

# HAGERMAN NATIONAL FISH HATCHERY

Fiscal Year 2006

## Summary of Operations and Expenditures



## **INTRODUCTION**

The Hagerman National Fish Hatchery (Hatchery) is located along the Snake River, about 30 miles west of Twin Falls, Idaho at a point three miles south and two miles east of Hagerman, Idaho. The Hatchery was authorized by 46 Stat, 371 on May 21, 1930 and was established in 1932. Construction of the physical facilities commenced in 1932; fish production began in 1933. The primary goal of the Hatchery, at that time, was the production of rainbow trout for stocking in Idaho, eastern Oregon, and northern Nevada.

In the late 1970s the Hatchery became part of the Lower Snake River Compensation Plan (LSRCP) which was authorized by the Water Resources Development Act of 1976, Public Law 94-587. The LSRCP is designed to mitigate for fish and wildlife losses caused by the construction of four dams on the lower Snake River. For its part in the LSRCP program, the Hatchery's primary production goal was changed from resident rainbow trout to steelhead trout. The Hatchery was extensively remodeled during 1984 to accommodate this change.

There are 78 outside raceways at the Hatchery. Of these, 66 are devoted to LSRCP steelhead production and 12 are reserved for other programs which the Fish and Wildlife Service (Service) deems appropriate. During Fiscal Year (FY) 2006, rainbow trout for the Dworshak Reservoir Mitigation program were reared in these raceways. Other major facilities include two hatchery-rearing buildings with a total of 60 rearing tanks, a water chiller building, an administration-visitor facility building, a combination shop/four-stall garage, four residences, an oil/paint storage building, and two general storage buildings.

The Hatchery's water supply emanates from the Eastern Snake Plain Aquifer via a complex of springs at a constant 59 degrees Fahrenheit with a flow rate of approximately 30,000 gallons per minute.

Co-located within the Hatchery grounds is the Hagerman Fish Culture Experiment Station (HFCES). This research facility is owned and operated by the University of Idaho.

## **STATION OPERATIONS**

The LSRCP established a mitigation goal for the Hatchery program of 13,600 adult steelhead returning above Lower Granite Dam. However, within the framework of the LSRCP, specific objectives and tasks for the Hatchery's steelhead production program are established through a high degree of interagency coordination. Results of this coordination affect certain aspects of the program such as total number and strain reared, time and size at release, and location of release. During FY 2005 the LSRCP office, in concert with the Idaho Department of Fish and Game (IDFG), the Shoshone/Bannock Tribes, and the Nez Pierce Tribe, initiated the "Salmon River Annual Operating Plan". This planning process is used to accomplish and document the Hatchery's steelhead production coordination.

The Hatchery also produces rainbow trout for the Dworshak Dam Mitigation program as an in-kind exchange with the IDFG. The trout are stocked into southern Idaho reservoirs; fish reared at the IDFG Nampa State Fish Hatchery are stocked into Dworshak Reservoir. The program calls for stocking sub-catchable trout in the spring and catchable trout in the fall. The Hatchery conducts relevant coordination on this program directly with the IDFG resident trout programmatic staff.

## **FISH CULTURE OPERATIONS**

Pertinent fish rearing information for all species held on station during FY 2006 is presented in Table 1.

### **Steelhead**

#### Brood Year (BY) 2006 Steelhead

Three stocks of BY 2006 summer steelhead were programmed for the 2007 release year. Since the Hatchery does not have the capability to capture anadromous brood stock on site, eyed eggs are obtained from other spawning and incubation facilities. Table 2 provides the number of eggs received by species and strain during FY 2006.

In 2005 the LSRCPCooperators agreed to increase the Hatchery's smolt production from 1,290,000 to 1,390,000 fish. This additional 100,000 fish replaces smolt production lost at the Magic Valley Hatchery due to decreasing spring flows at that LSRCPC facility located in Filer, Idaho. For BY 2006 the Hatchery increased its production another 60,000 fish to further mitigate the loss of production at the Magic Valley Fish Hatchery. The Hatchery's production goal is now 1,450,000. The Hatchery staff plans to monitor oxygen and ammonia levels in the raceways and monitor fish health during rearing to determine whether or not the Hatchery is near its carrying capacity. In conjunction with fish health monitoring, the Hatchery Evaluation Team (HET), for the second year in a row, is conducting a study to evaluate the Hatchery's fish production capacity.

The adipose and Coded Wire Tag (CWT) marking was completed at a different time and convention than in the past. Traditionally, adipose marking was conducted in October using manual labor however, for BY 2006 it was done in August using two Mass Automated Trailer System (MATS) trailers. Although there were initial challenges regarding the Hatchery's electrical service and its compatibility with the electrical system in the trailers, the marking and tagging went well. The Hatchery has corrected its electrical service to accommodate the MATS operations. IDFG staff reported marking efficiencies in the high 80% to low 90%. The IDFG marking crew and the Hatchery staff attribute this relatively high rate of efficiency for steelhead marking to the optimal size of 100 fish per pound (fpp) and the uniform size of the fish. The Hatchery staff also observed the fish to heal faster with less severe skin erosion in the dorsal and caudal areas. The Hatchery will continue to recommend that steelhead marking at Hagerman be conducted during early August.

## Brood Year 2005 Steelhead Distribution

The Hatchery released 1,393,929 steelhead smolts into the upper Salmon River, East Fork Salmon River, Yankee Fork Salmon River, Little Salmon River, and Hazard Creek (all tributaries of the Snake River) in Idaho. Table 3 provides the number of steelhead released by stock and site.

## **Rainbow Trout**

The Hatchery received triploid rainbow trout eggs from the IDFG Hayspur State Fish Hatchery in December and January (Table 2). December eggs (117,000) were earmarked for spring fingerling production and January eggs (48,000) were obtained for the fall catchable commitment. Both spring and fall release trout eggs were incubated in Hatchery Building #2 to avoid interfering with the New Zealand Mud Snail and Production Capacity Assessment experiments being conducted in Hatchery Building #1.



The spring fingerlings were transferred into the Trout Raceways in February and subsequently released in late May into Little Camas Reservoir as five-inch fingerlings (Table 4).



The fall catchable trout were transferred into the Steelhead Raceways in April to maintain beneficial use of the water rights for Bickel and Riley springs. They were transferred again on June 27<sup>th</sup> to the Trout Raceways to make room for the incoming BY 2006 steelhead. In early September, the Hatchery and IDFG staff marked 1,000 trout with Floy® Tags to evaluate angler exploitation of catchable rainbow trout in Lake Walcott. The fall catchable trout were stocked in late September in Lake Walcott (Gifford Springs) and CJ Strike Reservoir at the Cottonwood access (Table 4).

The Hatchery continues to be concerned with diminishing spring water supplies for steelhead and rainbow trout production (Figure 1) which requires careful scheduling of rearing units and water management. The incubation and early rearing of rainbow trout production competes for water with steelhead production from December to March (Figure 2). During this period, up to 2.4% of the available steelhead production water is diverted to Hatchery Building #2 for the early rearing of rainbow trout. However, during maximum steelhead production at the end of March, only one cubic feet per second (cfs) of water flow (1.5%) is required. This reduced requirement is due to the spring fingerlings being moved outside to the Trout Raceways which

receives Spring 17 water. Due to the Hatchery's plumbing configuration, Spring 17 can only be diverted to the Trout Raceways.

Although the water diverted for rainbow trout production during March represents a potential production loss of 20,500 steelhead smolts (4,500 pounds), it is offset by the annual production of 130,000 rainbow trout (18,500 pounds). More importantly, during the early rearing of steelhead in the Hatchery Buildings, the rearing of the fall catchable rainbow trout increases the efficiency of the Hatchery and maintains beneficial use of its water rights.

## Hatchery Practices

The Hatchery has initiated a number of standard operating procedures to produce quality smolts including: maintaining fish loading within established carrying capacity indexes (Flow Index = 1.2, Density Index = 0.2); reducing fish handling; and feeding a double vitamin boost package during early rearing before and after fish marking.

The following are carrying capacity parameters not to be exceeded at Hagerman National Fish Hatchery from *Fish Hatchery Management*, Piper 1982.

• Hatchery Tanks	Density index	0.8
	Flow Index	1.0
• Raceways	Density index	0.2
	Flow Index	
	Fish size < 80 fpp	0.8
	Fish size > 80 and < 15 fpp	1.0
	Fish size > 15 fpp	1.2

Due to the 3-pass serial reuse of water in the steelhead raceways, the total Flow Index for all ponds in a given deck of raceways should not exceed 33% of the total system Flow Index (i.e.,  $0.33 \times 1.2 = 0.4$ ) when three banks are in use or, 50% if only two decks of raceways are in use (i.e.,  $0.5 \times 1.2 = 0.6$ ). Moreover, in an effort to conserve water, the Hatchery has implemented the following Best Management Practices:

- Feed only ½ STT production twice/week and the other ½ on two other days.
- Clean ponds on non-feed days only.
- Clean no more than 4 ponds at any one time.
- Maintain a target size at 4.5 fpp
- Program fish growth rate to meet target size at time of release for specific release groups throughout the April and May distribution period.

## Feeding, Raceway Sanitation and Effluent Discharge

During early rearing, whether inside the Hatchery Building or in the outside raceways, steelhead fingerlings are hand fed daily at near satiation until they reach a minimum size of 100 mm. Once the fish have reached 100 mm and are accepting 3.5 mm extruded feed, they are fed using demand feeders. From this point on, typically November through March, fish are fed using an intermittent feed schedule. Basically, it is one week's worth of feed divided into two feedings

per week. Moreover, only half of the production raceways (33 of 66) are fed on any given feed day. A weekly steelhead ration is calculated using the Hatchery Constant (HC) method with the appropriate daily growth rate required to reach the target size for the projected release date. Feeding rates are automatically adjusted weekly for feed conversion and expected temperature-dependent daily length increase using spreadsheet calculations. Raceways are sampled monthly and the HC is adjusted for actual fish growth for a given month. The intermittent feed schedule reduces the time spent feeding and pond cleaning, reduces fish stress from human activity on the raceway walls, and reduces Hatchery effluent loading.

A comprehensive report regarding the Hatchery's activities to meet its National Pollution Discharge Elimination Permit (Permit) is presented in the "Annual Report of Operations Log January 1, 2006 through December 31, 2006". A copy of this report is on file at the Hatchery as required by the Permit.

#### Fish Health(with funding from LSRCP)

Periodic sampling by Idaho Fish Health Center (IFHC) pathologists did not detect any epizootics in any fish stocks held on station during FY 2006. However, a number of issues related to unexplained mortalities and the incidence of "soreback" have been attributed to the prevalence of *Nucleospora salmonis*. This intra-nuclear microsporidian has had debilitating effects on steelhead and rainbow trout in several areas of the country. These effects are more prevalent in the Clearwater B-run summer steelhead at the Hatchery. In an effort to understand this organism better, the IFHC initiated a cooperative project between the Service, and Dr. Matt Powell, Assistant Professor, Animal Genetics, University of Idaho, HFCES to develop a Quantitative Polymerase Chain Reaction protocol for *N. salmonis*. The Hatchery collected and provided the fish samples and the IFHC did the field testing for the assay. The LSRCP provided funding for this project

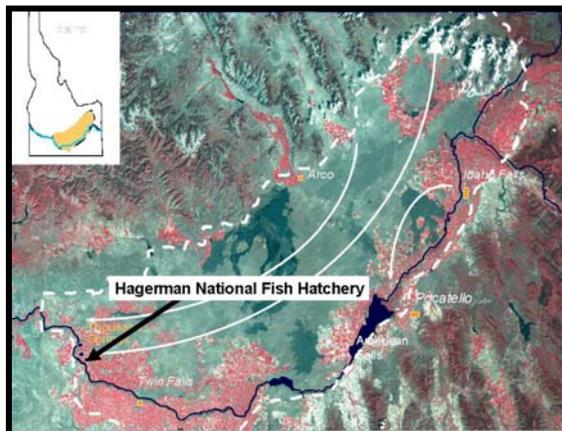
The Hatchery began production of Clearwater B-run summer steelhead from Dworshak NFH during the late 1980's. This production was discontinued for several years in the early 1990's, but reinstated on an annual basis in 1999. The Clearwater stock has exhibited persistently high mortality as compared to either the Sawtooth or Pahsimeroi A-run stocks. Historically, the Hatchery has reared the Clearwater stock in the bottom bank of raceways to reduce the potential of increasing fish health problems with the other stocks. Standard water management in the Steelhead Raceways has first-use water entering the upper bank and sequential serial reuse in the middle and bottom banks. However, a small amount ( $\approx$  1cfs) of fresh water is by-passed into each of the subsequent banks due to hydrologic limits of the first bank headbox. The HET initiated a study during BY 2004 to determine if water quality between banks of raceways contributed to the apparent difficulty of rearing the Clearwater stock.

For BY 2005, the Hatchery continued to rear Clearwater stock in all three banks of the steelhead raceways. The two-year study indicated Clearwater stock continues to exhibit similar rates of mortality and symptoms of sore-back regardless of first-use, second-use, or third-use water. Because of these findings, the Hatchery resumed rearing Clearwater stock in the bottom bank of raceways for BY 2006 to reduce the potential for pathogen load exposure to other stocks. The completed Clearwater B-run summer steelhead report is available from the HET.

## Water Rights

The Hatchery's water supply, which emanates from the Eastern Snake Plain Aquifer (Aquifer), has continued a slow but steady decline. The Aquifer covers a 10,000 square mile area with an estimated storage capacity of 200 million acre feet of water. Most of the water, however, is below spring outlets and economical pumping depths. During the latter part of the last century, increased groundwater withdrawals, irrigation efficiencies, and drought have combined to diminish the volume of water stored in the Aquifer. This diminished storage capacity has resulted in a decline in spring flows throughout the Thousand Springs Reach.

In its 1995 "Annual Report", the Hatchery reported that a review of flow data for the period of 1974 through 1994 for two of the Hatchery's spring sources, Riley Creek and Bickel Spring Creek, showed a decline in flow of 9.6% and 21.5% respectively. At this time, the Hatchery's spring water winter supply (Dec – Mar, 2006) is approximately 14% (12.7 cfs) below its water right and has been declining at a rate of one cfs per year from 1999 to 2006 (Figure 1).



## Production Capacity Assessment (PCA) Study

In response to diminishing spring flows (Figure 1), the HET initiated a study to determine the Hatchery's maximum carrying capacity. The study used a modification of the Production Capacity Assessment (PCA) technique outlined in *Aquaculture Management* by James W. Meade, 1989. The PCA quantifies production capacity by monitoring growth rate reductions over time. The fish culturist then uses best judgment to determine the maximum acceptable reduction in growth for the facility. The Hatchery's standard for smolt quality should not allow for any compromise in growth rate. Thus, the theoretical maximum capacity is reached when any growth rate reduction is observed.



The modified PCA method provides an estimate of actual production capacity since it models the techniques, water supply, and rearing units that are similar to the actual Hatchery production protocols. Three replicates of experimental rearing tanks were set-up to mimic the design of the production raceways. Fresh water entered the upper tank and was serially reused through the middle and bottom tanks. Water flowed through the production section of the tank and then entered a quiescent zone before exiting a top-drain

standpipe and falling to the next tank. Twenty-one steelhead fingerlings were stocked in each of the nine tanks (189 total fish).

The PCA experiment results suggest that steelhead growth is affected at a Flow Index of 1.48. Instantaneous dissolved oxygen levels at this Flow Index neared and dipped below the lower recommended limit of 5 parts per million (ppm) suggested by Piper (1982). However, a review of information presented in *Physiology of Fish in Intensive Culture Systems*, by Wedemeyer 1996, suggests minimum oxygen levels range as high as 7 ppm. Furthermore, other factors relevant to smolt quality such as fish migratory behavior and ability to adapt to seawater may be compromised at, or before, the 1.48 Flow Index. The Hatchery will continue the modified PCA to further evaluate steelhead carrying capacity.

At the current spring flow loss rate, and maintaining a production level of 1.45 million smolts, the Hatchery will exceed a Flow Index of 1.48 in BY 2009. The Hatchery will continue to monitor smolt quality, dissolved oxygen and ammonia conditions, and smolt survival in the interim. The HET recommends a differential CWT study be initiated to determine the affects of the increased Flow Index on smolt survival for steelhead reared in each of the subsequent serial reuse raceways. By careful monitoring and proactive research, the Hatchery hopes to maintain smolt production levels until conditions in the Aquifer improve.

## **FISCAL OPERATIONS**

### Personnel

Table 5 provides a summary of staffing for the Hatchery for FY 2006.

### Training

Table 6 provides a summary of training received by the Hatchery employees during FY 2006.

The Hatchery continues to partner with the National Park Service, Hagerman Fossil Beds Monument (NPS) on training opportunities. Steve Money, Maintenance Mechanic, provided annual ATV operator certification to Hatchery staff and several NPS seasonal staff. In addition, the Hatchery staff took advantage of the NPS's newly installed Technology Enhanced Learning (TEL) satellite television site, to attend TEL Events entitled "Congratulations, You're the Collateral Duty Safety Officer" and "Retirement Planning for New Employees". Since the NPS TEL productions originate at the Service's National Conservation Training Center, coordination is underway to have Service TEL Events offered at the NPS site in Hagerman.

Undertaken as an interagency/cross program training opportunity, Eric Willet, Motor Vehicle Operator; James Brandon, Animal Caretaker; Brian Clifford, Motor Vehicle Operator; and Nathan Wiese, Fish Biologist, assisted the shorthanded crew at the IDFG, Hayspur State Fish Hatchery to spawn rainbow trout. The Hatchery crew used the air-spawning method to spawn females and a pressure shock technique on the newly spawned eggs to produce triploid progeny.

The crew also helped spawn brood stock replacement fish and took ovarian fluid samples for IDFG fish pathologists.

### Fiscal Data

Table 7 presents an itemization of Hatchery expenditures for FY 2006.

## FACILITIES MAINTENANCE AND CAPITAL OUTLAY

During the Hatchery's expansion in 1984 a number of existing pipelines and structures were incorporated into its infrastructure. Since 1998, over two million dollars have been spent to retrofit and replace these assets.

The following projects were undertaken during FY 2006:

### Main Spring to Bickel Pipeline

Originally, this 24-inch steel line delivered water to the old Hatchery raceways. It was retained at the time of the LSRCP expansion to fulfill a water use agreement established between the Service and IDFG. The agreement requires the Hatchery to divert water to the Bickel Ditch which services the Hagerman Wildlife Management Area and the Oster Lakes Fishing Area operated by IDFG.



The old steel line failed during the summer of 2005 and was replaced with a new PVC line.

The new line traversed over 1,000 feet of Hatchery grounds which required the contractor to deal with a number of underground obstacles.



## Off-line Settling Basin

As part of its National Pollution Elimination System Permit, the Hatchery operates and maintains an Off-Line Settling Basin (OLSB) to remove solids from raceway cleaning effluent. Increasing regulations have required the Hatchery to improve its pollution abatement efforts. The Hatchery removes solids from both cells of the



OLSB annually and land applies it on the Hagerman Wildlife Management Area. Dewatering of the ponds required using both a portable pump and removing stop logs in the downstream wall of each cell. This method had the potential to scour solids from the OLSB into Riley Creek.

After the 2006 summer cleaning, a new floating pump and sump system was designed and installed to improve the dewatering process. In addition, this project corrected a design flaw created in 1985 when the OLSB was first constructed. The floor of the OLSB is a foot below the level of Riley Creek. A concrete wall was installed to replace the bottom two feet of stop logs which will prevent mixing OLSB water with Riley Creek. Additional grip strut walkways and ladders were installed to improve employee safety when conducting pond dewatering activities.



## Hatchery 1 Demolition/New Chiller Building



Replaced in 2001 with a new nursery building, Hatchery #1 had remained operational only for chilled water operations during fish distribution. The Hatchery demolished the building during the summer and replaced it with a smaller building to

house the chiller. Since demolition of the old hatchery building required extensive asbestos



abatement, four other projects requiring abatement were also accomplished. They included the Shop ceiling, and roofs on the Shop, the Oil and Paint House, and the Storage Garage. Additional work included the removal of the

abandoned 24 Trout Raceways located on the west side of Old Hatchery #1. These raceways had not been in operation for over 13 years.



Several of the 12-inch and 24-inch valves servicing these raceways were cracked and inoperable.

## OTHER ITEMS OF INTEREST

### Automated Feed Delivery System

FY 2006 marked completion of the installation of the automated feed delivery system for the middle and upper bank of Steelhead Raceways (the lower deck had been completed earlier). The project included retrofit of the demand feeder lids to accommodate the delivery tubes.



The Hatchery installed a piece of surplus 24-inch steel pipe to repair the collapse of the Spring 17 road.

Cold temperatures and an early December snow storm caused some additional maintenance issues.

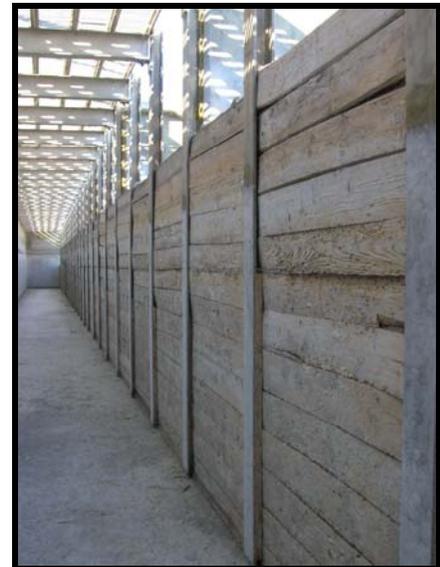


The Hatchery fabricated and installed a metal walkway to provide safer access across the new Len Lewis water measurement flume.



The Hatchery purchased a new lawn mower with a vacuum system that will pick up leaves and small woody debris, which, if left unattended, blow into the raceways and clog the pond screens.

Dam Boards were replaced on the upper deck as part of a multi-year rotation plan to keep the Steelhead Raceway boards in solid condition.



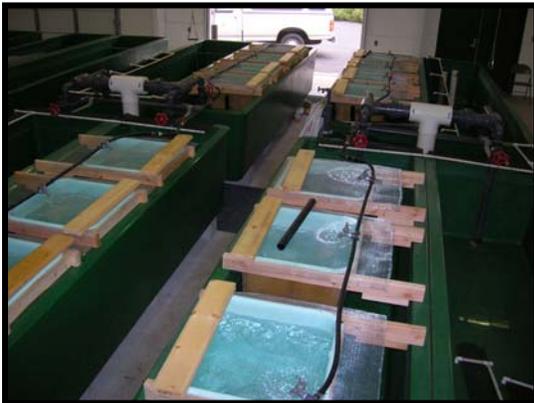
The Steelhead and Rainbow Trout demand feeders were resurfaced with a polyester resin coating and repaired during the summer of 2006.

## New Zealand Mud Snail



The Hatchery hosted the New Zealand Mud Snail (NZMS) Workshop on May 4<sup>th</sup> and 5<sup>th</sup>. Participants from the USFWS, USDA Agricultural Research Service, USGS, University of Idaho, Idaho Fish and Game, Idaho Power, and Montana Fish, Wildlife, & Parks, met to identify research areas for the control of NZMS. Discussions included control methods for the NZMS at Hagerman National Fish Hatchery and implementation of an Aquatic Nuisance, Hazard Analysis and Critical Control Point (HACCP) Plan.

The presence of the Threatened Bliss Rapids Snail in several of the Hatchery's spring water sources complicates use of control measures.



R. Louise Bruce, Region 1 Fisheries, Student Career Experience Program, University of Idaho Graduate School, returned to the Hatchery in December and in March to continue her research related to the NZMS. She conducted a volitional feeding study comparing rainbow trout and steelhead trout feeding behavior

and preference for NZMS. The Hatchery staff modified several tanks in Hatchery #1 to accommodate the study. Results indicate the NZMS will survive passage through the gut of the steelhead smolts and rainbow trout.

## Aquatic Nuisance Species – (HACCP)

The Hatchery continues to operate under the protocols established in its Aquatic Nuisance, HACCP Plan for control of the New Zealand Mud Snail (*Potamopyrgus antipodarum*). Periodic checks for the presence of this snail in fish stomachs and intestinal tracts are conducted by the Idaho Fish Health Center during all routine fish health exams. No snails were found in fish sampled during 2006. According to Service policy, the presence of the snail in the Hatchery's water supply limits the distribution of steelhead smolts to within the Salmon River Drainage.

## College of Southern Idaho Cooperative Internship Agreement

During 2006 the Hatchery continued operation of its long standing Cooperative Agreement with the College of Southern Idaho (CSI), Twin Falls, Idaho, and the Idaho Aquaculture Association. The Hatchery first established the Cooperative Agreement in 1994. It is designed to provide undergraduate students, enrolled in the Fisheries Technology program at CSI, an opportunity to gain conservation hatchery experience while completing their required coursework. Mr. Kevin Kincaid worked from March through the end of the 2006 fiscal year and plans to continue his internship with the Hatchery into fiscal year 2007.



## Bliss Rapids Snail (*Taylorconcha serpenticola*)

The Hatchery staff continued working with the Boise Ecological Services Field Office regarding the Intra-Service Section 7 Consultation regarding the presence of the Bliss Rapids Snail in several of the Hatchery springs. The Bliss Rapids Snail was identified in several of the Hatchery's springs and water diversions in 2004. The consultation resulted in the development of contract specifications for the installation of straw wattles and straw matting to control erosion during the installation of the Main Spring to Bickel Ditch Pipeline.



## Wildland Fire Control and Suppression

The threat of wildland fire is always high at the Hatchery during the spring and summer season. As a result, the Hatchery Project Leader participates as a member of the Board of Directors for the South Central Idaho Interagency Dispatch Center (SCIIDC), Fire Planning Unit Charter. The SCIIDC office is located at the Bureau of Land Management Field Office in Shoshone, Idaho.



A blown power line fuse sparked a wildland fire on the northeast Hatchery boundary. Quick response by the volunteer rural fire departments and the location of the Hatchery's fire line prevented further damage by the fire.



“Tumbling Tumble Weeds” are anything but pleasant; rather a fire hazard and a nuisance when piling up against buildings, or plugging the raceway screens. The Hatchery installed a brush fence west of its housing area which, when mature, will slow down the annual fall/winter tumble weed migration. It will also provide habitat for the many quail found on the Hatchery grounds. The brush fence is a double tree line which consists of Blue Leaf Honey Suckle and Rocky Mountain Juniper.

The Service's Wildland Urban Interface (WUI) program provided funding during FY 2006 to maintain the Hatchery's fire line (Table 7b).



## Outreach and Partnerships

The Hatchery has become a focal point for diverse groups visiting the Hagerman Valley. In cooperation with various organizations, the Hatchery hosted technical tours for over 450 people from the American Angus Association, the U.S. Society for Irrigation and Drainage Professionals, and the Soil and Water Conservation Society. The participants represented various federal, state, and local resource entities and private interests including the US Department of Agriculture, Agriculture Research Service, US Bureau of Reclamation, the National Resource Conservation Service, County Soil and Water Conservation Districts, Idaho Department of Environmental Quality, Idaho Department of Water Resources, and cattle ranchers. Presentations have focused on the role of hatcheries in fishery management and the potential affect of declining spring flows in the Thousand Springs Reach of the Aquifer on the Hatchery's steelhead mitigation program.



Community and partner outreach continues to be an important focus for the Hatchery. As in past years, Hatchery staff provided numerous guided tours of the facility and entertained large school groups for day long and multi-day activities. FY 2006 marked the twelfth consecutive year the Hatchery hosted the Hagerman Elementary School program entitled "Hatchery Activities With Kids" (HAWK). Moreover, each year, the Hatchery increases the number of off-site outreach activities. During FY 2006, the Hatchery staff participated in: the "Hagerman Fossil Days" parade; co-hosted a Free Fishing Day event with the Hagerman State Fish Hatchery operated by the IDFG; and provided staff for booths at the Boise Sportsman Show, the Twin Falls County Fair, the College of Southern Idaho Science Expo, and the Jerome Public Library reading program.



The well kept Hatchery grounds and park-like surroundings provide visitors a pleasant opportunity to get out of the summer heat. In May the local Corvette Club visited with 75 vehicles and 150 people; in September the Hatchery was a stop along the Hagerman Hot Rod, Poker Run, with over 150 cars and 300 people participating.



The Hatchery utilized two volunteers for its summer Hatchery Host Program during the FY 2006 season; Glenn and Emma Shoemaker were here from late May through July.

The Hatchery's Web-Site is also an important outreach tool. During FY 2006, Nathan Wiese remained responsible for maintaining and updating information on the site. A documents section has been added to include reports in .PDF format relevant to Hatchery operations. The hatchery's web address is: <http://www.fws.gov/hagerman/>.

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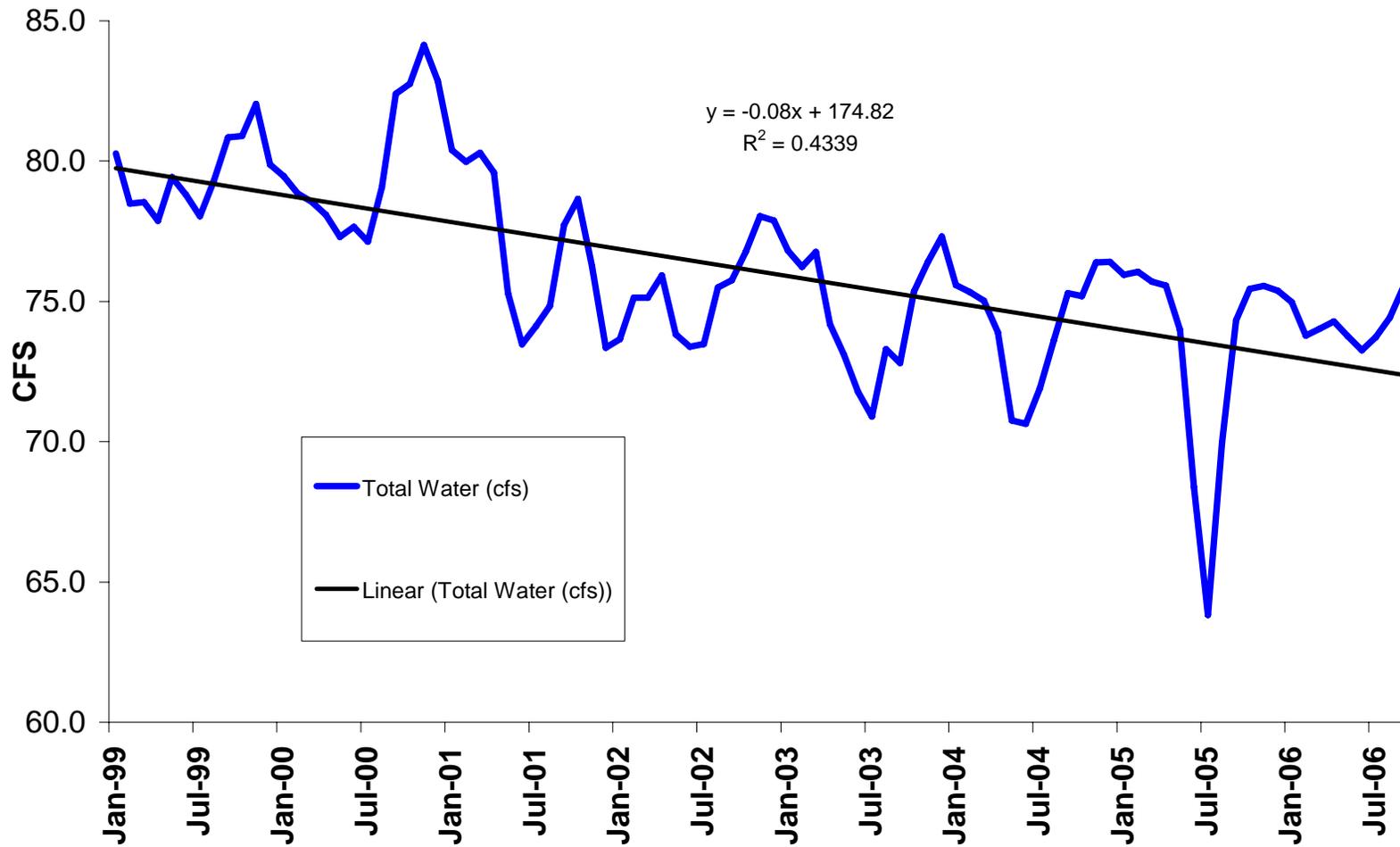
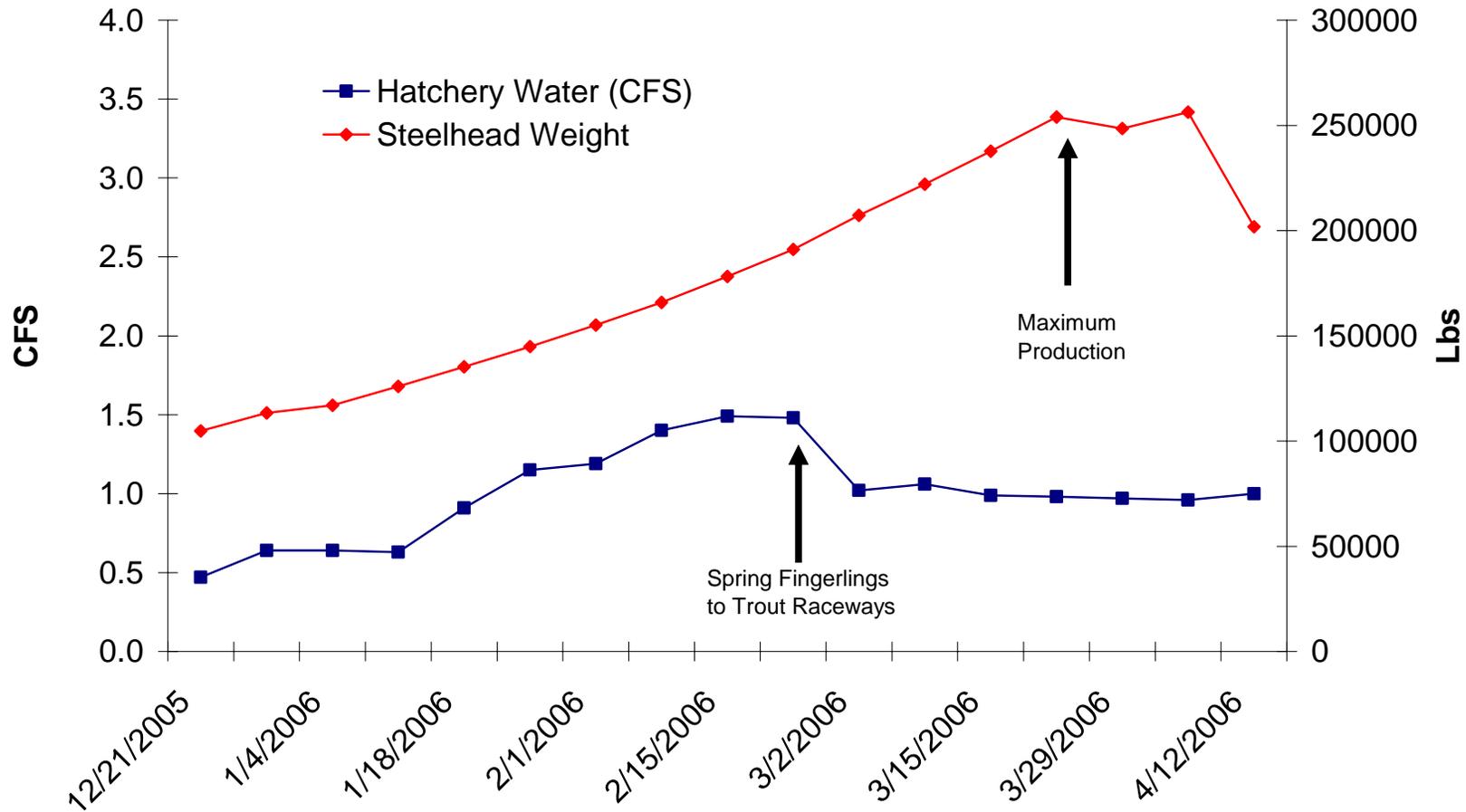


Figure 1. Monthly average spring flow at Hagerman NFH, 1999-2006 (cfs)

## Hagerman National Fish Hatchery



**Figure 2. Rainbow Trout Hatchery water use (cfs) and Steelhead weight (lbs) during BY2005 steelhead production, Hagerman NFH**

## Hagerman National Fish Hatchery

**Table 1. Hatchery Production Summary as of September 30, 2006**

Station: Hagerman National Fish Hatchery					PERIOD COVERED: Oct 1, 2005 THRU Sept 30, 2006					
Species/Strain & Lot Number	Fish on Hand:				To Date Totals:					
	Number	Weight	Length	D.I.	F.I.	Weight Gain	Feed	Feed	Conv.	Percent Survival
							Pounds	Costs		
<b>SST-SAW-05-ID-112</b>	0	0	0	0	0	178,912	186,544	\$57,195.58	1.04	93.14
<b>SST-PAW-05-ID-111</b>	0	0	0	0	0	35,796	37,320	\$11,051.83	1.04	92.93
<b>SST-CRW-05-ID-110</b>	0	0	0	0	0	34,104	40,320	\$11,217.86	1.18	93.00
<b>SST-SAW-06-ID-117</b>	1,064,073	26,123	4.050	0.05	0.46	26,123	22,779	\$8,615.40	0.87	93.03
<b>SST-PAW-06-ID-116</b>	186,060	4,645	4.070	0.04	0.46	4,645	4,597	\$1,725.23	0.99	92.61
<b>SST-CRW-06-ID-115</b>	198,180	5,532	4.23	0.04	0.46	5,437	5,266	\$2,007.10	0.97	96.73
<b>RBT-T9-06-ID-113</b>	0	0	0.000	0.00	0.00	7,475	6,539	\$2,395.46	0.88	94.80
<b>RBT-T9-06-ID-114</b>	0	0	0.000	0.00	0.00	17,795	18,241	\$5,517.64	1.03	93.60
<b>Total/Averages</b>	<b>1,448,313</b>	<b>36,300</b>	4.117	0.043	0.460	<b>310,287</b>	<b>321,606</b>	<b>\$99,726</b>	<b>1.00</b>	<b>93.73</b>

## Hagerman National Fish Hatchery

**Table 2. Eyed eggs received at Hagerman NFH during Fiscal Year 2006**

Species	Stock	Lot No.	No. Eggs	% Survival to Hatch
Rainbow Trout	Hayspur T9 Triploid	RBT-T9-06-ID (Lot 113)	117,039	97.00%
Rainbow Trout	Hayspur T9 Triploid	RBT-T9-06-ID (Lot 114)	48,185	96.70%
<b>Total</b>			<b>165,224</b>	
Steelhead	Pahsimeroi <sup>1</sup>	SST-PAW-06-ID (Lot115)	200,908	94.06%
Steelhead	Sawtooth <sup>2</sup>	SST-SAW-06-ID (Lot 116)	1,143,749	98.00%
Steelhead	Clearwater <sup>3</sup>	SST-CRW-06-ID (Lot 117)	204,882	97.42%
<b>Total</b>			<b>1,549,539</b>	

<sup>1</sup> Spawned at Pahsimeroi Fish Hatchery and incubated at Sawtooth Fish Hatchery.

<sup>2</sup> Spawned and incubated at Sawtooth Fish Hatchery.

<sup>3</sup> Spawned at Dworshak NFH and incubated at Clearwater Fish Hatchery.

## Hagerman National Fish Hatchery

**Table 3. Steelhead Distribution During Fiscal Year 2006**

Lot / Strain	Type of release	River/Site	Weight (lbs)	Number	#/lb	Length		Date(s)
						in	mm	
<b><u>112 SST-SAW-05-ID</u></b>								
		<b><u>Salmon River</u></b>						
Sawtooth	Direct	Sawtooth Fish Hatchery Weir	151,071	760,848	5.04	8.13	206	4/10/06 - 4/26/06
Sawtooth	Direct	Yankee Fork	44,387	238,117	5.36	7.96	202	5/01/06 - 5/04/06
<b><u>111 SST-PAW-05-ID</u></b>								
		<b><u>Little Salmon River</u></b>						
Pahsimeroi	Direct	Little Salmon River @ Hazard Creek Bridge	32,760	161,721	4.94	8.18	208	3/27/06 - 4/03/06
Pahsimeroi	Direct	Lower Hazard Creek	9,175	40,871	4.45	8.47	215	4/03/06
<b><u>110 SST-CRW-05-ID</u></b>								
		<b><u>Little Salmon River</u></b>						
Clearwater	Direct	Little Salmon River @ Hazard Creek Bridge	20,765	91,915	4.43	8.48	215	4/05/06 - 4/07/06
		<b><u>East Fork Salmon River</u></b>						
Clearwater	Direct	Lower East Fork	18,745	100,457	5.36	7.96	202	4/27/06 - 4/28/06
<b>Total</b>			<b>276,903</b>	<b>1,393,929</b>				

## Hagerman National Fish Hatchery

**Table 4. Rainbow Trout Distribution During Fiscal Year 2006**

Lot / Strain	Reservoir	Site	Weight (lbs)	Number	Length (in)	Date(s)
<b>Lot 113 RBT-T9-06-ID</b>	Little Camas Reservoir	Boat Ramp	7,475	107,865	5.28	5/10/06
<b>Lot 114 RBT-T9-06-ID</b>	CJ Strike Reservoir	Cottonwood	5,070	12,422	9.50	9/26/06
<b>Lot 114 RBT-T9-06-ID</b>	Lake Walcott	Gifford Springs	<u>12,725</u>	<u>31,176</u>	9.50	9/29/06
		SubTotal	17,795	43,598		
<b>Total</b>			<b>25,270</b>	<b>151,463</b>		

## Hagerman National Fish Hatchery

**Table 5. Report of Station Personnel During Fiscal Year 2006**

<b>Part I - Permanent Personnel (FTE's: 8.00)</b>				
<b>Name of Employee</b>	<b>Functional Title</b>	<b>Grade</b>	<b>Period Worked</b>	<b>Remarks</b>
Bryan Kenworthy	Project Leader Fish Biologist (Supervisor)	GS0482/12/09	10/01/2005 - 09/30/2006	
Mark A. Olson	Asst. Hatchery Manager Fish Biologist (Supervisor)	GS0482/11/01	10/01/2005 - 09/30/2006	
Robert James Brandon	Animal Caretaker	WG5048/05/03	10/01/2005 - 09/30/2006	
Brian P. Clifford	Motor Vehicle Operator	WG5703/08/05	10/01/2005 - 09/30/2006	
Stephen W. Money	Maintenance Mechanic	WG4749/10/05	10/01/2005 - 09/30/2006	
Nathaniel J. Wiese	Fish Biologist	GS0482/09/02	10/01/2005 - 09/30/2006	
Anna M. Ray	Fisheries Program Assistant	GS0303/06/06	10/01/2005 - 09/30/2006	
Eric W. Willet	Motor Vehicle Operator	WG5703/06/05	10/01/2005 - 09/30/2006	
<b>Part II - Temporary Personnel (FTE's: 0.0 )</b>				

## Hagerman National Fish Hatchery

**Table 6. Personnel Training during Fiscal Year 2006**

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**R. James Brandon**

NW Fish Culture Conference (1-day) – December 7, 2005  
“Retirement Planning for New Employees” (NPS Tel-Net) – December 12, 2005  
Spawning Detail @ Hayspur Hatchery – December 14, 2005  
“A Conversation with...Dale Hall” (NPS Tel-Net) – January 30, 2006  
“ATV RiderCourse” – May 2, 2006  
Wage Grade Conference – May 23-25, 2006  
“Orientation to the Privacy Act” (DOI LEARN) – September 13, 2006  
“Records Management Awareness” (DOI LEARN) – September 15, 2006  
CPR and 1<sup>st</sup> Aide Refresher – September 28, 2006

**Brian Clifford**

NW Fish Culture Conference (1-day) – December 7, 2005  
Spawning Detail @ Hayspur Hatchery – December 14, 2005  
“A Conversation with...Dale Hall” (NPS Tel-Net) – January 30, 2006  
Wage Grade Conference – May 23-25, 2006  
“Orientation to the Privacy Act” (DOI LEARN) – September 15, 2006  
“Records Management Awareness” (DOI LEARN) – September 15, 2006  
CPR and 1<sup>st</sup> Aide Refresher – September 28, 2006

**Bryan Kenworthy**

“Congratulations, You’re the CDSO” (NPS Tel-Net) – December 8, 2005  
“A Conversation with...Dale Hall” (NPS Tel-Net) – January 30, 2006  
FIS Web Training – March 27-31, 2006  
“A Supervisors Guide to Diversity – The Diversity Plan and MD715” – August 7, 2006  
“Orientation to the Privacy Act” – August 16, 2006  
CPR and 1<sup>st</sup> Aide Refresher – September 28, 2006

## Hagerman National Fish Hatchery

**Table 6. Personnel Training during Fiscal Year 2006 (continued)**

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**Stephen Money**

"Congratulations, You're the CDSO" (NPS Tel-Net) – December 8, 2005  
"Retirement Planning for New Employees" (NPS Tel-Net) – December 12, 2005  
"A Conversation with...Dale Hall" (NPS Tel-Net) – January 30, 2006  
Wage Grade Conference – May 23-25, 2006  
"Orientation to the Privacy Act" (DOI LEARN) – July 23, 2006  
"Records Management Awareness" (DOI LEARN) – July 24, 2006  
"Wage Grade Professionals Workshop (NCTC) – September 18-22, 2006  
CPR and 1<sup>st</sup> Aide Refresher – September 28, 2006

**Mark A. Olson**

"Congratulations, You're the CDSO" (NPS Tel-Net) – December 8, 2005  
"Ethics for New Supervisors" (DOI LEARN) {40hrs} – January 12, 2006  
"Supervisory Pay and Leave Overview (DOI LEARN) – January 26, 2006  
Merit System Principles & Prohibited Personnel Practices – February 8, 2006  
Fisheries Information System (FIS) – February 22-24, 2006  
"Applied Supervision" (NCTC) – March, 2006  
"Orientation to the Privacy Act" (DOI LEARN) – August 23, 2006  
"A Supervisors Guide to Diversity – The Diversity Plan and MD715 – Sept. 11, 2006  
CPR and 1<sup>st</sup> Aide Refresher – September 28, 2006

**Anna M. Ray**

Idaho Governor's Business Opportunities Conference – November, 2005  
"Retirement Planning for New Employees" (NPS Tel-Net) – December 12, 2005  
CON110 (Web by Defense Acquisition University) {23 CLP} – January, 2006  
"508 Universe" (On-line training by GSA) – January 11, 2006  
CON100 (Portland CGS) – January 23-27, 2006  
"A Conversation with...Dale Hall" (NPS Tel-Net) – January 30, 2006  
"FY2006 Administrative Workshop" – February, 2006  
CON 111 (Web by Defense Acquisition University) {26 CLP} – April 28, 2006  
"Using GSA Schedules – Customers (FAR 8.4 Revisions) {1.0 CLP} – May 9, 2006  
"Orientation to the Privacy Act" (DOI LEARN) – July 19, 2006  
"Records Management Awareness" (DOI LEARN) – July 19, 2006  
CPR and 1<sup>st</sup> Aide Refresher – September 28, 2006

## Hagerman National Fish Hatchery

**Table 6. Personnel Training during Fiscal Year 2006 (continued)**

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**Nathaniel Wiese**

NW Fish Culture Conference (speaker) – December 6-8, 2005  
“Retirement Planning for New Employees” (NPS Tel-Net) – December 12, 2005  
Spawning Detail @ Hayspur Hatchery – December 13, 2005  
“A Conversation with...Dale Hall” (NPS Tel-Net) – January 30, 2006  
“Fisheries Academy” (NCTC 2-wk) – March, 2006  
Detail – Division of the National Fish Hatchery System (Arlington, VA) June, 2006  
“Orientation to the Privacy Act” (DOI LEARN) – September 13, 2006  
“Records Management Awareness” (DOI LEARN) – September 13, 2006  
CPR and 1<sup>st</sup> Aide Refresher – September 28, 2006

**Eric Willet**

NW Fish Culture Conference (1-day) – December 7, 2005  
“Retirement Planning for New Employees” (NPS Tel-Net) – December 12, 2005  
Spawning Detail @ Hayspur Hatchery – December 14, 2005  
“ATV RiderCourse” – May 2, 2006  
Wage Grade Conference – May 23-25, 2006  
“Orientation to the Privacy Act” (DOI LEARN) – September 12, 2006  
“Records Management Awareness” (DOI LEARN) – September 12, 2006  
CPR and 1<sup>st</sup> Aide Refresher – September 28, 2006

# Hagerman National Fish Hatchery

**Table 7a. Lower Snake River Compensation Plan Funding Fiscal Year 2006**

	+	-	Balance	Comments
<b><u>Operations 14230-1936-0300:</u></b>	<b>\$783,504</b>			
Salaries, OT, Awards, Benefits		\$535,585		
Travel/Tuition		\$13,474		
Utilities		\$12,393		
Steelhead Fish Food		\$76,669		
All Distribution		\$25,970		
Production Expense		\$15,762		
Repairs & Maintenance		\$54,143		
Equipment (Lawnmower #10181-6-X532)		\$11,108		
Fuels & Oils		\$13,470		
Office Admin/Misc. Services		\$18,906		
CSI Coop. Agreement		\$4,600		
Outreach		\$1,362		
<i>Total Operation Expenses:</i>		<b>\$783,441</b>	<b>\$63</b>	Per Denver Reports & Station cuff records 12/31/2006

(continued next page)

# Hagerman National Fish Hatchery

**Table 7a. Lower Snake River Compensation Plan Funding Fiscal Year 2006 (continued)**

	+	-	Balance	Comments
<b><u>Capital Sub-accounts:</u></b>				
Mainspring Pipeline Materials 14230-1936-0305: Mountain States #10181-6-M116	\$98,000			Funds returned to LSRC (used towards Sed Pond Project).
		(\$76,027)	\$21,973	
Sed Pond Dewatering System 14230-1936-0306: Mod to add 4 NEMA box with 1936-0300 funds Five Rivers #10181-6-Y256	\$53,247	\$198		
		(\$53,445)	\$0	
<b><u>Cooperator Assistance Sub-account:</u></b>				
MVFH Distribution Trucks w/drivers 14230-1936-0021: Niel Ring #10181-6-M231	\$95,445			Transferred to 1936-0300 for lawnmower purchase.
		(\$87,687)	\$7,758	
<b><u>Prior-Year Funded Sub-accounts:</u></b>				
Multiple Hydraulic Engineering FY 2003-2006 Brockway Engineering #10181-3-M536A (mixed accounts)	\$46,681.62			
		(\$46,681.62)	0.00	
Thomas/Wright, Inc. - WO #10181-4-Y086 Bird Net Scoping charged to 1936-0300	\$2,000.00			<b>FY2004 Funding</b> FY2004 spending
Modification to Design Bird Net charged to 1936-0300	\$6,875.00			<b>FY2004 Funding</b> FY2005 spending
		(\$2,062.50)		
		(\$4,812.50)	\$0.00	FY2006 spending

# Hagerman National Fish Hatchery

**Table 7b. Other Funding Sources Fiscal Year 2006**

	+	-	Balance	Comments
<b><u>Operations:</u></b>				
Dworshak Mitigation RBT 14230-1935-0001:	\$27,500.00	(\$27,500.00)	\$0.00	
Quarters Funding 14230-8610-0000:		-		
FY2005-Prior Year Carryover	-\$3,997.84			
Collections	\$17,956.38			
Overhead deductions @ 21%		(\$3,770.84)		
General Expenditures		(\$346.46)		
Five Rivers - Qtr# 4&5 Rear Man-garage Drs #10181-6-Y422		(\$3,808.00)		
Hayes - Qtr#6 Window Replacement #10181-6-M476		(\$6,520.00)		
FY2006- Carry forward:			(\$486.76)	
WUI 14610-9264-A365 / Fuels Reduction (fire line discing)	\$509.50	(\$509.50)	\$0.00	
NZMS Project 81332-1332-0000	\$5,000.00	(\$5,000.00)	\$0.00	
<b><u>Prior-Year Funded Account:</u></b>				
SCITRDA (Grant) - #14230-4-G175 (funding 10139-8555-14RO)	\$7,585.00			
Expenses paid FY2005		(\$3,006.50)		
Modification to / 0001 (funding 14230-8555-15HA)	\$5,000.00			
Expenses paid FY2006		(\$9,578.50)	\$0.00	