CHINOOK SALMON		04-354	8/21/2004	-	-										RESEARCH	NO PATHOGENS DETECTED; VIRO 0/4
BROOD	SAWTOOTH	SPRING CHINOOK		04-377	8/19/2004												INSPECTION	RS; ELISA 2/15 (LOW 2)
BROOD	SAWTOOTH	SPRING CHINOOK		04-378	8/23/2004												INSPECTION	BKD; ELISA 26/31 (LOW 18, HIGH 8)
BROOD	SAWTOOTH	SPRING CHINOOK		04-379	8/26/2004	-	-	-	+								INSPECTION	RS; VIRO 0/28, NAVHS 0/3, ELISA 7/28 (LOW 7)
BROOD	SAWTOOTH	SPRING CHINOOK		04-380	8/30/2004	-	-	-	+								INSPECTION	BKD; VIRO 0/102, NAVHS 0/15, ELISA 40/102 (LOW 38, HIGH 8)
ADULT	UPPER SALMON RIVER	CARCASS, SPRING CHINOOK SALMON		04-381	8/25/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, NAVHS 0/3
ADULT	UPPER SALMON RIVER	CARCASS, SPRING CHINOOK SALMON		04-392	8/31/2004	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20
BROOD	SAWTOOTH	SPRING CHINOOK		04-393	8/3/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, NAVHS 0/17
BROOD	SAWTOOTH	SPRING CHINOOK		04-394	9/2/2004	-	-	-	+								INSPECTION	RS; VIRO 0/120, NAVHS 0/14, ELISA 18/120 (LOW 18)
BY03	REDFISH LAKE	SOCKEYE SALMON		04-397	9/8/2004	-	-			-	-		-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, DFAT 0/60, ELISA 0/60, BACTE 0/20, PTD-MYXOB 0/60
BROOD	SAWTOOTH	SPRING CHINOOK		04-399	9/7/2004												INSPECTION	BKD, WHD; ELISA 17/100 (LOW 16, HIGH 1), PTD-MYXOBOLUS CEREBRALIS 1/5(X5)
BROOD	SAWTOOTH	SPRING CHINOOK		04-421	9/10/2004												INSPECTION	RS; ELISA 2/23(LOW 2)
BROOD	SAWTOOTH	SPRING CHINOOK		04-422	9/14/2004												INSPECTION	NO PATHOGENS DETECTED; ELISA 0/7
ADULT	SAWTOOTH	CARCASS, SPRING CHINOOK SALMON		04-439	9/6/2004	-	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/29, NAVHS 0/3

BroodYr	Stock	Species	Class	Accession	Sample											ExamType	Diagnoses	
					Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH			ICH
BY03	REDFISH LAKE	SOCKEYE SALMON		04-529	10/29/200	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2
BY03	REDFISH LAKE	SOCKEYE SALMON		04-538	11/6/2004	-	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/3, NAVHS 0/3
2003	SAWTOOTH	SPRING CHINOOK		04-539	11/9/2004	-	-		-	-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10, BACTE
BY03	REDFISH LAKE	SOCKEYE SALMON		04-546	11/16/200	-	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2, NAVHS 0/2
BY03	REDFISH LAKE	SOCKEYE SALMON		04-549	11/20/200	-	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2, NAVHS 0/2
BY03	REDFISH LAKE	SOCKEYE SALMON		04-553	11/28/200	-	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/2, NAVHS 0/2
BY03	REDFISH LAKE	SOCKEYE SALMON		04-556	12/1/2004	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/4
2003	REDFISH LAKE	SOCKEYE SALMON		04-576	12/10/200	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/3
2003	REDFISH LAKE	SOCKEYE SALMON		04-583	12/18/200	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1
SOUTH FORK TRAP			D															
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON		04-332	8/13/2004	-	-		+								INSPECTION	BKD; VIRO 0/2, ELISA 1/2 (HIGH 1), PTD-MYXOB 0/2
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON		04-333	8/13/2004				+								INSPECTION	RS; ELISA 3/5 (LOW 3)
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON		04-334	8/17/2004	-	-	-	+								INSPECTION	BKD; VIRO 0/41, NAVHS 0/3, ELISA 12/40 (LOW 9, HIGH 3), PTD-MYXOB 0/20
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON		04-335	8/17/2004	-	-	-	+								INSPECTION	BKD; VIRO 0/2, NAVHS 0/1, ELISA 1/2 (HIGH 1), PTD-MYXOB
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON		04-343	8/20/2004	-	-	-	+								INSPECTION	BKD; VIRO 0/19, NAVHS 0/6, ELISA 64/90 (LOW 60, HIGH 4)
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON		04-344	8/20/2004	-	-	-	+								INSPECTION	BKD; VIRO 0/8, NAVHS 0/6, ELISA 5/8 (LOW 4, HIGH 1), PTD-MYXOB 0/8
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON		04-345	8/20/2004												RESEARCH	AMELIOBLASTOMA 2/2
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON		04-350	8/24/2004	-	-		+								INSPECTION	RS; VIRO 0/2, ELISA 2/2 (LOW 2), PTD-MYXOB 0/2
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON		04-351	8/24/2004				+								INSPECTION	BKD; ELISA 90/114 (LOW 86, HIGH 4)

42

BroodYr	Stock	Species	Accession	Sample Date	Class										ExamType	Diagnoses		
					IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH			ICH	
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON	04-364	8/27/2004	-	-		+									INSPECTION	RS; VIRO 0/7, ELISA 3/7 (LOW 2, HIGH 1), PTD-MYXOB 0/7
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	04-365	8/27/2004				+									INSPECTION	BKD; ELISA 74/100 (LOW 68, HIGH 6)
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON	04-375	8/31/2004	-	-		+									INSPECTION	RS; VIRO 0/5, ELISA 5/5 (LOW 5), PTD-MYXOB 0/5
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	04-376	8/31/2004				+									INSPECTION	BKD; ELISA 23/60 (LOW 20, HIGH 3)
BROOD	JOHNSON CREEK	SUMMER CHINOOK SALMON	04-386	9/3/2004	-	-		-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, PTD-
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK SALMON	04-387	9/3/2004				+									INSPECTION	BKD; ELISA 12/48 (LOW 11, HIGH 1)

UNIVERSITY OF IDAHO/IDAHO SPRINGS

2003	IDAHO SPRINGS	RAINBOW TROUT	04-149	3/29/2004	+	-		-	-	-	+	-	-				INSPECTION	IHNV, CWD; IHNV 5/12(X5), IPNV 0/60, FAT 0/60, FLAVOBACTERIUM PSYCHROPHILUM 3/48, PTD-MYXOB
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UTAH DIV OF WILDLIFE

BROOD	RTFD	RAINBOW TROUT	04-193	4/4/2004	-	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, NAVHS 0/60
BROOD	RTSCTP	RAINBOW TROUT	04-194	4/4/2004	-	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, NAVHS 0/60
BROOD	CTCR	CUTTHROAT TROUT	04-195	4/4/2004	-	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, NAVHS 0/60

43

Sample Origin	Accession	Species												Diagnoses		
MALAD (WOOD) RIVER																
MAJOR:	MALAD (WOOD) RIVER	04-363	RAINBOW TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	GAS BUBBLE DISEASE; BACTE 0/3
SECONDAR	LITTLE WOOD RIVER		Sample Date:	8/27/2004				-	-	-	-					
TERTIARY:	SILVER CREEK		Received Date:	8/27/2004	GPS		43.3135	N,	114.1586	W						
QUATERNA	SULLIVAN LAKE				or	UTM Zone		E,		N						
MAJOR:	MALAD (WOOD) RIVER	04-502	SCULPIN (UNDETERMINED SPECIES)	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/30
SECONDAR	BIG WOOD RIVER		Sample Date:	9/23/2004								-	-			
TERTIARY:	EAST FORK		Received Date:	10/18/2004	GPS		43.67458	N,	114.14301	W						
QUATERNA					or	UTM Zone		E,		N						
MAJOR:	MALAD (WOOD) RIVER	04-503	SCULPIN (UNDETERMINED SPECIES)	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/20
SECONDAR	BIG WOOD RIVER		Sample Date:	9/29/2004								-	-			
TERTIARY:	CAMAS CREEK		Received Date:	10/18/2004	GPS		43.49791	N,	114.836029	W						
QUATERNA	SOLDIER CREEK				or	UTM Zone		E,		N						
MAJOR:	MALAD (WOOD) RIVER	04-504	SCULPIN (UNDETERMINED SPECIES)	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/30
SECONDAR	LITTLE WOOD RIVER		Sample Date:	9/30/2004								-	-			
TERTIARY:			Received Date:	10/18/2004	GPS		43.48399	N,	114.05615	W						
QUATERNA					or	UTM Zone		E,		N						
OUTSIDE OF IDAHO																
MAJOR:	OUTSIDE OF IDAHO	04-068	YELLOW PERCH	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; BACTE 0/3, PCR-HETEROSPORIS 0/60
SECONDAR			Sample Date:	2/10/2004					-	-	-					
TERTIARY:	WILDHORSE RESERVOIR, NEVADA		Received Date:	2/11/2004	GPS			N,		W						
QUATERNA					or	UTM Zone		E,		N						
PEND OREILLE RIVER																
MAJOR:	PEND OREILLE RIVER	04-568	BROOK TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/5
SECONDAR	CLARK FORK RIVER		Sample Date:	8/16/2004								-	-			
TERTIARY:	LIGHTENING CREEK		Received Date:	12/14/2004	GPS		48.158666	N,	116.183251	W						
QUATERNA	SPRING CREEK				or	UTM Zone		E,		N						
MAJOR:	PEND OREILLE RIVER	04-569	RAINBOW TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/3
SECONDAR	CLARK FORK RIVER		Sample Date:	8/16/2004								-	-			
TERTIARY:	LIGHTENING CREEK		Received Date:	12/14/2004	GPS		48.158666	N,	116.183251	W						
QUATERNA	SPRING CREEK				or	UTM Zone		E,		N						

45

Sample Origin		Accession	Species											Diagnoses		
MAJOR:	PEND OREILLE RIVER	04-570	BROWN TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/2
SECONDAR	CLARK FORK RIVER		Sample Date: 8/16/2004									-		-		
TERTIARY:	LIGHTENING CREEK		Received Date: 12/14/2004	GPS			48.158666 N,	116.183251			W					
QUATERNA	SPRING CREEK			or	UTM Zone		E,			N						
MAJOR:	PEND OREILLE RIVER	04-571	BROOK TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/10
SECONDAR	CLARK FORK RIVER		Sample Date: 8/17/2004									-		-		
TERTIARY:	MOSQUITO CREEK		Received Date: 12/14/2004	GPS			48.146666 N,	116.15347			W					
QUATERNA				or	UTM Zone		E,			N						
MAJOR:	PEND OREILLE RIVER	04-572	MOUNTAIN WHITEFISH	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	MYXOBOLUS; PTD-MYXOB 1/2(X5), PCR-NEUROTROPIC 0/1*
SECONDAR	CLARK FORK RIVER		Sample Date: 8/18/2004									+		-		
TERTIARY:			Received Date: 12/14/2004	GPS				N,			W					
QUATERNA				or	UTM Zone		E,			N						
MAJOR:	PEND OREILLE RIVER	04-573	RAINBOW TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/4
SECONDAR	CLARK FORK RIVER		Sample Date: 8/18/2004									-		-		
TERTIARY:	TWIN CREEK		Received Date: 12/14/2004	GPS			48.081555 N,	116.12125			W					
QUATERNA				or	UTM Zone		E,			N						
MAJOR:	PEND OREILLE RIVER	04-574	BROOK TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/3
SECONDAR	CLARK FORK RIVER		Sample Date: 8/18/2004									-		-		
TERTIARY:	TWIN CREEK		Received Date: 12/14/2004	GPS			48.081555 N,	116.12125			W					
QUATERNA				or	UTM Zone		E,			N						
MAJOR:	PEND OREILLE RIVER	04-575	BROWN TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/3
SECONDAR	CLARK FORK RIVER		Sample Date: 8/18/2004									-		-		
TERTIARY:	TWIN CREEK		Received Date: 12/14/2004	GPS			48.081555 N,	116.12251			W					
QUATERNA				or	UTM Zone		E,			N						
MAJOR:	PEND OREILLE RIVER	04-579	RAINBOW TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; PTD-MYXOB 0/10
SECONDAR	CLARK FORK RIVER		Sample Date: 8/16/2004									-		-		
TERTIARY:	LIGHTENING CREEK		Received Date: 12/14/2004	GPS			48.214555 N,	116.119694			W					
QUATERNA				or	UTM Zone		E,			N						
SALMON RIVER																
MAJOR:	SALMON RIVER	04-198	SPRING CHINOOK SALMON	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	NO PATHOGENS DETECTED; VIRO 0/10, DFAT 0/10
SECONDAR	EAST FORK		Sample Date: 4/28/2004	-	-		-									
TERTIARY:			Received Date: 5/3/2004	GPS			44.027	N,		114.466	W					
QUATERNA				or	UTM Zone		E,			N						

Sample Origin	Accession	Species	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	Diagnoses
MAJOR: SALMON RIVER SECONDAR LAKE CREEK TERTIARY: WILLIAMS LAKE QUATERNA	04-207	RAINBOW TROUT Sample Date: 4/30/2004 Received Date: 5/4/2004	-	-	-										NO PATHOGENS DETECTED; VIRO 0/7, NAVHS 0/1
MAJOR: SALMON RIVER SECONDAR REDFISH LAKE CREEK TERTIARY: REDFISH LAKE CREEK TRAP QUATERNA	04-213	SOCKEYE SALMON - WILD SMOLT Sample Date: 5/11/2004 Received Date: 5/11/2004	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/2, DFAT 0/2, ELISA 0/2, BACTE 0/2, PTD-MYXOB 0/2
MAJOR: SALMON RIVER SECONDAR ALTURAS LAKE CREEK TERTIARY: ALTURAS LAKE CREEK TRAP QUATERNA	04-214	SOCKEYE SALMON - HATCHERY SMOLT Sample Date: 5/11/2004 Received Date: 5/11/2004	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/4, FAT 0/4, ELISA 0/4, BACTE 0/4, PTD-MYXOB 0/4
MAJOR: SALMON RIVER SECONDAR REDFISH LAKE CREEK TERTIARY: REDFISH LAKE CREEK TRAP QUATERNA	04-215	SOCKEYE SALMON - HATCHERY SMOLT Sample Date: 5/11/2004 Received Date: 5/11/2004	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, ELISA 0/10, BACTE 0/10, PTD-MYXOB 0/10
MAJOR: SALMON RIVER SECONDAR REDFISH LAKE CREEK TERTIARY: REDFISH LAKE CREEK TRAP QUATERNA	04-216	SOCKEYE SALMON - WILD SMOLT Sample Date: 5/11/2004 Received Date: 5/11/2004	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, ELISA 0/10, BACTE 0/10, PTD-MYXOB 0/10
MAJOR: SALMON RIVER SECONDAR ALTURAS LAKE CREEK TERTIARY: PETTIT LAKE CREEK QUATERNA PETTIT LAKE CREEK TRAP	04-217	SOCKEYE SALMON - HATCHERY SMOLT Sample Date: 5/11/2004 Received Date: 5/11/2004	-	-	-	-	-	-	-	-	-	-	-	-	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, ELISA 0/10, BACTE 0/10, PTD-MYXOB 0/10
MAJOR: SALMON RIVER SECONDAR LAKE CREEK TERTIARY: WILLIAMS LAKE QUATERNA	04-218	RAINBOW TROUT Sample Date: 5/7/2004 Received Date: 5/13/2004	-	-	-										NO PATHOGENS DETECTED; VIRO 0/7
MAJOR: SALMON RIVER SECONDAR ALTURAS LAKE CREEK TERTIARY: YELLOW BELLY LAKE QUATERNA	04-274	RAINBOW TROUT Sample Date: 7/2/2004 Received Date: 7/6/2004	-	-	-										NO PATHOGENS DETECTED; PTD-MYXOB 0/10

47

Sample Origin	Accession	Species	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	Diagnoses
MAJOR: SALMON RIVER	04-277	WESTSLOPE CUTTHROAT TROUT													BKD, NEUROTROPIC MYXOBOLUS; VIRO 0/20,
SECONDAR MIDDLE FORK		Sample Date: 7/14/2004	-	-		+					+	-	+		DFAT 0/19, ELISA 3/4(X5; 1 HIGH, 2 LOW), PTD-
SECONDAR MIDDLE FORK		Sample Date:									+		+		MYXOB 4/4(X5), PCR-MYXOBOLUS CEREBRALIS
TERTIARY: MAIN STEM		Received Date: 7/19/2004	GPS				44.5664 N,	115.3018 W							0/3, PCR-NEUROTROPIC MYXOBOLUS 3/3
QUATERNA GARDELL HOLE TO DOME HOLE			or	UTM Zone			E,	N							
MAJOR: SALMON RIVER	04-278	WESTSLOPE CUTTHROAT TROUT													RS, NEUROTROPIC MYXOBOLUS; VIRO 0/20, DFAT
SECONDAR MIDDLE FORK		Sample Date: 7/15/2004	-	-		+					+	-	+		0/20, ELISA 4/4(X5, 4 LOW), PTD-MYXOB 2/4(X5),
SECONDAR MIDDLE FORK		Sample Date:									+		+		PCR-MYXOBOLUS CEREBRALIS 0/3, PCR-
TERTIARY: MAIN STEM		Received Date: 7/19/2004	GPS				44.6507 N,	115.1663 W							NEUROTROPIC MYXOBOLUS 1/3
QUATERNA DOME HOLE TO PUNGO CREEK			or	UTM Zone			E,	N							
MAJOR: SALMON RIVER	04-279	WESTSLOPE CUTTHROAT TROUT													BKD; VIRO 0/20, DFAT 0/20, ELISA 4/4(X5, 1 HIGH, 3
SECONDAR MIDDLE FORK		Sample Date: 7/16/2004	-	-		+					-	-	-		LOW), PTD-MYXOB 0/20
TERTIARY: MAIN STEM		Received Date: 7/19/2004	GPS				44.7642 N,	115.0726 W							
QUATERNA PUNGO CREEK TO PINE FLAT			or	UTM Zone			E,	N							
MAJOR: SALMON RIVER	04-280	WESTSLOPE CUTTHROAT TROUT													NEUROTROPIC MYXOBOLUS; PTD-MYXOB 1/8(X5),
SECONDAR MIDDLE FORK		Sample Date: 7/16/2004									+	-	+		PCR-MYXOBOLUS CEREBRALIS 0/3, PCR-
SECONDAR MIDDLE FORK		Sample Date:									+		+		NEUROTROPIC MYXOBOLUS 2/3
TERTIARY: THOMAS CREEK		Received Date: 7/19/2004	GPS				44.7051 N,	115.0278 W							
QUATERNA			or	UTM Zone			E,	N							
MAJOR: SALMON RIVER	04-281	WESTSLOPE CUTTHROAT TROUT													RS, NEUROTROPIC MYXOBOLUS; VIRO 0/8, DFAT
SECONDAR MIDDLE FORK		Sample Date: 7/17/2004	-	-		+					+	-	+		0/6, ELISA 2/2(X4, 2 LOW), PTD-MYXOB 1/2(X3),
SECONDAR MIDDLE FORK		Sample Date:									+		+		PCR-MYXOBOLUS CEREBRALIS 0/3,
TERTIARY: MAIN STEM		Received Date: 7/19/2004	GPS				44.7649 N,	114.8959 W							NEUROTROPIC MYXOBOLUS 3/3
QUATERNA PINE FLAT TO CAMAS CREEK			or	UTM Zone			E,	N							
MAJOR: SALMON RIVER	04-282	WESTSLOPE CUTTHROAT TROUT													MYXOBOLUS SPP.; PTD-MYXOB 2/7(1X5 and 1X1),
SECONDAR MIDDLE FORK		Sample Date: 7/17/2004									+	-	-		PCR-NO CONFIRMATION.
TERTIARY: CUB CREEK		Received Date: 7/19/2004	GPS				44.8423 N,	114.7759 W							
QUATERNA			or	UTM Zone			E,	N							
MAJOR: SALMON RIVER	04-283	WESTSLOPE CUTTHROAT TROUT													BKD, WHD, NEUROTROPIC MYXOBOLUS; VIRO
SECONDAR MIDDLE FORK		Sample Date: 7/17/2004	-	-		+					+	+	+		0/15, ELISA 3/3(X5, 1 HIGH, 2 LOW), PTD-MYXOB
SECONDAR MIDDLE FORK		Sample Date:									+		+		2/3(X5), PCR-MYXOBOLUS CEREBRALIS 6/10, PCR-
TERTIARY: CAMAS CREEK		Received Date: 7/19/2004	GPS				44.8918 N,	114.7233 W							NEUROTROPIC MYXOBOLUS 2/2
QUATERNA			or	UTM Zone			E,	N							

Sample Origin		Accession	Species	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	Diagnoses
MAJOR:	SALMON RIVER	04-284	RAINBOW TROUT													NO PATHOGENS DETECTED; PTD-MYXOB 0/30
SECONDAR	MIDDLE FORK		Sample Date: 7/17/2004									-	-	-		
TERTIARY:	NORTON CREEK		Received Date: 7/19/2004													
QUATERNA				GPS			44.8286	N,	114.7988	W						
				or	UTM Zone			E,		N						
MAJOR:	SALMON RIVER	04-285	WESTSLOPE CUTTHROAT TROUT													WHD; PTD-MYXOB 2/6(X5), PCR-MYXOBOLUS
SECONDAR	MIDDLE FORK		Sample Date: 7/18/2004									+	+	-		CEREBRALIS 3/3, NEUROTROPIC MYXOBOLUS 0/3
TERTIARY:	APAREJO CREEK		Received Date: 7/21/2004													
QUATERNA				GPS			44.923	N,	114.7258	W						
				or	UTM Zone			E,		N						
MAJOR:	SALMON RIVER	04-286	WESTSLOPE CUTTHROAT TROUT													NEUROTROPIC MYXOBOLUS; PTD-MYXOB 4/6(X5),
SECONDAR	MIDDLE FORK		Sample Date: 7/18/2004									+	-	+		PCR-MYXOBOLUS CEREBRALIS 0/3,
SECONDAR	MIDDLE FORK		Sample Date:									+		+		NEUROTROPIC MYXOBOLUS 3/3
TERTIARY:	LITTLE BEAR CREEK		Received Date: 7/21/2004													
QUATERNA				GPS			44.9063	N,	114.737	W						
				or	UTM Zone			E,		N						
MAJOR:	SALMON RIVER	04-287	RAINBOW TROUT													NO PATHOGENS DETECTED; PTD-MYXOB 0/8
SECONDAR	MIDDLE FORK		Sample Date: 7/18/2004													
TERTIARY:	SHEEP CREEK		Received Date: 7/21/2004													
QUATERNA				GPS			44.9415	N,	114.7237	W						
				or	UTM Zone			E,		N						
MAJOR:	SALMON RIVER	04-288	RAINBOW TROUT													RS; VIRO 0/20, DFAT 0/20, ELISA 4/4(X5, 4 LOW),
SECONDAR	MIDDLE FORK		Sample Date: 7/18/2004													PTD-MYXOB 0/20
TERTIARY:	WARM SPRINGS CREEK		Received Date: 7/21/2004													
QUATERNA				GPS			44.9518	N,	114.7255	W						
				or	UTM Zone			E,		N						
MAJOR:	SALMON RIVER	04-289	RAINBOW TROUT													NO PATHOGENS DETECTED; PTD-MYXOB 0/25
SECONDAR	MIDDLE FORK		Sample Date: 7/18/2004													
TERTIARY:	BERNARD CREEK		Received Date: 7/21/2004													
QUATERNA				GPS			44.9767	N,	114.7406	W						
				or	UTM Zone			E,		N						
MAJOR:	SALMON RIVER	04-290	RAINBOW TROUT													RS; VIRO 0/5, DFAT 0/8, ELISA 2/2(X4, 2 LOW), PTD-
SECONDAR	MIDDLE FORK		Sample Date: 7/19/2004													MYXOB 0/8
TERTIARY:	BOBTAIL CREEK		Received Date: 7/21/2004													
QUATERNA				GPS			45.0783	N,	114.7224	W						
				or	UTM Zone			E,		N						
MAJOR:	SALMON RIVER	04-291	RAINBOW TROUT													RS, WHD, NEUROTROPIC MYXOBOLUS; VIRO 0/10,
SECONDAR	MIDDLE FORK		Sample Date: 7/19/2004													DFAT 0/20, ELISA 3/4(X5, 3 LOW), PTD-MYXOB
SECONDAR	MIDDLE FORK		Sample Date:													5/5(X5), PCR-MYXOBOLUS CEREBRALIS 2/5, PCR-
TERTIARY:	PAPOOSE CREEK		Received Date: 7/21/2004													NEUROTROPIC MYXOBOLUS 2/5
QUATERNA				GPS			45.1746	N,	114.7258	W						
				or	UTM Zone			E,		N						

49

Sample Origin		Accession	Species												Diagnoses	
MAJOR:	SALMON RIVER	04-292	RAINBOW TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	RS, NEUROTROPIC MYXOBOLUS; VIRO 0/10, DFAT
SECONDAR	MIDDLE FORK		Sample Date: 7/19/2004	-	-		+						-	+		0/19, ELISA 4/4(X5&4, 4 LOW), PTD-MYXOB
SECONDAR	MIDDLE FORK		Sample Date:											+		2/4(X5&4), PCR-MYXOBOLUS CEREBRALIS 0/3.
TERTIARY:	SHIP ISLAND CREEK		Received Date: 7/21/2004	GPS				45.1762	N,	114.7156	W					NEUROTROPIC MYXOBOLUS 3/3
QUATERNA				or	UTM Zone				E,		N					
MAJOR:	SALMON RIVER	04-293	RAINBOW TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	BKD, NEUROTROPIC MYXOBOLUS; VIRO 0/13,
SECONDAR	MIDDLE FORK		Sample Date: 7/20/2004	-	-		+					+	-	+		DFAT 0/13, ELISA 3/3(X4; 1 HIGH, 3 LOW), PTD-
SECONDAR	MIDDLE FORK		Sample Date:									+		+		MYXOB 1/3(X5), PCR-MYXOBOLUS CEREBRALIS
TERTIARY:	ROARING CREEK		Received Date: 7/21/2004	GPS				45.2566	N,	114.6423	W					0/5, PCR-NEUROTROPIC MYXOBOLUS 2/5
QUATERNA				or	UTM Zone				E,		N					
MAJOR:	SALMON RIVER	04-294	RAINBOW TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	WHD, BKD; VIRO 0/20, DFAT 0/20, ELISA 4/4(X5, 4
SECONDAR	MIDDLE FORK		Sample Date: 7/20/2004	-	-		+					+	+	-		HIGH), PTD-MYXOB 2/4(X5), PCR-MYXOBOLUS
SECONDAR	MIDDLE FORK		Sample Date:									+		-		CEREBRALIS 1/5, PCR-NEUROTROPIC
TERTIARY:	STODDARD CREEK		Received Date: 7/21/2004	GPS				45.2386	N,	114.671	W					MYXOBOLUS 0/5
QUATERNA				or	UTM Zone				E,		N					
MAJOR:	SALMON RIVER	04-367	BROOK TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	WHD, RS; VIRO 0/3, DFAT 0/3, ELISA 1/1(X3, LOW),
SECONDAR	MIDDLE FORK		Sample Date: 8/27/2004	-	-		+					+	+	-		PTD-MYXOB 1/1(X3), PCR-MYXOBOLUS
SECONDAR	MIDDLE FORK		Sample Date:									+		-		CEREBRALIS 3/3, PCR-NEUROTROPIC
TERTIARY:	CAMAS CREEK		Received Date: 8/30/2004	GPS				44.8612	N,	114.4523	W					MYXOBOLUS 0/3
QUATERNA	SILVER CREEK/SILVER CREEK POND			or	UTM Zone				E,		N					
MAJOR:	SALMON RIVER	04-368	RAINBOW TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	WHD, BKD; VIRO 0/17, DFAT 0/17, ELISA 4/4(X5, 4
SECONDAR	MIDDLE FORK		Sample Date: 8/27/2004	-	-		+					+	+	-		LOW), PTD-MYXOB 4/4(X5), PCR-MYXOBOLUS
SECONDAR	MIDDLE FORK		Sample Date:									+		-		CEREBRALIS 3/4, PCR-NEUROTROPIC
TERTIARY:	CAMAS CREEK		Received Date: 8/30/2004	GPS				44.8612	N,	114.4523	W					MYXOBOLUS 0/4
QUATERNA	SILVER CREEK/SILVER CREEK POND			or	UTM Zone				E,		N					
MAJOR:	SALMON RIVER	04-369	RAINBOW TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	WHD, BKD; VIRO 0/15, DFAT 0/15, ELISA 3/3(x5, LOW
SECONDAR	MIDDLE FORK		Sample Date: 8/26/2004	-	-		+					+	+	-		2, HIGH 1), PTD-MYXOB 3/3(X5), PCR-MYXOBOLUS
SECONDAR	MIDDLE FORK		Sample Date:									+		-		CEREBRALIS 1/3, PCR-NEUROTROPIC
TERTIARY:	CAMAS CREEK		Received Date: 8/30/2004	GPS				44.8693	N,	114.456	W					MYXOBOLUS 0/3
QUATERNA	SILVER CREEK/RAMS CREEK/RAMS CREEK			or	UTM Zone				E,		N					
MAJOR:	SALMON RIVER	04-370	RAINBOW TROUT	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	MYXOB	WHD	NEUR	CSH	WHD, BKD; VIRO 0/50, DFAT 0/50, ELISA 9/10 (X5;
SECONDAR	MIDDLE FORK		Sample Date: 8/26/2004	-	-		+					+	+	-		LOW 6, HIGH 3), PTD-MYXOB 11/14(X5), PCR-

Appendix C. Research Fish Health Summary Report 2004

WD RESEARCH SUMMARY

Idaho Department of Fish and Game

Eagle Fish Health Laboratory

01/01/04 T 12/31/04

LOCATIO	Exposure Dates	Stock/Species	Accession	Sample											Diagnoses
				Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	
12 MILE CREEK															
12 MILE CREEK UPPER		TROUT LODGE RAINBOW TROUT - TRIPLOID	04-565	12/15/200										-	NO PATHOGENS DETECTED; PTD-MYXOB 0/51
12 MILE CREEK LOWER		TROUT LODGE RAINBOW TROUT - TRIPLOID	04-566	12/15/200										-	NO PATHOGENS DETECTED; PTD-MYXOB 0/52
SALMON RIVER>12 MILE		TROUT LODGE RAINBOW TROUT - TRIPLOID	04-567	12/15/200										-	NO PATHOGENS DETECTED; PTD-MYXOB 0/48
EAGLE WET LAB															
		HAYSPUR RAINBOW	04-348	8/24/2004					-	-	-	-			NO PATHOGENS DETECTED; BACTE 0/2
FALLS CREEK SENTINAL															
CONTROL		HAYSPUR RAINBOW	04-457	8/13/2004										-	NO PATHOGENS DETECTED; PTD-MYXOB 0/29
FALLS CREEK UPPER R1		HAYSPUR RAINBOW	04-458	8/13/2004										-	NO PATHOGENS DETECTED; PTD-MYXOB 0/5
PBSC LOWER R1		HAYSPUR RAINBOW	04-459	8/13/2004										-	NO PATHOGENS DETECTED; PTD-MYXOB 0/30
FALLS CREEK LOWER R1		HAYSPUR RAINBOW	04-460	8/13/2004										-	NO PATHOGENS DETECTED; PTD-MYXOB 0/27

52

LOCATIO																	
Experimental Group	Exposure Dates	Stock/Species	Accession	Sample											Diagnoses		
				Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH			
FALLS CREEK LOWER R2		HAYSPUR RAINBOW	04-461	8/13/2004												-	NO PATHOGENS DETECTED; PTD-MYXOB 0/1
PBSC LOWER R2		HAYSPUR RAINBOW	04-462	8/13/2004												-	NO PATHOGENS DETECTED; PTD-MYXOB 0/18
PBSC UPPER R1		HAYSPUR RAINBOW	04-463	8/13/2004												-	NO PATHOGENS DETECTED; PTD-MYXOB 0/26
PBSC UPPER R2		HAYSPUR RAINBOW	04-464	8/13/2004												-	NO PATHOGENS DETECTED; PTD-MYXOB 0/28
LEMHI TRIAL II																	
HC BOULDER R=1		TROUT LODGE RAINBOW TROUT	04-008	1/12/2004												-	NO PATHOGENS DETECTED; PTD-MYXOB 0/31
53 HC BOULDER R=2		TROUT LODGE RAINBOW TROUT	04-009	1/12/2004												-	NO PATHOGENS DETECTED; PTD-MYXOB 0/30
HC BVC R=2		TROUT LODGE RAINBOW TROUT	04-011	1/12/2004												-	NO PATHOGENS DETECTED; PTD-MYXOB
HC EAST F R=1		TROUT LODGE RAINBOW TROUT	04-012	1/12/2004												-	NO PATHOGENS DETECTED; PTD-MYXOB 0/7
HC EAST F R=2		TROUT LODGE RAINBOW TROUT	04-013	1/12/2004												-	NO PATHOGENS DETECTED; PTD-MYXOB 0/15
HC HATCHERY R=1		TROUT LODGE RAINBOW TROUT	04-014	1/12/2004												+	WHD; PTD-MYXOBOLUS CEREBRALIS 5/33
HC HATCHERY R=2		TROUT LODGE RAINBOW TROUT	04-015	1/12/2004												+	WHD; PTD-MYXOBOLUS CEREBRALIS 6/31

LOCATIO

Experimental Group	Exposure Dates	Stock/Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	Diagnoses
OXBOW TRIAL II															
CS		HAYSPUR RAINBOW TROUT-TRIPLOID	04-246	6/19/2004										+	CSH; CSH 1/1
CS		HAYSPUR RAINBOW TROUT-TRIPLOID	04-248	6/16/2004										+	CSH; CSH 1/1
CS		HAYSPUR RAINBOW TROUT-TRIPLOID	04-264	7/1/2004										+	CSH; WM-CSH 3/10(X5), CSH-INDIVIDUALS 3/49, PCR-0/46, TOTAL CSH 3/49
OXBOW TRIAL III															
		HAYSPUR RAINBOW TROUT-TRIPLOID	04-300	7/28/2004										+	CSH; WM-CSH 38/44, PCR-CSH 0/6, TOTAL CSH 38/50
OXBOW TRIAL IV															
		HAYSPUR RAINBOW	04-314	8/13/2004										+	CSH; WM-CSH 36/49, PCR-CSH 1/3, TOTAL CSH 48/53
OXBOW TRIAL V															
		HAYSPUR RAINBOW	04-396	9/7/2004										+	CSH; WM-CSH 26/42, PCR-CSH 6/12, TOTAL CSH 32/54
OXBOW TRIAL VI															
		HAYSPUR RAINBOW TROUT-TRIPLOID	04-456	9/29/2004										+	CSH; WM-CSH 42/48, PCR-CSH 0/5, TOTAL CSH 42/53
PAH VI															
PFH INTAKE		HAYSPUR RAINBOW	04-089	10/24/200										+	WHD; PTD-MYXOBOLUS CEREBRALIS 23/26

55

LOCATIO				Sample										
Experimental Group	Exposure Dates	Stock/Species	Accession Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	Diagnoses
SILVER CREEK III														
TRASH RACK		TROUT LODGE RAINBOW TROUT		04-001	1/5/2004						-			NO PATHOGENS DETECTED; PTD-MYXOB 0/46
BROOD POND		TROUT LODGE RAINBOW TROUT		04-002	1/5/2004						-			NO PATHOGENS DETECTED; PTD-MYXOB 0/35
GAVER LAGOON		TROUT LODGE RAINBOW TROUT		04-003	1/5/2004						-			NO PATHOGENS DETECTED; PTD-MYXOB 0/37
TRESTLE		TROUT LODGE RAINBOW TROUT		04-004	1/5/2004						-			NO PATHOGENS DETECTED; PTD-MYXOB 0/40
KILPATRICK BRIDGE		TROUT LODGE RAINBOW TROUT		04-005	1/5/2004						-			NO PATHOGENS DETECTED; PTD-MYXOB 0/40
IRRIGATION CANAL SITE		TROUT LODGE RAINBOW TROUT		04-006	1/5/2004						-			NO PATHOGENS DETECTED; PTD-MYXOB 0/42
SILVER CREEK IV														
BIG WOOD		HAYSPUR RAINBOW TROUT-TRIPLOID		04-256	6/25/2004						+			WHD; PTD-MYXOBOLUS CEREBRALIS 1/48
KILPATRICK BRIDGE		HAYSPUR RAINBOW TROUT-TRIPLOID		04-257	6/25/2004						-			NO PATHOGENS DETECTED; PTD-MYXOB 0/37
TRESTLE		HAYSPUR RAINBOW TROUT-TRIPLOID		04-258	6/25/2004						-			NO PATHOGENS DETECTED; PTD-MYXOB 0/26

56

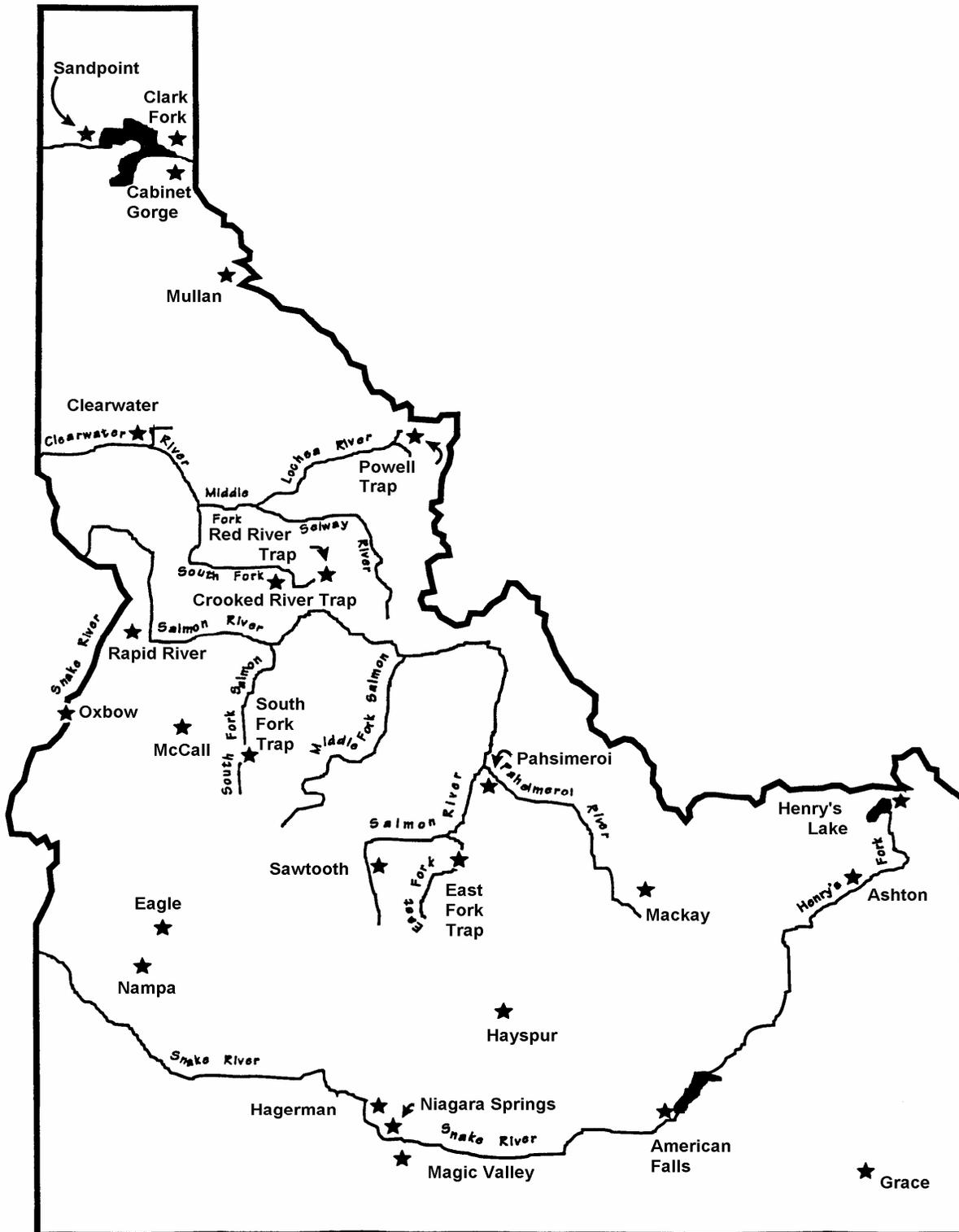
LOCATIO	Experimental Group ERM	Exposure Dates CWD	Sample		Date CSH	IHN Diagnoses	IPN GAVER LAGOON	NAVHS	BKD HAYSPUR RAINBOW	FUR
			Stock/Species MAS	Accession WHD						
	04-259	6/25/2004 TROUT-TRIPLOID	-NO PATHOGENS DETECTED; PTD-MYXOB 0/45							
	BROOD POND	HAYSPUR RAINBOW TROUT-TRIPLOID	04-260	6/25/2004	-	NO PATHOGENS DETECTED; PTD-MYXOB 0/26				
	TRASH RACK	HAYSPUR RAINBOW TROUT-TRIPLOID	04-261	6/25/2004	-	NO PATHOGENS DETECTED; PTD-MYXOB 0/48				
SILVER CREEK V										
	BIG WOOD	RAINBOW TROUT	04-311	8/13/2004	+	WHD; PTD-MYXOBOLUS CEREBRALIS 27/28				
	TRESTLE	HAYSPUR RAINBOW	04-312	8/13/2004	-	NO PATHOGENS DETECTED; PTD-MYXOB 0/23				
	KILPATRICK BRIDGE	HAYSPUR RAINBOW	04-313	8/13/2004	-	NO PATHOGENS DETECTED; PTD-MYXOB 0/22				
SILVER CREEK VI										
	KILPATRICK BRIDGE	HAYSPUR RAINBOW	04-428	9/20/2004	-	NO PATHOGENS DETECTED; PTD-MYXOB 0/28				
	TRESTLE	HAYSPUR RAINBOW	04-429	9/20/2004	-	NO PATHOGENS DETECTED; PTD-MYXOB 0/24				
	IRRIGATION CANAL SITE	HAYSPUR RAINBOW	04-430	9/20/2004	+	WHD; PTD-MYXOBOLUS CEREBRALIS 39/40				
TETON II										
	CONTROL	HENRYS LAKE YELLOWSTONE CUTTHROAT TROUT	04-403	9/15/2004	-	NO PATHOGENS DETECTED; HISTO-WHD 0/10				
	FOX CREEK 600 S	HENRYS LAKE YELLOWSTONE CUTTHROAT TROUT	04-404	9/15/2004	+	WHD; HISTO-MYXOBOLUS CEREBRALIS 10/10				

57

LOCATIO															
Experimental Group	Exposure Dates	Stock/Species	Accession	Sample Date	IHN	IPN	NAVHS	BKD	FUR	ERM	CWD	MAS	WHD	CSH	Diagnoses
SR <WC		HAYSPUR RAINBOW	04-327	8/20/2004									+		WHD; PTD-MYXOBOLUS CEREBRALIS 16/16
SR 4TH JULY		HAYSPUR RAINBOW	04-328	8/20/2004									+		WHD; PTD-MYXOBOLUS CEREBRALIS 22/34
SR @OBSIDIAN		HAYSPUR RAINBOW	04-329	8/20/2004									+		WHD; PTD-MYXOBOLUS CEREBRALIS 28/33
SFH HEADBOX		HAYSPUR RAINBOW	04-330	8/20/2004									+		WHD; PTD-MYXOBOLUS CEREBRALIS 37/37
UPPER SALMON RIVER II															
SFH HEADBOX		TROUT LODGE RAINBOW TROUT - TRIPLOID	04-518	10/27/200							-	-	-	+	MAS; PSEUDOMONAS SPP. 1/1

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

IDAHO DEPARTMENT OF FISH AND GAME
FISH HATCHERIES



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IDAHO DEPARTMENT OF FISH AND GAME

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