



The **STEELHEADER**

Official Newsletter of Tri-State Steelheaders Salmon Enhancement Group

STUDENT EXCITEMENT GROWS WITH *SALMON IN SCHOOL*

The *Salmon in School* program is in full swing throughout the Walla Walla area. Spring Chinook began emerging from their eggs in December. Many of the alevin are buttoned up (used up their yolk sac) and are eating fish food. In some tanks, the fry are already a couple inches long.

Back in September, 300 spring Chinook eggs were provided by Jon Lovrak at the South Fork of the Walla Walla River Adult Holding Facility. These “green” eggs were given to Rogers Adventist School, John Sager Middle School, and Davis Elementary School. “Green” eggs are recently fertilized eggs. Each school received 100 green eggs for their tanks.

In October, 650 “eyed” eggs were provided by Curtis Chan at the Umatilla Hatchery in Irrigon, Oregon. Eyed eggs are green eggs that have been incubating at the hatchery for around a month, at which time the eggs develop two small black dots - eyes of the developing salmon. These eggs were distributed to Prescott

School, Walla Walla High School Opportunity Program, Walla Walla High School Special Education, and the Walla Walla Community College Water Center. Receiving eyed eggs decreases the likelihood of egg mortality, as they are further along in their development when they are placed in our tanks.

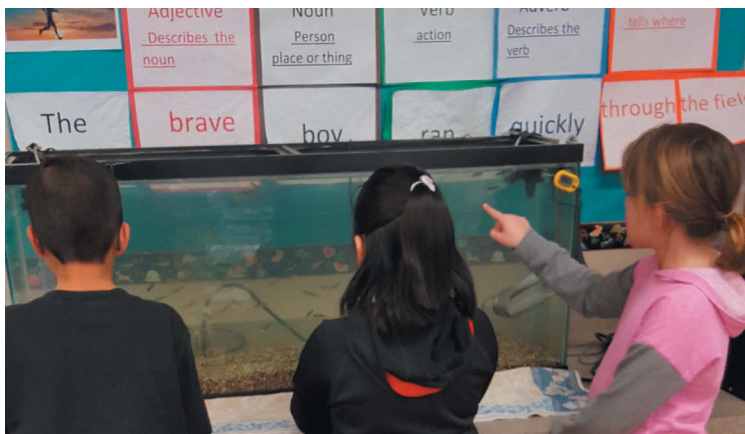
Fortunately, egg mortality was very low this year. On average, each tank lost only one or two eggs. The

wonderful teachers hosting these salmon in their classrooms have done a tremendous job helping to monitor the water quality in their tanks. Hundreds of chinook are developing in tanks throughout the basin, providing students a glimpse into the life of a salmon.

Along with observing their development, students in our *Salmon in School* classrooms have been receiving lessons on the salmon life cycle, the importance of riparian habitat, fish buoyancy, and salmon art. We are also working with Walla Walla High School in developing a salmon-based science

“The salmon have helped the students learn responsibility, respect for life, and create a welcoming atmosphere. Students have gained a sense of pride and accomplishment by taking care of the salmon on a daily basis. Other classes come to visit the salmon and my students are very excited to teach what they know. We have enjoyed every part of this process and the students think of the salmon as their friends.”

Angela Adams, 3rd grade teacher,
Prescott Elementary School



Prescott Elementary 3rd graders in Angela Adams' class

Continued, next page

curriculum, which promotes healthy ecosystems and fish habitat using water quality monitoring and other science-based techniques. Walla Walla High School students also are helping us monitor the water quality of our tanks on a daily basis, as well as assisting in tank cleaning and feeding the fish. Additionally, Washington Department of Fish & Wildlife biologists will be helping us pilot a tagging program for our spring chinook, which will allow students in future years follow the migrations and movements of salmon raised in our classrooms.

We would love for you to join us this spring when our students release the salmon into our watershed. Depending on the school, releases will be on Mill Creek, Yellowhawk Creek, or the Touchet River. Look for release date announcements in the next newsletter or follow us on Facebook (@tristate.steelheaders) to receive updates on the *Salmon in School* program. Thanks to all of our generous members and donors who make this program possible!

- Article contributed by Andrew Bassler

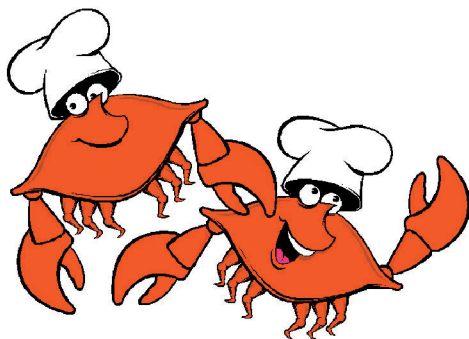
Mark Your Calendar !

This year's

Crab Feed Fundraiser

is

Thursday, May 18th



Tickets available in March
Follow us on Facebook or check
www.tristatesteelheaders.com

PLANS FOR BETTER FISHING, HABITAT HEARD AT OUR ANNUAL MEETING



Mark Grandstaff described plans for the Tucannon Lakes at our Annual Meeting December 6th at the Courtyard Marriott Hotel.

Changes are coming for the Tucannon lakes, as described in a presentation by Mark Grandstaff at our Annual Meeting. Mark, the Assistant Habitat Biologist for Washington Department of Fish & Wildlife (WDFW), went on to describe how Rainbow Lake will be the first to see planned improvements. The depth and size of the lake will be increased by removing accumulated sediment and the peninsula in the middle of the lake, and by expanding the lake to the south. A new settling basin and supply pipeline will also be added. These actions will improve fish and wildlife habitat, water quality, lake capacity, and access for anglers. As a result, the fishing experience should be improved, with the ability to stock more fish and increase the number of fishing spots around the lake.

The W.T. Wooten Floodplain Management Plan (FMP), developed by WDFW, focuses on improving the Tucannon lakes, restoring and enhancing habitat in the floodplain, burying the power line between the Tucannon Fish Hatchery and Camp Wooten, and relocating campgrounds out of the floodplain. The \$20 million improvement plan complements ongoing habitat restoration efforts to recover spring Chinook salmon and other ESA-listed fish species. Campgrounds were relocated in 2014, and projects adding logs for in-stream habitat have been completed in the last few years.

Continued, next page

The eight Tucannon Lakes and the Tucannon Fish Hatchery were constructed in the 1950s to mitigate for lost fishing opportunities due to the four lower Snake River dams. Approximately 88,000 “catchable” sized rainbow trout (~10-12 inches each), and over 2,000 “jumbo” sized rainbow trout (~15-17 inches and 1.5-2 lbs each) are stocked in the lakes annually. The hatchery also provides summer steelhead and spring chinook fisheries on the Tucannon River.

According to the FMP, six of the lakes experience ecological and maintenance problems. The lakes constrict the floodplain of the Tucannon River, preventing the river’s access to the floodplain and causing degradation of in-stream and riparian habitat. Dams impounding the lakes are in violation of Washington Department of Ecology’s dam safety regulations due to vegetation growing on the dams

“FISH FLING” BENEFITS TUCANNON SALMON

In December, Tri-State Steelheaders staff and volunteers joined Washington Department of Fish and Wildlife staff for a “fish fling” on the Tucannon River. Two-hundred and fifty surplus hatchery salmon carcasses were distributed starting at the Wooten Wildlife Area. Pitching these fish was a lot of fun, but the real reason that we do it is what’s called nutrient enhancement.

Consider a 30-pound spring chinook returning to spawn in the Tucannon. Nearly all of those 30 pounds are biomass it accumulated from its ocean diet. That salmon’s body is full of various nutrients that make up its organs and flesh, such as carbon, nitrogen, and phosphorus. These nutrients were acquired by the

ALTERNATIVE GIFT FAIR TALLY

This year’s event, hosted by the Sustainable Living Center on December 3rd, featured 20 local non-profit organizations. Donations received by the Steelheaders will provide:

Fish Art Lessons for Classrooms	3	Fishing Poles for Kids	5	Trees for Habitat	10	Jumbo Trout in Local Lakes	40
--	----------	-----------------------------------	----------	------------------------------	-----------	---	-----------

and leakage through the dams. The surface diversion structures from the river that the lakes rely on for their water have periodic failures. The lakes retain sediment so they are losing carrying capacity for the stocked trout, and therefore require periodic dredging. All of these issues have led to increased operational expenses, and impacts to the availability of these lakes to the fishing public.

Because construction is expected to occur from June through September, the Rainbow Lake fishery will either be closed in late May or entirely relocated to another lake for this summer. However, the number of fish available to be caught at the Tucannon lakes will remain unchanged.

For additional information on the FMP, go to: http://wdfw.wa.gov/lands/wildlife_areas/wt_wooten/, or contact Kari Dingman, WDFW Assistant Wildlife Area Manager, at 509-843-1530 or Kari.dingman@dfw.wa.gov. Public meetings on the Rainbow Lake plans will occur this spring in Dayton and Richland.

salmon in the ocean, and are known as *ocean derived nutrients*. These nutrients are transported from the ocean back to natal streams by the spawning adult.

When a salmon dies following spawning, aquatic invertebrates (bugs that live in the water) feed on the carcass. Soon, that dead salmon’s offspring will be looking for a meal, and aquatic invertebrates are on the menu. As the young salmon continue to grow, they will directly consume the flesh of salmon carcasses.

The nitrogen and phosphorus released from the decomposing fish nourishes *periphyton* and aquatic plants. Periphyton is the slimy coating found on the cobbles of stream beds, and consists of algae, detritus (decomposing organic matter), and bacteria. Periphyton is food for aquatic invertebrates and juvenile salmon. The nutritional benefit to young fish provided by carcasses in streams has been related to increased juvenile growth rate and body size, improved fish condition, improved overwintering survival, and

Continued, next page

ultimately increased ocean survival.

Riparian plants growing along a stream benefit from these nutrients, and provide benefits to fish in return. For example, willows and alders growing along a stream will take up the available nitrogen and phosphorus. The trees provide shade, which keeps the stream water temperature cool, which benefits cool-



Volunteer Larry Brown lets one fly on the Tucannon River.

water species like salmon, steelhead, and bull trout. Dropped leaves contribute to detritus, providing food for invertebrates. The trees also contribute woody debris (limbs and whole trees) to the stream, which creates the complex habitat critical for these fish.

The benefit to the ecosystem even goes beyond this. Over 70 species of wildlife directly benefit from feeding on salmon carcasses, and another 25 species benefit indirectly (for example, by eating the bugs that fed on the salmon). Ocean derived nutrients are also dispersed upland by scavengers carrying a salmon carcass away from the river, or when a meal of salmon is eliminated from their digestive system later.

Historically there were many more salmon returning to northwest streams. Because there are fewer salmon now, there are fewer ocean derived nutrients being transported to our salmon-bearing rivers. One researcher estimated that about 7% of historic levels of marine derived nitrogen and phosphorus is currently reaching northwest streams.

Surplus hatchery fish may be the ideal way to replace nutrient deficiencies. However, they are not always available for this use, or in the quantity needed. One concern with using hatchery fish is the possibility of spreading fish diseases, so they are tested for viral and bacterial diseases. Testing positive makes them unsuitable for nutrient enhancement.

IT'S THAT TIME....

...to check your membership!!!

Joe Fish
123 Street
Walla Walla, WA 99362

12/31/16

How can I find out when my membership expires?

Easy! - Look at the date on your mailing label. If you're past due, we hope you'll continue to support our mission with your membership.

If you've already renewed - THANKS!

There are other ways to replace lacking nutrients in streams. One way is to add them as inorganic fertilizers. Another technique is the use of *carcass analogs*. These are pellets composed of processed fish material. Both have advantages such as portability and ease of use. Their primary disadvantage is their cost.

There are many factors that can be attributed to the decline of northwest salmon – habitat degradation, low stream flows, and land use practices, just to name a few. Nutrient enhancement offers a way to help maintain the productivity of salmon streams. But it is a management technique, which means it requires effort and costs. There is one more method to restore lacking ocean derived nutrients: restoration of wild salmon populations to their historic numbers and distribution.

Teaching kids to fish!!!

Fishing 101

We're partnering with the YMCA to offer this opportunity for kids to learn the basics of fishing in this hands-on class. Kids will learn fishing regulations, how to cast, set the hook, and how to reel in. Parent participation is advised for the fishing trips.

To sign up, email: youthsports@ymca.org, or call: 509-525-8863

Location: Bennington Lake

Ages: 6-12

Dates: Saturdays, 4/15 – 5/13

Times: 10 AM-noon

WE'VE NEVER DONE THIS!

We're happy to introduce our first ever AmeriCorps volunteer, Alex Coak. When asked why he travelled all the way from South Carolina for his placement with the Steelheaders, he said, "Having lived in cities from Hawaii and South Carolina to Virginia and Massachusetts, I was excited to get the opportunity to add Washington to the growing list of places I've called home." Alex's primary duties are to assist with the Salmon in School program, and to increase our youth fishing program.

Alex's interest in fishing goes way back, and is part of his motivation to volunteer. "I grew up surf and pier fishing, so I'm also excited to learn more about



AmeriCorps volunteer Alex Coak, about to launch a salmon into the Tucannon River.

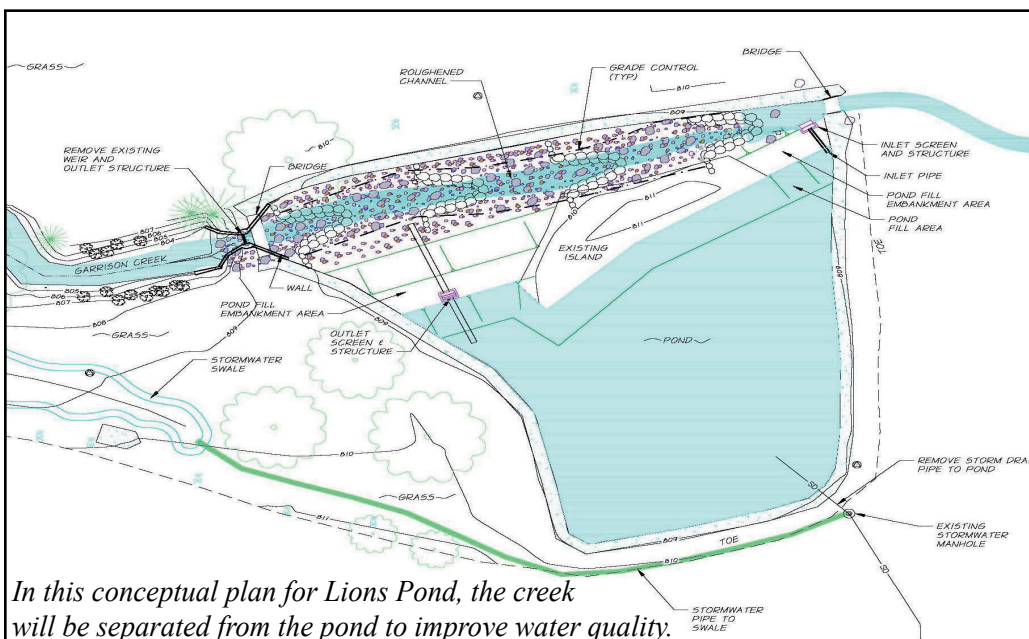
freshwater fishing and the local species, and what we can do to preserve them for future generations. When I can, I enjoy being outdoors doing things such as hiking, fishing, and camping. These are all things I had the privilege of experiencing while growing up, and are part of what drives my passion for helping the environment recover and educating the younger generations about the importance of our environment and all of its many animals."

LIONS PARK POND CAMPAIGN CONTINUES

Progress on the conceptual plan is near the half way point, with a draft concept drawing completed. Though we consider this to be good progress, our fundraising is still short of our \$10,000 goal to complete the plan document.

"This plan is important because right now, all we have is a conceptual idea in our minds," explained Executive Director Brian Burns. "Getting the conceptual idea into print will help us to show the community what the idea is, and it will help us with the next level of fundraising."

The concept separates Garrison Creek from the pond. Doing so will improve water quality so that more fish can be stocked for youth fishing. Other water quality impairments and safety hazards will also be addressed. More information and plan drawings are available for viewing at our website.



In this conceptual plan for Lions Pond, the creek will be separated from the pond to improve water quality.



**Lions Park Pond
Conceptual Plan Campaign**



Tri-State Steelheaders Officers

President

Scott Landwehr

Vice-President

Monty Buell

Treasurer

Dan Vernon

Secretary

David Cowles

Board of Directors

Dave Crabtree

Ralph Hogate

Mike Mahan

Tom Whitaker

Larry Zalaznik

Executive Director

Brian Burns

Tri-State Steelheaders

is a 501(c)3 non-profit
corporation

Tri-State Steelheaders
216 N. Roosevelt
P.O. Box 1375
Walla Walla, WA 99362
509-529-3543
www.tristatesteelheaders.com
tssfsh@tristatesteelheaders.com
Facebook: @tristate.steelheaders

Inside: Rainbow Lake Changes | Salmon in School | "Fish Fling"

Join the Tri-State Steelheaders!!

___ Individual (\$15) ___ Family (\$25) ___ Business (\$35)

Name _____

Address _____

City _____ State _____ Zip _____

Email _____

Send your check with this form to:

Tri-State Steelheaders, P. O. Box 1375, Walla Walla, WA 99362

Visit us online at www.tristatesteelheaders.com

Thank you for your support!!!

Tri-State Steelheaders' mission is to restore sustainable populations of native salmonids by enhancing habitat, providing public education, and promoting recreational angling.