HUMBOLDT AREA SALTWATER ANGLERS

A VOICE FOR SALTWATER SPORTFISHERS

2019 SUMMER NEWSLETTER

The mission of Humboldt Area Saltwater Anglers is to represent North Coast fishermen's historic and ongoing right to sport fish along the Northern California coast; advocate reasonable and rational sport fishing seasons and regulations; educate our members and the general public about the economic and cultural contributions of sport fishing to our local economies; and promote sustainable stewardship of the resource.

HUMBOLDT AREA SALTWATER ANGLERS
PO BOX 6191
EUREKA, CA 95502

hasa6191@gmail.com

All photos and articles in this issue are donated by HASA members and interested parties.

Submission of article topics and photos should be sent to summerchum@yahoo.com.
Comments are always welcome and should be sent to summerchum@yahoo.com.

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All issues can be viewed online at http://humboldttuna.com/smf/index.php

This is issue #36.

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President's Message

After a 2-year hiatus, the newsletter is back (by popular demand)! We have a new editor (Joe Polos, recently retired from US Fish and Wildlife Service) that is taking the reins, and we are very excited to start the newsletter back up again. We are also pleased to have Joe transitioning over as the salmon representative for HASA over the next year, working very closely with Bob Smith (RBob) and Ben Doane (Sumoco). Bob, Ben, Jimmy, and others have been awesome salmon representatives for HASA, so Joe will have a great transition team over the next year.

Now that we have re-started the HASA newsletter, I wanted to take some time to recognize the person that started it all: Casey Allen. Based on talking with you, he recognized the need for a forum to update our members and other saltwater angling enthusiasts, and created the quarterly newsletter, as well as our website (www.humboldtasa.com). Casey had the right balance of "velvet glove" and "iron fist" to produce the newsletter each quarter, encouraging busy authors to produce articles while providing the right amount of persistence. In the end, Casey produced very informational and timely newsletters with articles prepared by very good and informed authors. Based on feedback, these newsletters were well received by our constituents. As HASA tries to continue Casey's legacy, we will endeavor to provide you with interesting, informational, and timely articles in each newsletter. Joe Polos will certainly do an excellent job, so if you'd like to a) contribute an article, and/or b) suggest an article topic that you would like to see in an upcoming newsletter, please contact Joe at summerchum@yahoo.com. You can also welcome him to the team as well!

Salmon season is in full swing, although I don't have any first-hand reports as I have remained dockside for boat repairs. However, I have heard reports that there are a few out there, and the Pacific halibut fishing remains very good with some very large fish landed. Another high point is that the first albacore have been caught out of Eureka last week, so we'll be anxiously looking for weather windows and SST shots. Hopefully I'll be back in the game soon to chase some tuna. Another high point has been the California halibut in Humboldt Bay. I was very pleased to see the number of boats out on the water as I drove over Samoa Bridge. I am also amazed at how many sea kayaks were in the fleet out there; it is really exciting to see so many kayaks out there fishing for halibut. However, please be cautious with speed and wake around our sea kayak brothers, as they don't have as much freeboard as the boats.

Lastly, come visit the HASA website, where you can see the newsletter and sign up for membership (www.humboldtasa.com). Again, if you would like to contribute an article to future newsletters, or have suggestions on a topic you think would be interesting to HASA members, please share with Joe (summerchum@yahoo.com). Hope everyone is having a great summer!

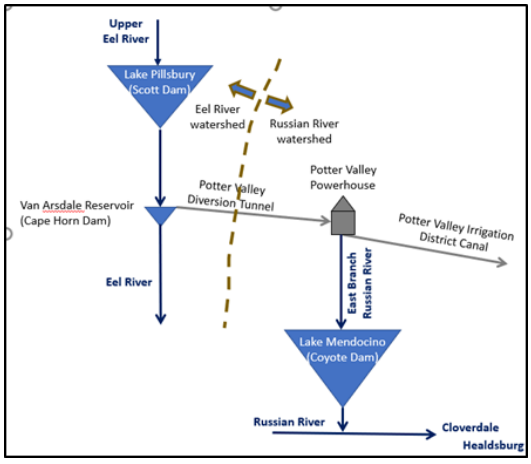
Potter Valley Project Update

By Larry DeRidder and Scott McBain

From the perspective of those who love to fish for salmon and steelhead, we live in interesting times. Dams on both the Klamath River and Eel River are up for 50-year renewals of their operating licenses. Further, in both cases the respective electrical generation companies aren't really all that keen on maintaining ownership. The Klamath River is furthest along a path that most parties hope will result in deconstruction of most of the barriers to fish migration, but the Eel River situation remains in turmoil.

The Potter Valley Project consists of two dams on the Eel River, owned and operated by PG&E. The power generation aspect is no longer profitable, plus the costs to bring the dams up to 21st century requirements for fish passage would be very costly and would not work as well compared to fish passage without the dams. PG&E had been actively pursuing both a new relicense agreement which expires in April 2022 with the Federal Energy Regulatory Commission (FERC) and a way to rid itself of the Project. Since PG&E would just as soon surrender the responsibility of the Project, the initial expectation was that one of the Sonoma or Mendocino County entities might bid for it – not for the electrical generation aspect but because over the last century they've become addicted to Eel River water augmenting the limited Russian River water of their own basin.

Then on January 25, 2019, PG&E filed notice of the withdrawal of its application for a new license for the Project. Pursuant to rules regarding such projects, and there being no motion to oppose the filing, it became effective on February 1. FERC states that if no applicant files an application for the Project by April 14, 2020, PG&E will be provided with a written notice that no timely application for the Project has been received. Within the 90 days following April 14, 2020, and barring an application from a third party, PG&E must file a schedule for surrendering the license. Presumably that must include a plan to de-construct all infrastructure previously licensed.



In parallel, Congressman Jared Huffman has been convening "Ad Hoc Committee" meetings between stakeholders in the Eel River and Russian River basins to develop potential "two basin solutions" and avoid a large scale water conflict within these two river basins (both within his district). The Ad Hoc Committee identified some fundamentally conflicting goals for the two water basins. A partial list of concerns includes (1) restoring fish populations to

the Eel River, (2) protecting the Russian River water supply, (3) ensuring Russian River water quality, (4) supporting Tribal concerns regarding the Eel River fishery and the history of water diversions, and (5) identifying funds to satisfy the various parties and concerns. The Ad Hoc Committee has developed several potential scenarios that range from existing conditions to re-operation of both Eel River and Russian River reservoir operations, to full Potter Valley Project decommissioning. The Ad Hoc Committee has a Fish Passage Working Group and a Water Supply Working group to evaluate these potential scenarios. These analyses have recently been completed, and there appears to be some viable options that could potentially make a two-basin solution possible. More analysis is needed to develop details and evaluate feasibility. More information on the Ad Hoc Committee can be found at: www.pottervalleyproject.org.

In response to the Ad Hoc Committee process, a "Planning Agreement" Group, currently comprised of Sonoma Water, CalTrout, and Mendocino County Inland Water and Power Commission has been formed to continue searching for a two-basin solution. This Planning Agreement Group submitted a "Notice of Intent" to pursue a new license for the Project on July 1, 2019, and will soon be starting a feasibility study to further evaluate the scenarios of the Ad Hoc Committee, and ultimately propose a new project operation to FERC by May 2020. As part of their Notice of Intent submittal to FERC, they requested a 2-year extension for submitting a new license application (April 13, 2022). More recently, two new entities have indicated a desire to join the Planning Agreement Group (Humboldt County and Round Valley Indian Tribes), and there may be additional groups to come.

In late January, primarily in response to a barrage of lawsuits related to the massive California fires of 2017 and 2018, PG&E filed for Chapter 11 bankruptcy. FERC will now lead the process that will determine the future of the Potter Valley Project facilities, including whether the Planning Agreement Group is a viable potential new owner. PG&E will continue operation of the Project for some time to come. PG&E went through most of this once before, with their Kilarc-Cow Creek hydroelectric project. In that case, FERC directed PG&E to produce a decommissioning plan. However, that situation didn't have the added complication of a massive Chapter 11 bankruptcy, nor a separate watershed receiving diverted water. If the Planning Agreement Group is accepted by FERC as a viable applicant for the Potter Valley Project license, and a two-basin solution can be arranged, it could be an elegant solution to a very complex water management problem.

Currently, PG&E considers its withdrawal from the relicensing process to be irreversible. The assumption is that the bankruptcy will not substantially delay whatever status change lies in the river's future, though the bankruptcy judge may have to sign off on some aspects of whatever plan develops. Nevertheless, PG&E does not currently have the financial resources to relicense or demolish the structures currently in place. At present it appears that even if demolition of the dams is the ultimate solution, that process could take 10 - 15 years, far longer than the anticipated Klamath River Project. However, if the two-basin solution approach can be successful, there is opportunity for the Eel River to have greatly improved flows and restore salmon and steelhead access to over 100 miles of habitat upstream of the Project. It will take a lot of work by the diverse interests to make this happen, and there is a lot at stake, but the congressman and stakeholders from both basins are currently working hard to find this type of solution. If so, it sounds like the Eel River could start the process of looking much like its old self of 120 years ago.

SUMMER GROUNDFISH REVIEW—2019

By Tom Marking

ROCKFISH: The good news this year was we were able to get one more Black Rockfish in the sub-bag limit (3 to 4) and one more Canary Rockfish in the sub-bag limit (2 to 3). For those recreational anglers south of Cape Mendocino (40° 10' N. latitude), they were able to retain two Lingcod. All these increases were delayed until June 1 following the March and April Pacific Fishery Management Council (Council) meetings where the in-season increases were approved. These increases were not easily attained, and California Department of Fish and Wildlife (CDFW) reluctantly agreed to these increases after some very tough discussions at the California Delegation meetings and the Council floor discussions. The contentious atmosphere was created by a misstated allowance of Lingcod in the south area during late 2018 when the season bag limits and overall tonnage harvest allowance was set at the November Council meeting. A 1000 metric ton (mt) error was discovered in February 2019 by the National Marine Fisheries Service staff, that effectively had forced the cut back in the area south of Cape Mendocino to one Lingcod in the bag limit. During our efforts to get the two fish Lingcod bag limit re-established, the CDFW staff felt it was too late in the process to revert back to the previous bag limit and dug in their feet. The recreational private boater reps countered with the economic loss to the ports and loss of opportunity to the recreational anglers. The Council was sympathetic to our request and over-ruled CDFW objections. That did not go down well, but the sub-bag limits were all increased on June 1, after California had given proper notice and took action at the Commission meeting.

The backdrop for much of this constant back and forth about sub-bag limits is the timeliness of Dock Observer Data and the long delay to get final harvest numbers. CDFW is being extremely cautious about our harvest estimates and we are leaving hundreds of metric tons of Black Rockfish, Canary Rockfish and Lingcod on the table at the end of each year, due to delayed harvest data reporting. For example, we only harvested 97 mt of

Black Rockfish in 2018 and left about 100 mt unharvested between the Commercial and Rec Sectors. In the last three years we could have harvested an additional 560 mt of Black Rockfish under the current harvest guidelines. Our sub-bag limits are kept much lower than would seem necessary due to these reporting delays. CDFW is still processing data using paper reports that travel from desk to desk, with long delays before final figures are totaled. This impedes our groundfish analysis at the Advisory Committee level and creates the situation where CDFW must be extremely conservative because the final harvest numbers aren't known until long after the next biennial cycles decisions have been made. This came to a head this year during Council discussions and there were some very frank and heated exchanges. This an ongoing problem, and no short term fix is on the horizon.

PACIFIC HALIBUT: We are fortunate to have the Area 2A (the waters off the coasts of Washington, Oregon, and California) awarded an allocation of 1.5 million lbs of Pacific halibut for this year (and possibly the next two years). California receives 4% of the non-Tribal share of the Area 2A allocation. Again, this came about after two years of contentious discussions between Canada (Area 2B) and the Washington Treaty Tribes over the severe cuts in allocation to the 2A and 2B Areas. After some really tough closed door meetings between the Tribes, Canada and the International Pacific Halibut Commission (IPHC), a temporary compromise was fashioned for the next three year period. During this period, outside Peer Scientists will review the Pacific halibut sampling program and assessment methods that are so objectionable to the Tribes and Canada. Meanwhile, I continue in my 7th year on the Management Strategy Evaluation (MSE) for halibut long-term management methods. The hope is that the MSE process will provide some answers to these objections. These meetings have gotten extremely contentious at all levels between the Regions and the two Nations. The new

assessment methods introduced the last few years by the IPHC staff have really heated things up.

In the wings, as if this wasn't enough, the IPHC insists the Derby Style Commercial Directed Fishery for Area 2A halibut must be changed to some other configuration based on safety. That process is underway and will come back to the Council in September/November for some interim decision. Most likely, there will be some sort of hybrid process with an individual quota and open access fisheries; with maybe some incidental catch by the sablefish commercial guys to get this transition started. California only has a few vessels involved in this fishery, but it could become more important in the future.

WHAT'S AHEAD:
Folks need to start thinking about what we want considered for the 2021/2022 cycle. At the moment increases in the sub-bag limit are the top item, with more depth as another consideration. By this fall, I'll want to hear some feedback on recreational angler preferences, prior to the November Council meeting, where proposed Management Procedures will be discussed for analysis over the winter, with final action next April and June.

Good Fishing this Summer!

Playing Shell Games

By Larry DeRidder

In August 2017 we discussed some of the issues related to plastic waste in the ocean (Ahoy, Captain! Plastics off the Starboard Bow!). In September 2018 we followed with a report on a curious development in which University scientists in Santa Cruz are working to convert waste plastic directly into fuel. If that process can be made cost effective, plastic could become too valuable to discard (Is Plastic Fuel in our Future?). This time we'll take a look at a curious possibility for reducing our reliance on single-use plastics. For those of you wishing more detail, see Science News, June 22, 2019.

Many of us enjoy our crab and shrimp. But, what remains after dinner? The food industry generates about 6 to 8 million tons of crab, shrimp and lobster shell waste each year. Depending on one's location, most of that leftover goes into landfills (joining 30 million tons of additional plastic each year) or is dumped back into the ocean (joining 8.8 million tons of additional plastic each year). Some scientists are trying to tackle both problems at once, by creating shell-based replacements for some of our single-use plastic products.

Crustaceans' shells contain chitin which matches up well with many of plastic's properties, except that chitin-based products decompose within a few months, while plastics can take centuries. In addition to crabs, lobsters and shrimp, chitin is found in fish scales, insects, mollusks and fungi. Chitin is a polymer, meaning it is a large molecule made of many repeating smaller units. The building block is a sugar similar to glucose: N-acetyl-D-glucosamine. The material is already used in some cosmetics and wound dressings because it is naturally antibacterial.

Traditionally, the problem with chitin and its extract chitosan, which is what is actually needed, has been just how to separate what you do want from what you don't want. A typical crustacean shell contains 15% - 40% chitin, and the rest, which is largely calcium carbonate, is not as useful. Established methods of extraction required 10 kilograms of shells, six kilograms of coal for heating purposes, nine kilograms of hydrochloric acid, eight kilograms of sodium hydroxide and 530 kilograms of water to produce one kilogram of clean, pure chitin. At that point adding hot, concentrated sodium hydroxide solution produced the chitosan that was the original goal. These harsh methods work, but are costly and tend to chop the long polymer chains into less-useful shorter lengths. Plainly, better extraction methods are needed.

Following the 2010 Deepwater Horizon oil spill which dramatically damaged the Gulf Coast shrimping industry, scientists at the University of Alabama took a different approach. Instead of trying to dissolve everything from around the chitin, they found a way to dissolve the chitin away from everything else. The method uses an ionic liquid, which differs in its chemistry quite a bit from water.

This system uses 1-ethyl-3-methylimidazolium acetate, which is not particularly toxic. In fact it's similar to vinegar. The system produces calcium carbonate as a waste product, and they are looking for a market for that ("Would you buy crab-shell-based Tums?"). Tests on the chitin show that it can be converted into fibers, hydrogels, microbeads such as those used in cosmetics, and other products. The primary advantage is that once discarded these products break down within weeks in the environment.

A second approach to chitin extraction passes over traditional chemistry and applies an approach called mechanochemistry. Scientists at McGill University in Montreal physically crush the shells to powder to loosen the hydrogen bonds between the chitin's chains. Subsequent steps require the addition of solid sodium hydroxide and a heating chamber. This system uses very little liquid, and only about a quarter as much energy. However, thus far it has only been done on a very small scale. The next goal is to demonstrate the process can ramp up to produce a useable amount of product. They are also working to turn the product into something like a single-use plastic wrapping, or anti-bacterial clothing fibers.

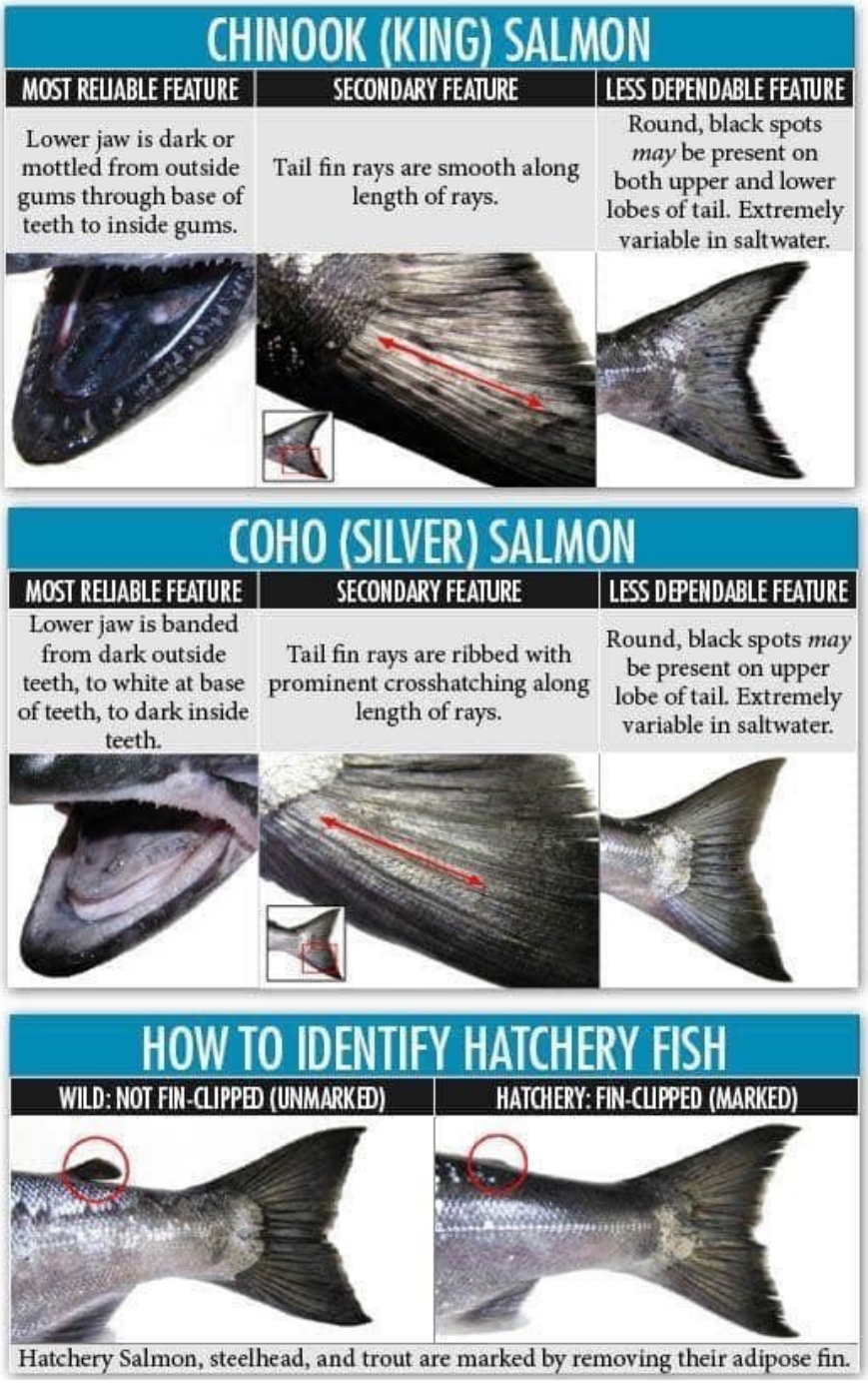
In Scotland and Germany yet a third approach is in the works. Since chitin and chitosan are produced by living organisms, they are using living organisms for the extraction. Working with langoustines, which are a common crustacean in northern Europe, a Scottish team is applying bacterial chemistry to the problem. The bacteria produce natural acids in lieu of the hydrochloric acid required in other processes. They use only 5% as much sodium hydroxide, and only 1/3 as much energy and the process yields long polymer chains. Their first product will be a compostable, antimicrobial food packaging. Early tests indicate it will extend the life of fresh salmon filets by three days over traditional plastic wrap. They hope to begin commercial production within the next 12-18 months. In Germany a team is applying microbes that consume the shells' protein and leave little but the chitin behind. They are also working with a company that produces black soldier fly larvae for animal feed, as a way to use the chitin-rich insect skin remains. They hope to eventually reach a production level of 90,000 kilograms of chitin annually.

There aren’t nearly enough chitin supplies to replace plastic in the world economy. Even if chitin-production companies were routinely teamed up with shrimp farming, and installed in every lobster, crab and shrimp harvesting port in the world, it would replace only a tiny fraction of the 300+ million tons of plastic produced annually. Still, if this works there will be less plastic and shell waste going into the ocean. Perhaps in a few years when we go grocery shopping our choices will be "paper, plastic or crustacean?"

Chinook and Coho Salmon ID

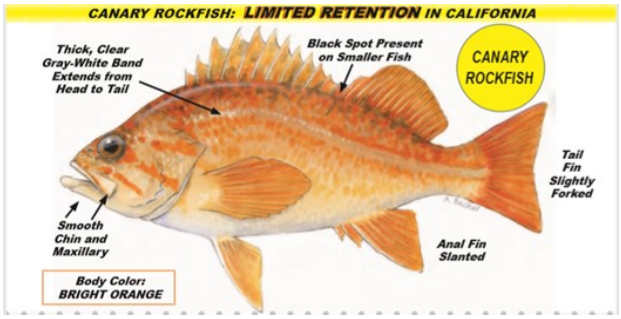
Word on the water is that some of our local fishers are having problems identifying Silver or Coho salmon; resulting at some unhappy encounters at the docks. The figure below shows a few characteristics to look for when you're trying to determine if you have a Chinook or Coho. When you're bringing a salmon to the boat the first clue if you have a Coho or a Chinook is Coho tend to have a greenish back, whereas Chinook have a purple tinge.

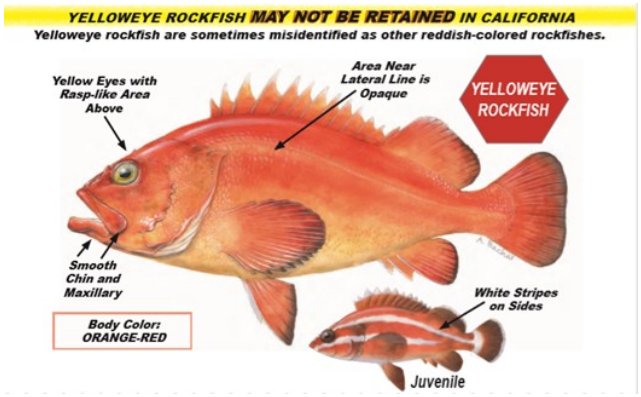
Also, not all hatchery produced Coho Salmon are adipose fin clipped. Coho Salmon produced at Iron Gate Hatchery on the Klamath River and Trinity River Hatchery receive maxillary clips so they can be distinguished from natural Coho Salmon and determine hatchery origin in various monitoring. programs.

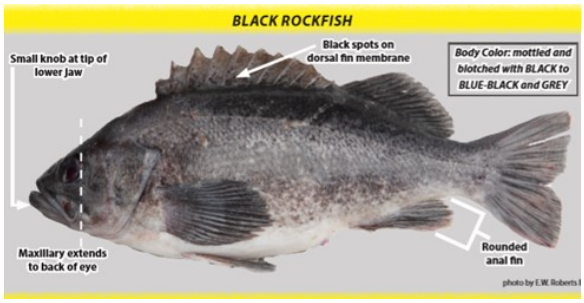


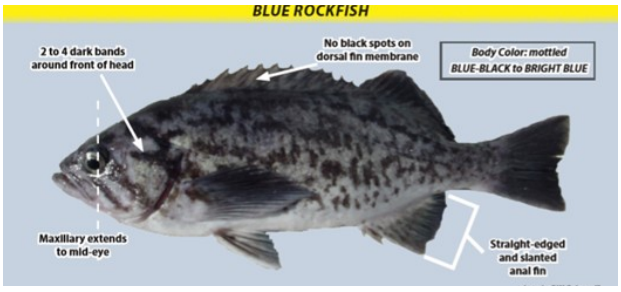
Know Your Rockfish Too

As with salmon on the previous page, be sure you know how to identify rockfish, especially yelloweye rockfish, which may not be retained. Also remember to carry and use a descending device when you return rockfish to reduce barotrauma mortality. CDFW has a very helpful identification sheet that should be printed on a color printer and be on board everyone's boat that is rockfishing. In case you don't have it, here is a link to the ID guide: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=138378&inline









Steelhead in the Classroom

By Cliff Hart

As many of you know, HASA partnered up with the Humboldt County Office of Education program "Steelhead in the Classroom" managed by Dr. Beth Chaton and Jim Stemach. They gave an insightful presentation last year about the history of the program (since the 1980's) and their challenges with funding. We heard a lot about the benefits that the program provides and the importance to keep it going. The HASA Board approved a $4,975 grant to the program, to assist with purchasing "chillers" for the aquariums in the classroom and transportation costs to take school classes on field trips to the hatchery.

I got to see first hand the importance of this program, as one of these aquariums was located in my daughter's 6th grade class at Cutten Elementary. Teacher Kaycee Cook told me the kids love the aquarium and help with feeding them daily. Over the past month, I visited the classroom and always observed some students looking into the aquarium, and there was excitement in knowing that the fish were growing big enough so they could be released into the Mad River.

I tagged along with the class on April 18th and it was a beautiful day to tour the Mad River Hatchery, guided by hatchery manager Shad Overton. He's a cross between John Wayne and Don Rickles, with a funny wit and strong presence. You can tell he loves his job and sharing his knowledge with young kids. We began by touring the ladder and then explored inside the facility where Shad explained the hatchery process. The most interesting part to me was how they put air into the cavity of the fish to assist with removing eggs and then how they use a gas (carbon dioxide) to help relax the adults to be handled. He explained some females return many times to the hatchery (up to 5 times he believes), and they currently have a study to examine return rates of spawned females.

After the hatchery tour, each kid got to release their steelhead fry into the river, after naming them of course. Hope "Dog" the fish survives!

I was encouraged to see the kids showing great excitement and enthusiasm on this field trip and asking many questions about this important process.

CDFW has thousands of rainbow trout ready to be planted at local areas, such as Freshwater Lagoon and Ruth Lake. The CDFW planting schedule is available online. https://nrm.dfg.ca.gov/fishplants/

HASA Donates Fishing Rods

HASA made some happy young sportfishers on June 11. Congratulations to the 6th graders at Cutten and Freshwater Schools who are promoting to middle school. ***Fish On!***

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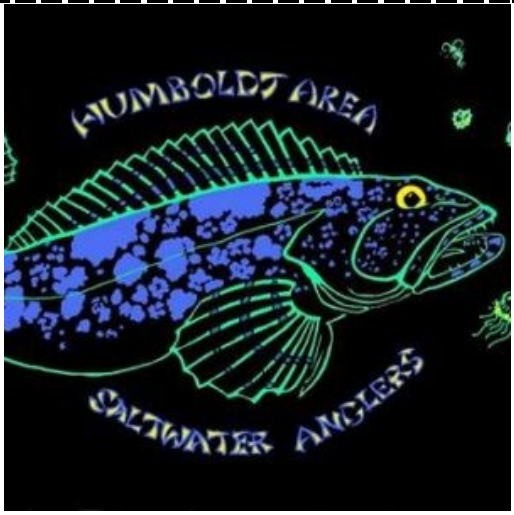

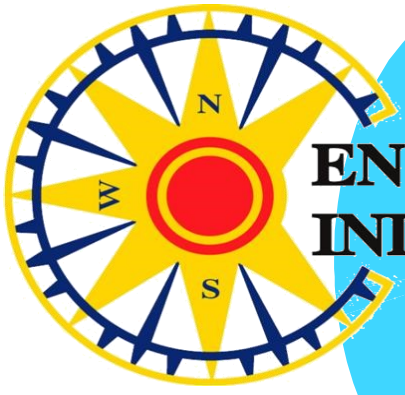

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