

October 2012
Volume 4, Issue 2

Hatcheries Division Meeting in Spokane

Region 1 hosted the fall Hatcheries Division Meeting on August 7, 2012. The meeting was held at the Spokane Community College. A total of 62 staff attended.

Hatcheries Division Manager **Heather Bartlett** opened the meeting with an overview of current Hatcheries issues, including: the Inland Fish Marketing Strategy to increase recreational license sales that reinforces the work our Division did to improve inland fish stocking through standardization of catchables, and a reminder that the NW Fisheries Culture Conference (NWFCC) will be in Portland in early December.

Tracy Wolfe, WDFW Human Resources Consultant for Fish Program, and **Mollie Clinton**, HR Consultant for Hatcheries Division, answered staff questions about the hiring processes, especially perceived “glitches” in the system for recognizing criteria for candidates in the hiring pool. The main problem appears to be “location” – candidates are not necessarily willing to work at the locations they have checked off. Staff are still learning how to use the filters in the pooling system for ST1s and 2s. The supervisor can screen candidates before the selection interview as long as they use job-related criteria and remain consistent. Staff can develop supplemental questions on for competencies. Also, the hiring supervisor can talk to any former supervisor, even if they are not listed as a reference. **Cindy Colvin**, WDFW HR Director, is working with **Ngonyo Mwangi**, HR Special Projects Manager, in developing supervisor-training curriculum.

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Heather moved on to the next topic, “Strengthening Leadership Across the Division,” and reviewed the Principles of Change and Six Truths of Leadership. She also reviewed the values for the Division, set by the field and headquarters leadership. The group discussed the metrics that will be used to evaluate the roles and responsibilities area for change that had been identified as a high priority by the field leadership (see also [Leadership](#) on pg 2).

Ryan Koval, WDFW IT End-User Services Manager, spoke about the IT pilot study to standardize agency equipment and software – especially printers, FAX machines, and network storage devices. *Drobos*, a network storage device, was deployed August 1. It is an alternative to manual back-up devices, and is a means to separate and share data. The large (terabytes) storage capacity ensures that critical data is not limited to a PC, and provides a back-up in case of hardware failure. Issues are cost and individual access. Ryan also gave a heads-up that the full migration to *Windows 7*, *MS Office 2010* and all-in-one printers will begin October 1. Complete migration for all hatchery offices is planned by December 2013.



Jeff Parkhurst, IT Specialist – Desktop Support, addressed mobile device access for WDFW staff. Blackberry services are still provided to the Executive Management Team (EMT) and Regional Managers, but that service is reaching the end of its life. The *Microsoft Active Sync* service allows a similar connection to *MS Outlook* via other smartphones as of March 1, 2012. Our agency smartphone standards are iPhone4s and Motorola Droids, but the Droid is easier

to develop for data-capture folks. The Security Policy is statewide for all agencies, and defines how Agency-owned devices are configured and managed. This policy requires a six-character password and all State password rules apply. IT can remote-wipe a device in the event that it is lost, damaged or stolen, but the employee now has that option via their *Outlook Web Access* (OWA). This web app will allow them to reset their own password also. A draft policy is in the works that

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Strengthening Leadership across the Division

By Heather Bartlett, Hatcheries Division Manager

In spring 2012, Hatcheries Division field and headquarter leadership began a Leadership Development Program. All successful organizations have one thing in common; a small operating gap between their field and central leadership. We recognized that the Hatcheries Division had a large operating gap in leadership between the field and Headquarters. In addition, the Washington State hatcheries system, inclusive of its employees, is poised for operational excellence for its use of scientific principles in the management of the fish resources and its overall size of operation.

The Division's Leadership Development Program provided an opportunity to reduce the operating gap, reinforce the principles of effective leadership, and identify important areas of change in order to be responsive and effective into the future. Monthly workshops were held between May and October 2012. The workshops focused on different aspects of leadership, and provided a forum to apply leadership skills through tactical applications. It was also a forum for field and headquarters leadership to work collaboratively in establishing the Division values, and identifying areas of needed change or improvement to ensure our operations were in line with our values. These values are: Commitment, Trust, Integrity, Teamwork, Accountability, and Professionalism.

Identifying the values upfront allowed all subsequent discussions, opportunities, and areas for change to work within the frame of achieving our values. Our workshops generally included a corporate component of leadership, a personal leadership development component, and a tactical application of leadership.

Division leadership, in both field and headquarters, created Personal Leadership Development Plans as a means of holding ourselves accountable to our continued betterment as individuals and the Division as a whole. We will keep our leadership development work alive through several tangible activities including regional team leadership sharing coordination, leadership topics/training at Division meetings, and periodic check-in between supervisor/staff on leadership development plan progress and support.

We plan to make some of our training materials available on the Agency's Intranet site in the near future.

JLARC Audit Update

By Heather Bartlett, Hatcheries Division Manager

Following the 2012 Legislative Session, the Joint Legislative Audit Review Committee (JLARC) was instructed to conduct an audit of the WDFW's Inland Trout Stocking program, and make a cost comparison to private industry to evaluate if there are more cost effective ways of providing trout for recreational fishing (see also *The Intake: May 2012*).

The audit was conducted during May through September, as a team of staff from within the department worked to provide extensive information to the auditors for their review and evaluation purposes. WDFW's team included: **Rich Watson** (Spokane Complex Manager), **Doug Hatfield** (Hatchery Operations Manager, Region 4), **Ace Trump** (FHS4, Spokane Hatchery), **Chris Donley** (Resident Native Program Manager/Fish Management Division), **Denise Dewey** (Hatcheries Operation Manager, Olympia), **Mark Kimbel** (Hatchery Evaluations Manager), **Kelly Henderson** (Hatchery Data Unit/BDS-Science Division), **Heather Bartlett**, and **Jack Needham** (WDFW Internal Auditor, Director's Office).

The program team provided information, which included: annual operating budgets by fund source for all facilities; total trout, by species and size, released during last six years; inland trout fishery management objectives inclusive of diversity and value of different trout species; total expenditures on trout purchased; alternative approaches the department has employed towards meeting trout release targets outside of producing ourselves (e.g. cooperative agreements, lease arrangements etc.); maintenance and capital expenditures during last five years; maintenance and capital needs for next ten years; transportation and trucking costs, fish food sources and varying costs, and more. The level and detail of information provided was extensive for the ten trout hatcheries that produce 80% of our inland trout stocked: **Arlington, Chelan, Columbia Basin, Spokane, Naches, Eells Springs, Goldendale, Mossyrock, Omak, and Puyallup**.

Rich Watson and Ace Trump developed a detailed Spokane Case which outlined the exact cost to produce one rainbow trout fry, one rainbow trout fingerling, and one rainbow trout catchable.

The technical details of the audit report are being reviewed by the program team for data and technical accuracy. Next, the auditors will brief the JLARC on the draft report in early December. Following that briefing, WDFW will be given an opportunity to respond to the contents and recommendations as a whole before the report becomes final; the department's comments will become an appendices within the final report. The final report is expected to be released in early January.

Hatcheries Division Meeting (continued from page 1)

would allow stipends for BYOD (“bring your own device”). This would streamline convenience to have one phone rather than two, and allow the employee a greater degree of flexibility. Many companies (Verizon, AT&T, Sprint) offer cell phone plan discounts for State workers as a further benefit to employees. Data on personal devices must be available for Personnel Action or Public Data Requests. All *Outlook* data is already stored on Agency servers, but data such as photos would need to be backed-up on a separate site. Talk to supervisor for access need, and review the Mobile Device Request form on the DFW Intranet site, <http://inside.dfw.wa.gov/forms/downloads/MobileDeviceRequest.doc>

Mitch Combs (FHS3) gave a presentation on the **Sherman Creek Hatchery** Conservation Sturgeon Aquaculture program.

After lunch, Heather discussed the new *Annual Top Hatchery Award*. The original T-shirt designs submitted were scrapped in favor of one with an Agency logo and text. The award will include a gift card for purchasing material or equipment for the facility, or a piece of needed equipment. The possibility for a “Survivor of the Biggest Disaster” award was also considered.

Heather went on to give us an update on the JLARC audit of Inland Trout programs (see also *JLARC* on pg 2).

Jon Lovrak, former Lyons Ferry Complex Manager, gave a presentation on the new Electro-Narcosis technology (see also *Electro-Narcosis* on pg 4).



How to do a Capital Budget Request

- 🐟 Be specific and identify needs
- 🐟 Talk to your engineer; call them or contact **Tim Burns** (new **CAMP** AD), or **Ken Bergman** (Construction Shops)
- 🐟 Think about where facilities need to be, not just what they need now
- 🐟 Think about production needs and sketch out:
 - How many raceways?
 - Number and type of ponds?
 - Incubation requirements?
 - Water needs (temperature and quality)

Former Assistant Director of **Capital Assets Management Program (CAMP)**, **Bill Phillips**, spoke about the Capital Budget Process. The process was started in April with Programs identifying and prioritizing their needs. Health and safety is the #1 concern, followed by protection of assets (things that need fixing), cost savings, environmental concerns, and program enhancement. Changes in business practices require pushing the Agency to forget about past requests, but instead thinking about current needs; the message was, “If you need it, ask for it.”

The current Capital Budget request is \$80-million. The EMT will review and make minor adjustments for presentation to the Commission for approval on August 17, submitted to the Governor’s Office in September. The Office of Financial Management (OFM) will determine



the allocation of funds to the various State agencies, based on the preliminary budget forecast in November. The budget should be announced in December; however, there will be a new Governor in 2013, so there will actually be two governor’s budgets to consider, as well as both House and Senate legislative modifications. The Jobs Bill (see also *The Intake: May 2012*) will be accomplished in 2013, with commitments to begin construction at identified sites within the next calendar year.

Top Capital Budget Request projects for 2013-2015 include:

1. Improvements to adult handling facilities (**Kalama Falls, Dungeness, George Adams, Marblemount, McKernan and Nasselle**);
2. Intake improvements: **Wallace, Fallert Creek, Sol Duc, Nasselle**;
3. Bridge replacement at **Nemah** – substructure is in bad shape, and if it fails, cannot access facility.

Ace Trump (HS4) finished out the day with a talk about triploid rainbow trout at **Spokane Hatchery**.

Region 6 will host the next meeting in March 2013.



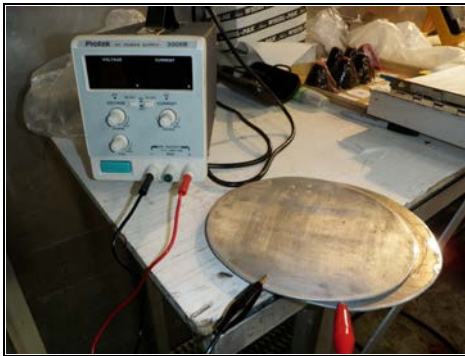
Electronarcosis: Uses in Sorting/Spawning Activities And Adult Trap

Sampling By Jon Lovrak, former Lyons Ferry Hatchery Complex Manager

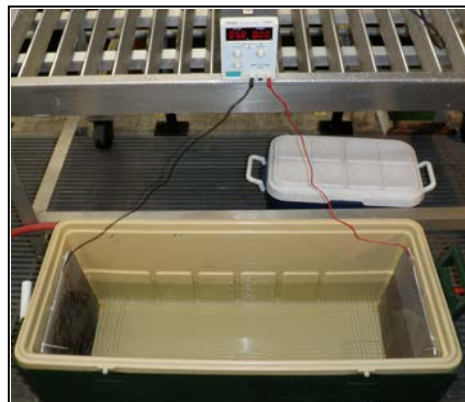
Trapping of adult salmon and steelhead often results in handling large numbers of hatchery and natural origin (wild) adults that may be retained for hatchery or research purposes or released upstream of the trapping location. For fish that are released, the best possible outcome is for them to be released unharmed and unaffected so they can contribute to fisheries or complete spawning; this is particularly important when working with and ESA listed species, or *interoparous* species (species that reproduce across multiple seasons) such as steelhead and bull trout. Handling adult salmonids safely can be difficult for both fish and WDFW personnel. In hatchery operations this often requires the use of some form of anesthesia to control fish response and enable data collection, fish examination, broodstock collection, spawning and marking. Currently MS-222 is the only accepted chemical anesthetic approved for use in fish culture, however, if fish are to eventually be released into a river system with active fisheries, a 21-day withdrawal period is required to allow the chemical to be purged from the fish's body. The use of CO₂ is also approved and has been used at hatchery and research facilities throughout the northwest, but the required equipment (air stones and compressed gas tanks) is cumbersome, and fish response can be violent when introduced into CO₂ charged water that can result in injury to the animal. Further, because of the chemical imbalance induced by CO₂ anesthesia, a significant recovery time (several minutes) may still be required prior to release so that the fish is capable of orienting itself within a stream (Schuck/Bumgarner, 2012).

WDFW in SE Washington (**Region 1**) has recently implemented low-voltage Electro-narcosis (EN), a new method for anesthetizing fish that can improve handling of fish in hatcheries and during remote field sampling. While Electro anesthesia (EA), the use of electricity in high voltage capacities (>100V, AC or DC) to sedate fish for a short period of time, is nothing new, the use of lower voltage systems ($\leq 60V$ DC only) is becoming more prevalent, and is more cost-effective given technological advancements. The differences between these two approaches are significant: EA results in an extended sedation period for the fish when exposed, often 3-5 minutes. Several publications have indicated that bruising, fracturing or reduced gamete viability of fish may occur, but have been determined to be at acceptable levels for hatchery production. For example, EA is currently being used at the **Cowlitz Salmon Hatchery**, and a benefit of its use is that the fish can be easily handled out of water. EN on the other hand, results in only a temporary sedation period of fish upon exposure, and near-immediate recovery from the effect when removed from the electrical field. We see this aspect as important when ESA-listed fish are to be sampled and released.

Two recent studies performed by the **Snake River Lab** and **Lyons Ferry Hatchery (LFH)** staff indicate that, statistically: 1) there were no measurable impacts to EN treated spawned adults (the incidence of spinal and musculature injuries were the same as those treated with MS-222); 2) the resultant egg or fry survival from those EN-treated adults were the same as those spawned with MS-222; and 3) long-term survival (up to 3 months) of adult steelhead handled/sampled with EN was greater than those that were handled/sampled with no form of anesthesia.



In fall 2011, the LFH staff used EN for the first time to sort hatchery summer steelhead broodstock (~1,600 adults), and immediately discovered a benefit in operational efficiency. With the large numbers of adults to be released back to the river to an open fishery, CO₂ had been the anesthesia of choice. With the ability to handle fish upon immediate exposure to the EN, however, the sorting period was decreased by several hours. I should note that upon removal from the electrical field, the fish resumed its normal orientation and were capable of swimming almost immediately. This quick recovery does impede the ability to test for ripeness during the spawning process; because the fish tenses up following removal from the electrical field, it is recommended to check maturation while the fish is still in the container and electrical field.



The EN device purchased and used by LFH staff and field biologists in SE Washington is the "Protek-3006B," though other makes/brands are available. The unit is a variable AC to DC power supply, with a rating of 0-60 volts and 0-1.5 amps. One of many benefits of this unit is that it's quite inexpensive. In fact, the entire cost for an EN set-up, including a container for fish placement, is less than \$500. Now, before you get too ambitious to implement EN in your area, there are several things you must consider: 1) the conductivity of the water effects sedation levels of fish; 2) the distance between the electrodes, or plates, effects the strength of the current and how effectively the fish enter the

Photos provided by Joe Bumgarner

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Puget Sound Hatchery Action Advisory Committee

By Christina Iverson, HEAT

In 2009 the **Washington Fish and Wildlife Commission** (FWC) adopted the *Hatchery and Fishery Reform Policy* (FWC Policy C-3619). This policy defined policy guidelines, including a goal of achieving **Hatchery Scientific Review Group** (HSRG) broodstock standards for the State's hatchery system by 2015. The intent of this policy is to be achieved through a number of strategies, including brood stock management, mass-marking of all hatchery Chinook, coho and steelhead, and the establishment of Wild Salmonid Management Zones (WSMZ).

A **Puget Sound Hatchery Action Advisory Committee** (PSHAAC) was created in 2011 as a communication link between WDFW and key constituent groups. The Committee was established to provide meaningful opportunity for understanding the Department's management trajectory and advising the Department on issues related to hatchery production and the implementation of hatchery reform in the Puget Sound region. The 11-member Committee was guided by plans and policies adopted by the FWC; these included the Statewide Steelhead Management Plan (SSMP) and the FWC Policy C-3619. Actions recommended by the Committee will support WDFW as it moves forward in implementing the FWC policy. In addition to the 11-member Committee, members of the Washington HSRG participated at each meeting as technical experts for implementation of hatchery reform.

PSHAAC's principle focus was recommending population designations for all Puget Sound salmon populations, recommending WSMZs by species, and evaluating and recommending implementation strategies to reduce biological risk to naturally spawning populations, while supporting sustainable fisheries. The Committee also provided input on strategies to balance conservation of the salmon resource while supporting sustainable fisheries. The recommendations and input are assisting the WDFW's staff work with tribal co-managers in developing new management plans for State hatcheries that are unique to each watershed. These *Hatchery Action Implementation Plans* (HAIPs) focus on collaboration with tribal co-managers to identify and implement actions that will reduce or eliminate risks that hatchery programs can pose to natural populations.

PSHAAC members participated in monthly discussions from July 2011 through April 2012. The focus of the meetings followed a species-by-species process. In preparation for each meeting, WDFW staff provided the Committee with information regarding the abundance and status of natural populations, numbers of hatchery fish released, the subsequent adult return numbers, the economic costs and benefits of the hatchery programs and the level of biological risk the hatchery programs posed relative to natural production. Where available, the Committee was also provided with information regarding PNI (proportionate natural influence), pHOS (proportion of hatchery-origin spawners in the watershed), pNOB (proportion of natural-origin spawners in the hatchery brood stock), values for specific watersheds and the draft designations on which hatchery influence in each watershed would be managed. This basic information helped the group consider and recommend draft population designations consistent with the FWC policy C-3619.

Puget Sound hatcheries provide a valuable resource, and the work done by the PSHAAC will aid WDFW's decisions on how to best manage this resource. While hatchery salmon and steelhead may pose a potential risk to natural populations, the Committee, along with WDFW staff, worked diligently to identify where risks and benefits of hatchery programs existed and the steps for moving forward with hatchery operations in the Puget Sound in a manner consistent with the FWC *Hatchery and Fishery Reform Policy* (C-3619). The Committees' recommended WSMZ designations provide the WDFW with a defensible list of priority watersheds into which hatchery fish will not be planted. Draft population designations provided by the Committee will provide WDFW staff with a framework to refer to in the continued HAIP negotiations with tribal co-managers, and options for how to manage Puget Sound salmon and steelhead populations. To read more about the Committee and the work they performed see our website on the Hatcheries Division page at:

<http://wdfw.wa.gov/hatcheries/pshaac/>.



Puget Sound Hatchery Action Advisory Committee and HSRG members from left to right: **Lee Blankenship** (HSRG), **Frank Haw** (CCA), **Andrew Marks** (CCA) and **Frank Urabeck** (Sport Fish Advisor). Not pictured: **Norman Baker** (Sierra Club), **Dick Burge** (Wild Steelhead Coalition), **Nick Gayeski** (Wild Fish Conservancy), **Clint Muns** (Puget Sound Anglers -PSA, Recreational Fishing Alliance), **Michael Schmidt** (Long Live the Kings), **Al Senyohl** (Steelhead Trout Club), **Roger Urbaniak** (PSA), and **Andy Appleby** (HSRG).

Photo by Gary Marston

Hatchery Maintenance By Neil Turner, Hatchery Reform Capital Projects



The Jobs Now Bill dedicated \$58,035,000 to make improvements at our hatchery facilities. Consultants have been hired to use agency standard designs to get these projects out to bid and constructed as soon as possible. The focus was to complete projects that would help our facilities stay environmental compliance. Some of these projects are very close to be advertised and construction should begin this spring on projects that won't have to go through a lengthy permit process. Refer to the table below for details.

HATCHERY	PROJECT DESCRIPTION	FUNDING	DESIGN COMPLETED
Voights Creek	Rebuild hatchery across highway out of floodplain.	\$14,000,000.00	80%
Soos Creek	Rebuild Intake, Adult Ponds, Hatchery Building, and build a new pollution abatement pond and incubation settling pond.	\$5,990,000.00	20%
Marblemount	Rebuild the Jordan Creek intake, replace the Jordon Creek supply line, renovate rearing pond outlet, and drill a new supply well.	\$4,600,000.00	40%
Tokul Creek	Rebuild Intake to meet current screening and passage requirements.	\$3,700,000.00	30%
Dungeness	Rebuild both Intakes to meet current screening and passage requirements.	\$6,300,000.00	50%
Issaquah	Rebuild Intake to meet current screening and passage requirements.	\$4,000,000.00	95%
Humptulips	Build a new intake on Stevens Creek, build a new pollution abatement pond and replace the Hatchery Creek pipeline.	\$2,155,000.00	20%
Wallace River	Build a new pollution abatement pond, build a rack at the mouth of May Creek, and replace the channel rearing ponds	\$2,490,000.00	20%
Lake Aberdeen	Install a new pipeline from the city diversion, construct a new pollution abatement pond, and build a new hoist for moving broodstock.	\$1,570,000.00	50%
Kendall Creek	Build a new pollution abatement pond, renovate the adult handling facilities, and renovate the hatchery water supply and piping.	\$2,950,000.00	50%
Eells Springs	Build a new pollution abatement pond.	\$850,000.00	50%
Minter Creek	Replace supply piping to raceways.	\$200,000.00	100%
Bingham Creek	Replace on bank of Burroughs ponds and replace the Bingham Creek supply piping.	\$1,100,000.00	100%
Hupp Springs	Build a new pollution abatement pond and renovate the existing earthen pond.	\$1,450,000.00	50%
Hurd Creek	Build a new pollution abatement pond.	\$850,000.00	35%
Sol Duc	Construct 3 new 20' X 120' adult ponds.	\$4,000,000.00	30%
Coulter Creek	Remove all structures from the stream.	\$80,000.00	90%
Forks Creek	Build a new pollution abatement pond and renovate the existing adult handling facilities.	\$1,750,000.00	50%



Photo provided by Mark Schuck

Electronarcosis (continued from page 4)

“narcosis” state; and 3) the length/girth of the fish matters greatly, which could require adjustments to the positioning of the electrodes and voltage used.

The use of EN is an effective and safe method for handling adult fish. One safety precaution to the operator is the presence of an electrical current. It is recommended to wear latex gloves when exposing one's self to the container of water and fish. Generally, personnel handling fish within the charged water with bare hands are aware of, though unaffected by, the electrical current, and only when both hands are present in the field at the same time. (Schuck/Bumgarner, 2012).

For more information contact **Doug Maxey** (Tucannon Hatchery) or **Joe Bumgarner** and **Mark Schuck** (Snake River Lab)

Catie-Kelly Corner

By Catie Mains and Kelly Henderson, Science Division/ BDS-Hatchery Data Section

The Hatchery Data Section is excited to announce a few new additions to Hatchery Adult tracking:

- As of August 16, 2012, adult escapement for WDFW facilities can be pulled directly from *FishBooks*. You can view the new weekly report and detailed explanations on the Agency website at <http://wdfw.wa.gov/hatcheries/escapement/>.
- Hatchery adult data is now housed in a new headquarters database, delivered August 10, 2012 by a team of developers from within WDFW; thanks to **Max Pham** (IT), and **Mick Morbitzer** and **Amber Forkan** (Science Division /BDS). The database combines both historical and current *FishBooks* data. Contact **Catie Mains** with hatchery adult data information requests.

We would also like to introduce **Maria Parnel** (ST3), recently appointed in a shared capacity between **Hatchery Data** and **Harvest Data (Catch Record Card)** sections of the **Biological Data Systems Unit**. Maria is responsible for adult-tracking in *FishBooks*, Form 3s (Fish and Egg Disposition Tickets), and also provides support to hatchery staff. She maintains information used to generate quarterly invoices to the contract buyer; these funds go to the RFEGs, which closely scrutinize our tracking. Maria reviews Form 3s, and contacts hatcheries for discrepancies or missing information, comparing them to what is received in *FishBooks*. She also does weekly escapement reporting. Maria brings a lot of knowledge and dedication to the position. She's a valuable employee and we're very fortunate to have her on our team!



Staff Happenings

 By Ami Hollingsworth, Hatcheries Division Admin Assistant

With best regards, we wish the following employees success in their new positions:

Region 1

Gary Griffen, promotion to Maintenance Mechanic 3, Lyons Ferry Hatchery
Kevin Flowers, FHS3, transfer from Forks Creek to Spokane Hatchery

Region 2

Scott Peterson, promoted to FHS3, Eastbank Hatchery
Michael Hobart, FHS2-in training, Chiwawa Hatchery
Kyle Thompson, FHS2-in training, Eastbank

Region 3

Rene Shaw, promoted to FHS2, Priest Rapids Hatchery

Region 4

Eric Shoblom, promotion to FHS4, transfer from Lewis River to Cedar River Hatchery

Region 5

Andrew Brown, FHS2, transfer from Chiwawa to Fallert Creek Hatchery
Joel Sloth, FHS2-in training, Cowlitz Salmon Hatchery
Brian Walker, FHS2-in training, North Toutle Hatchery
Dominic Spiteri, FHT, North Toutle

Region 6

Cynthia Ziobron, FHS2, transfer from Nemah to Dungeness Hatchery
David Thomas, FHS2-in training, Dungeness Hatchery
Dustin Sturgeon, FHS2-in training, Nemah Hatchery
Brennan Price, FHT, Elwha Rearing Channel
Greg Turner, FHT, Morse Creek

Cory Cuthbertson, former FHS4 at Cedar River Hatchery, resigned June 30.

Holly Reed, former FHS2, at Cowlitz Salmon Hatchery, accepted a position with the Tulalip Tribe, as of October 6.

Jon Lovrak, former Spokane Complex Manager, accepted a position as Hatchery Satellite O&M Project Lead with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), as of September 14.

Also, please join me in wishing all the very best to the following on their well-deserved retirement and new adventures:

Ara Arakelian, former FHS2 (career seasonal) at Eastbank Hatchery, on July 1.

Suzanne Hoffmann, former ST4 with CWT & Mass-Marking Unit (HQ-Olympia), on May 1.

Eric Mattson, former FB2 with CWT & Mass-Marking Unit, on September 5

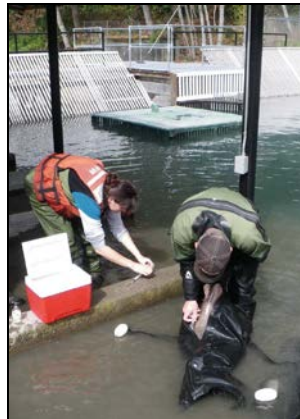
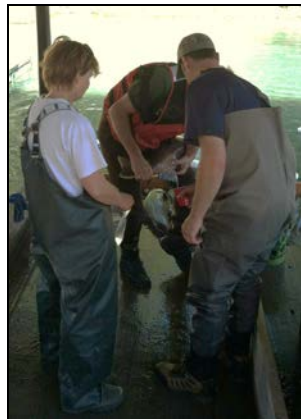
Elwha Broodstocking by Gary Marston, HEAT

With the removal of the Elwha Dam (started late-September 2011, completed March 2012), and the continued work on Glines Canyon Dam, the Elwha River is currently being managed in what is known as the "Preservation Phase". The goal during this phase of the Elwha Restoration is to preserve the existing genetic and life history diversity of native salmonid populations until fish passage is restored, and water turbidity is determined to be non-lethal to fish in the river. This charges Hatcheries staff with maintaining adequate hatchery production to guarantee desired adult return levels, while also maintaining the genetic characteristics of the Chinook population.

Despite of unstable in-river conditions this year, WDFW hatchery staff assisted by members of the **Hatchery Evaluation and Assessment Team (HEAT)** were able to collect broodstock for the Elwha Chinook program during the months of August and September. High levels of sediment released from behind the dams have significantly reduced visibility in the river, creating difficult working conditions, and limiting the success of traditional broodstock collection methods (gaffing, noodling, snagging and seining). With limited options available, hatchery staff found drift gill nets to be the most effective collection method in the silty water. This method requires the use of two drift boats, which drift a net through Chinook holding water at the speed of the current. Even this proved difficult, however, as the net often hung up on snags, due the low visibility and high debris levels in the river. Once a drift was complete, the net was pulled to shore, and the fish were promptly and gently removed from the net to minimize stress and/or damage to the fish. The fish were freed from the net, placed in fish bags, and transferred via tanker truck to the WDFW's Elwha River Spawning/Rearing Channel.

Upon arriving at the facility, the Chinook were acclimated in the holding pond water, before being PIT tagged, inoculated for diseases, checked for coded-wire tags, and visually inspected for sex identification and ripeness. Some of the fish were ready to spawn shortly after transfer into the facility's holding ponds. The first spawning occurred on September 5. Each spawn day started by rounding the fish up via seine and individually inspecting them for ripeness. Once collected, staff spawned an equal number

of males and females and collected samples of ovarian fluid. The WDFW virology lab in Olympia analyzes the samples of ovarian fluid to ensure that the fish are pathogen free and safe for use in hatchery broodstock. As of October 11, WDFW staff had collected 1,165 Chinook, with 836 spawned to meet the needs of the program and 189 excess males released into Indian Creek to bolster the naturally spawning population. In recent years, carcasses have been used for nutrient enhancement in the lower River.



Photos by Gary Marston. Left: Beata Dymowska assists Rick Grimsley (FHS2, Elwha Channel) and Jeff Gufler (FHS3, Dungeness) with spawning. **Middle:** Christina Iverson and Scott Williams (FHS4 Dungeness) prepare to PIT-tag captured Chinook. **Right-top:** Dungeness and Elwha hatchery staff operate the drift boats and nets. **Right-center:** Troy Tisdale (FHS3, Elwha Channel) and Dave Thomas (FHS1, Dungeness) gently remove Chinook from the net. **Right-bottom:** Rick Grimsley and Gary Marston prepare to transport fish bags across the river.



Washington Department of Fish and Wildlife Hatcheries Division 600 Capitol Way N., Olympia, WA 98501

The Washington Department of Fish and Wildlife (WDFW) serves Washington's citizens by protecting, restoring and enhancing fish and wildlife and their habitats, while providing sustainable and wildlife-related recreational and commercial opportunities.

Comments are always welcome and much appreciated. This newsletter is for you; to keep us connected, share information, and motivate us to new levels of scientific exchange and hatchery management. Suggestions are being taken for future articles. Tell us what you want to read about!

– Contact: Lori Kishimoto

The Intake is also available on the [WDFW web page](http://wdfw.wa.gov/hatcheries/newsletter.html) at <http://wdfw.wa.gov/hatcheries/newsletter.html>

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<http://wdfw.wa.gov/fish/management/hatcheries.html>

The Intake: October 2012