HUMBOLDT AREA SALTWATER ANGLERS

A VOICE FOR SALTWATER SPORTFISHERS

2017 WINTER NEWSLETTER

Klamath Salmon Numbers + Pacific Halibut History + Groundfish Report + Creating Electronic Fish + Marine Life Management Act
Redtail Perch Study+ New Fisheries Management

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.

HASA - PO Box 6191
Eureka, Ca . 95502
hasa6191@gmail.com
humboldtasa.com

All photos and articles in this issue are donated by HASA members and interested parties.
Submission ideas and photos should be sent to longfish@humboldt1.com. Comments are always welcome. Send to hasa6191@gmail.com

HASA would like to expressly thank our friends for their time and contributions to our newsletter and website.

Please let our advertisers know you are a HASA member and their support is very much appreciated.

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

This is issue #32

In this issue

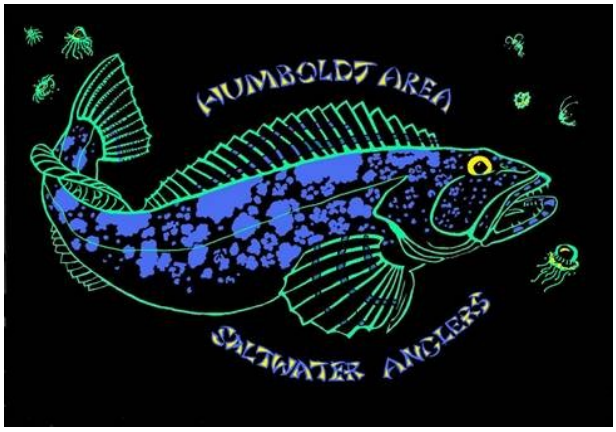
All articles in the HASA newsletters are the sole opinion of the author and not necessarily the opinion of HASA.

President's Message

By Scott McBain

Happy New Year to all of you, we hope it is starting off well. There is a lot to look forward to for the 2017 saltwater fishing season, which is described in more detail on the following pages. The discouraging news is that salmon season is likely going to be substantially impacted this year, and perhaps the next few years. However, there was unexpected good news from the International Pacific Halibut Commission meeting, where we received an increase in Pacific halibut allocation for 2017 (34,580 lbs this year compared to 29,640 lbs in 2016). In addition, for 2017 and 2018, we will have new rockfishing regulations, including an extended season through December 31, ability to fish in 30 fathoms through October 31, and all depths through December 31. Petrale sole and sand dabs can also be fished year-round. As mentioned in prior newsletters, we need to continue minimizing impacts to yelloweye rockfish and black rockfish, so please continue using fish descending devices. If you do not have one, HASA will again provide them for free at the upcoming annual fundraising dinner.

HASA held its General Membership meeting in February, and we appreciate all those that attended and participated. We have two new board members to welcome aboard (Ross Taylor and Tom Marking), and are excited to have them aboard. We also have two new T-shirt designs, both prepared by Angela Percival. You can purchase these T-shirts at our new website (www.humboldtasa.com), or at our annual fundraising dinner, or by renewing your membership prior to the annual fundraising dinner (free with purchased membership).



Speaking of annual fundraising dinner, the 2017 event will be held at the Arcata Community Center. We received a lot of favorable feedback on the venue, so we will likely continue to hold our events there into the future. If you want tickets, see page 17 for purchase locations, contact a board member, or e-mail us at hasa6191@gmail.com.

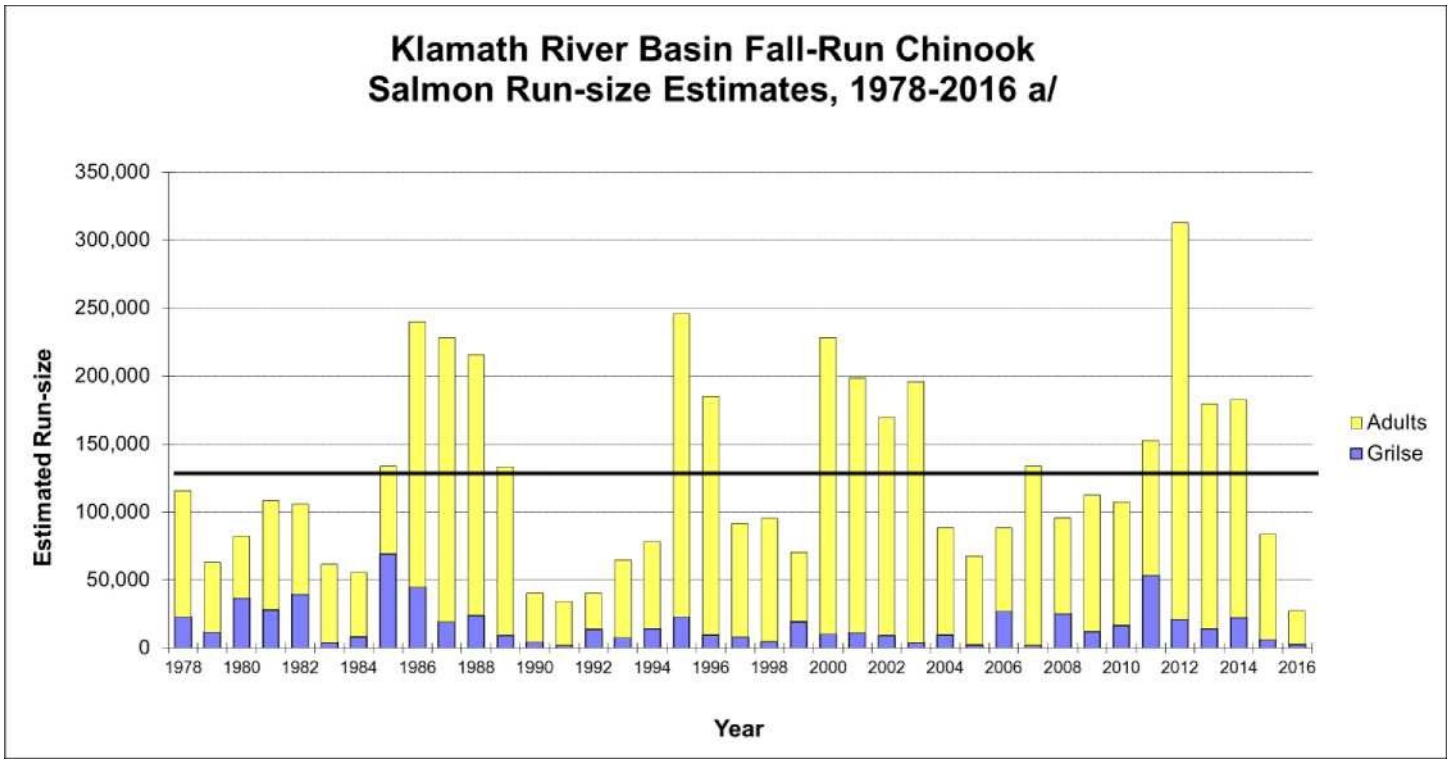
As usual, Casey and contributors have put together some very interesting articles in the following pages, which you should enjoy. If you would like to contribute an article to future newsletters, or have suggestions on a topic you think would be interesting to HASA members, please share with Casey (longfish@humboldt1.com).

Scott

2016 Klamath Fall Run Returns Hit Historic Low

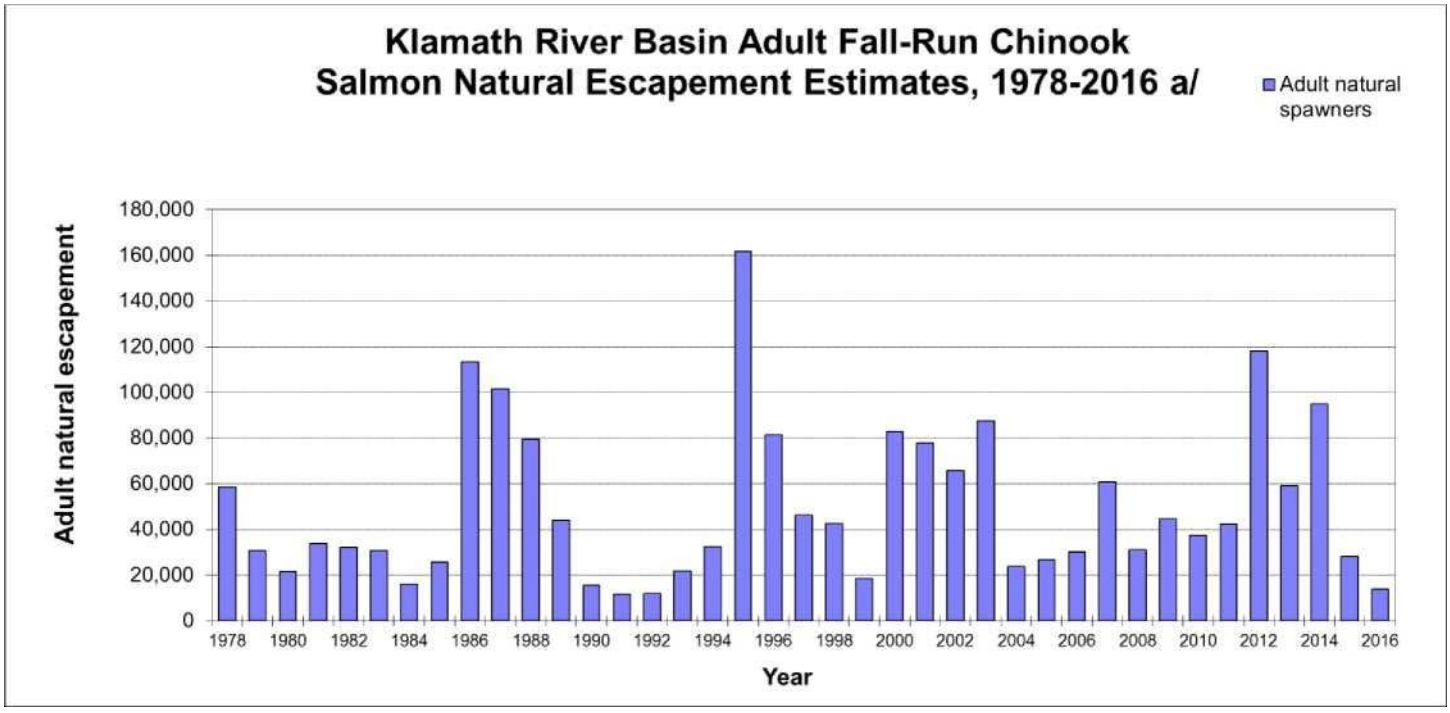
Bob Smith aka RBob

North Coast anglers will be bracing for bad news as we begin to enter into the salmon harvest regulatory process for 2017. After multiple years of drought, the 2016 Klamath Fall Chinook adult returns hit historic lows, recording the lowest overall in-river run in 38 years of extensive record keeping and the third lowest natural spawner escapement during that same period of time. This past fall, only 27,353 total spawning adults returned – which includes hatchery fish from both Trinity River and Iron Gate Hatcheries. Even more alarming is the fact that only 19,948 of these fish were considered "natural spawners". This is WELL BELOW the conservation floor of 40,700. Remember, if a stock fails to meet the minimum spawner objective for three consecutive years, an overfishing review can be triggered. This will be year two of not meeting the floor.



So what does this mean for our season? For the purposes of population estimates and harvest, fishery managers divide the ocean into different zones. This helps to manage (and in some cases protect) specific stocks of fish where they most commonly occur. The area off the coast of northern California and southern Oregon between Humbug Mountain and Horse Mountain is known as the Klamath Management Zone (KMZ). The greatest impacts on Klamath River stocks occur within the KMZ. Our ocean seasons are crafted to ensure there are plenty of Chinook returning to the Klamath River each fall. On March 1, Jim Yarnall and I will find out what the ocean abundance forecast is for not only Klamath, but Central Valley fish as well. These figures are derived from the age composition of returning 2016 spawners, along with some other factors. My back-of-envelope calculation suggests that there will be less than 2,000 Klamath Chinook available for harvest coast wide. The tribes will take half off the top so now we are looking at fewer than 1,000 fish to divide between in-river, commercial, and sport –

whether targeted or incidental. As you can see – we aren't going to have many fish, if any, to work with. Anywhere that has potential to "contact" a Klamath fish will be impacted, especially the southern Oregon coast and northern California, including Fort Bragg.



Jim Yarnall was recently appointed to PFMC's Salmon Advisory Subcommittee as the California Sport Representative. This is an honor for Jim and an opportunity for HASA to have a voice at the table. Jim will be representing all of California's recreational salmon anglers so his responsibility will be greater than our local needs within the KMZ. Jim and I will be working together to see if there's anything to salvage for this upcoming ocean salmon season. Salmon populations are cyclic and things are going to be tough for a few years. The good news is there's lots of snow pack and rain within the Klamath Watershed. Rivers and streams need periodic flushing to remain healthy and viable ecosystems. While things will be tough for this year and perhaps the next few, the table is being set for better days ahead. Tight Lines!

Tidbits from California's Pacific Halibut History

By Larry De Ridder

Given the times, and the tools available, the oldest records of California halibut fishing primarily deal with commercial catches. But they do provide some evidence of how many fish once roamed the California coast. As early as the 1870s there were sailing vessels transporting iced halibut as far south as San Francisco. The fish originated chiefly from small fishing boats out of Port Townsend and Victoria. By the 1880s a small fleet of two-man sailing vessels were built that supplied halibut to various West Coast markets, though this was primarily in British Columbia. Ultimately in this era the halibut business all up and down the coast failed, primarily because ice was often hard to obtain, and the cost and reliability of shipping long distances made the effort too risky. Many of the boats shifted to hunting seals. In 1895 the vessel More became the first to install a gas engine. By about 1900 most of the fishing vessels were centered out of Seattle, all the boats had installed at least a small auxiliary engine, and it became much more likely that fresh fish could be delivered to market.

Early records of landings in California are scattered, and sometimes difficult to compare with today's records. The records that do exist rarely deal with sport fishing. From 1911 through 1915 California and Oregon combined are estimated to have produced on average about 300,000 pounds of "eviscerated, heads-off" halibut annually. It should be noted that these records are based more on where the fish were offloaded, than where they were caught. The CA/OR catch rate about tripled by the early 1930s, then gradually declined back to about 300,000 pounds by the early 1960s, and finally settled into an annual landing of about 100,000 pounds per year for the two states combined. Compare those numbers to ports in Washington, British Columbia and Alaska which each routinely produced 2-million pounds annually, and it's clear Oregon and California combined were not a serious part of the harvest. And still, records dealt with where fish were offloaded, not where they were caught. In many cases the success of particular ports was based as much on the presence of railroad lines as anything else, and didn't necessarily relate to the presence of fish.

Trinidad fisherman, "Mo" caught this 95 pound Pacific halibut on the last day of the 2016 season.

California-specific records go back as far as the mid-1920s. The only two California ports with substantial documented halibut landings at that time were Eureka and San Francisco. Other local ports with intermittent commercial landings were Crescent City, Trinidad, Fields Landing, Shelter Cove and Albion. California's 1926 - 1930 records show an average of 464,000 pounds of "eviscerated, heads-off" halibut. The harvest peaked in the 1931 - 1935 Great Depression era, with an average of 725,000 pounds per year. Annual landings then rapidly declined, till by the early 1970s they were averaging only 20,000 pounds per year. The "catch" is the way these harvest numbers were compiled. There were two basic errors built in. First, the vessels were not required to reveal where the fish were caught, and it was fairly common for boats from Washington or BC to head south if they could sell for a higher price (particularly if the fish were illegally caught further north). Second, and particularly affecting the San Francisco records, was the fact that no distinction was made between Pacific halibut, and California halibut.

In the mid-1800s there was already a strong commercial fishing presence in and around San Francisco. The area had four salmon canneries, a large crab and paranzella net bottom fishery, a San Francisco

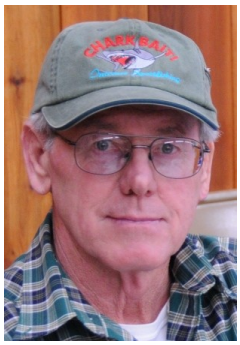
Bay shrimp and sturgeon fishery, and various codfish boats that fished the Bering Sea. There are records of Pacific halibut taken near the Farallon Islands as far back as 1855. Annual landings in SF are not believed to have ever exceeded about 250,000 pounds.

By the 1850s, Eureka was primarily a logging community. Nevertheless, by 1857 there were two primary commercial fishing communities. There was a substantial Humboldt Bay-based shark-oil and dried fish operation, and Dungeness crab dominated the overall offshore commercial fishing effort. Eureka was connected to the Bay Area by rail in 1914, and by 1923 a modest local Pacific halibut fishery had developed. Prior to that time, halibut were mostly an off-season catch for the salmon trolling community. Operations were considered hazardous due to the fog and dangerous bar crossing. The peak year locally was probably 1934, when over 750,000 pounds of halibut were delivered to California, mostly through the Eureka ports. Again the weakness with the numbers is that they don't indicate how much of that catch was from local waters. Thereafter, the catch declined rapidly, and most of the halibut boats went out of business by 1940. Fishing seasons were belatedly shortened, but it was clear that the offshore banks had been over-fished. By the late 1940s, nearly the entire California catch came from about 20 small boats using set-line gear. The remaining few fish were taken by about 200 even smaller vessels between salmon trolling seasons. By the late 1960s, there were no more halibut-specific fishing boats left in the Eureka area.

If you are interested in a much more detailed history of Pacific halibut, obtain a copy of "The Pacific Halibut, The Resource and the Fishery" by F Heward Bell, former Director of the International Pacific Halibut Commission. His book includes historical photos and stories of many of the early fishing boats, the commercial fishing history, incidental catch fisheries, and international agreements which affect us.

2017 Preseason Groundfish Report

By Tom Marking



The wind is howling outside, the waves are big, we've received over 40" of rain to date, the rivers are at monitor stage, (when are the herring going to run?); and our thoughts are tuning to what lies ahead for this season. That depends!

Groundfish: For Rockfish, we should have a promising season. Even though our black rockfish limit is down to three, the bag limit remains ten, but we are going to have 10 fathoms more added to our depth as well as longer seasons, to look for rockfish other than blacks. The rockfish season is from May 1 to December 31. As a bonus, we get one Canary to our bag limit and all depths for Nov-Dec, so that we can look offshsore for yellowtail rockfish and other mid-water fish. The caveat is that we need to avoid yelloweye (YE) rockfish areas, so we don't impact them. We haven't come even close for the last six years to the YE bycatch limit, but the 30 fathom allowance could change this. The Mendocino area remains at 20 fathoms for the same season dates due to YE concerns, but are also included with the all-depth for Nov-Dec months.

Charter Captain Tim Klassen and NMFS marine biologist Sue Sogard prepare to bag a female yellowtail rockfish. Yellowtail do not suffer the effects of barotrauma, this one came in 300 feet of water.

While it took over three years to get this, (since they were mistakenly declared overfished), petrale sole can now be caught all depth all year, as are starry flounder! These little guys are VERY tasty and one of my personal favorites, as well as being fun to catch. While we drop our crab pots and let them soak, we can fish for petrale and/or sanddabs and check our pots every so often. All these changes in bag limit and season extensions took some five years or more and many discussions with the CDFW to make this all happen. While the lingcod limit dropped to two in the bag limit, cabezon, greenling and other minor nearshore species remain the same as last year. All in all, this should be a good year for the groundfish season.

Halibut: About eight of us from the local area went up to Victoria, BC for the Annual Halibut Meeting. The California contingent is very much appreciated by the 12 Treaty Tribes in the Washington area. Additionally, Oregon and Washington each had one recreation angler attend. Coastside also had a representative, Jeff Richards, replacing Dan Wolford, to sit on the Conference Board meeting. The stats can be confusing and worrisome. Last year our 2A survey went up by 146%, and thus we got 1.02 M lbs of apportionment overall (2.87% of the total). The Tribes pressed the Conservation issue and we ended up with 1.14 M lbs allowing us 25,240 lbs. While the process remained basically the same, this year the numbers dramatically changed.

The survey dropped by only 5% in 2016, but the Commercial Weight Per Unit Effort (WPUE) dropped a whopping 47% (due to rough weather and tough conditions). The Commercial guys got their allocation, but it took much more effort and about three days, instead of the customary two days. The Tribes got all their fish in 39 hours (plus an overage of 70,000 lbs) so fishing

was fast and furious. Due to rough weather conditions, all three Pacific States took a while to get their Recreational Allocations. However, for Numbers of Fish per unit effort (NPUE) in the survey, 2A actually went up by 1%, meaning more smaller fish were caught (primarily in the northern Washington area). So what does all this mean?

The IPHC Staff pulled a new stat out of their bag of tricks and presented a new model this year. They have included in the Harvest Control Policy a "smoothing function" called a Time-Space Model. How it works is it predicts what density of halibut they think might be in those areas between the survey sites. In essence it makes a bunch of smaller density areas that add up to the Sectors total. This differs from the previous model that multiplied the entire Sector area with a density factor that was a weighted average of all the survey samples. So far so good! However, now they've added a Hook Competition Factor that further adjusts the observed weight landed in the survey. The 2A has been deemed a "low hook competition area", as compared to the 3A Sector (Gulf of Alaska) that been deemed a "high hook competition area".

Here's the rub, it's based upon the numbers of baited hooks that come up after a 5-7 hour soak during the survey effort. Thus, the 2A area get a **15% cut** in survey weight, while the 3A area gets a **65% increase** in the survey weight! That is a substantial adjustment! As a result, our percentage of apportionment dropped from what would have been 2.64% down to 2.2%. As a result, the 1.02 million pounds of allocation from last year, dropped to 0.75 million pounds for this year. The 25% drop is due to both this Hook Competition and Smoothing Effort, combined with the survey up north improving as compared to the south areas. Bear in mind this knocks down our apportionment back to 2012 when we were at 2.1% prior to California being surveyed. This modification basically wipes out all the gains the California survey added to the 2A Area in 2015.

The Tribes were very unimpressed (as was Canada) with this new method. Since they have Government to Government Consultation Rights, they went into closed session with the Commission and hammered out that the 2A needs 1.33 M lbs so that they can have enough poundage to satisfy their Conservation Needs. We all benefit from their efforts, and they appreciated all our support by being there to support them. So, we get a small increase this year up to 34,580 lbs, instead of being cut back below 25,000 lbs. This is getting mostly political, and the science is getting very rubbery from my perspective.

So, bottom line is, we will probably expect about the same season as last year. The extra 4,000 lbs might keep us fishing for another week or so. And, with the perceived cut-backs in the salmon season this year, we will need every fish we can get. So there you have it! I'll try to scratch out another 1% from the GAP this year at the PFMC, but I don't have much hope it will go anywhere. CDFW doesn't support our getting additional allocation in California, but I'll give it my best effort in spite of their lack of support…but it makes it tough.

Did you know: While the Country was all absorbed with all the election hype last year, the Congress actually passed a Bill with bipartisan support that was very interesting! It is titled the Outdoor Recreation Jobs and Economic Impact Act of 2016. It requires the Department of Commerce to generate economic impact revenues as a portion of the GDP. It remains to be seen what this is used for, and whether the recreation community can leverage more attention and impact with the fishing Councils regarding allocations, seasons and harvest limits. Stay tuned!

FUN WITH NUMBERS: OR HOW TO CREATE ELECTRONIC FISH

By Tom Marking

The previous article on the Groundfish preview was long enough and I didn't want to clutter it up with too many facts and figures on Pacific halibut, so I'll tease your scientific curiosity in a brief article on statistical sampling. On several occasions on the HTC site people remark why we can't get more attention to California and **get more sampling down here!** I guess the IPHC heard our complaint and they are going to act. Pronto! Here's what's in store for us. This is a life lesson in "be careful what you ask for, you might just get it".

Remember back in 2013 when we finally got them to put 15 sample stations down here in Northern California? Well they did, and "lo and behold" they discovered we still had halibut here. Never mind the Trawl Fleet had been killing them by hundreds of thousands of pounds, but I digress. That would be too obvious and ruin the story.

Anyway, the "Quantitative Specialists" worked their magic with the 1,970 some-odd-pounds of halibut caught in the 2012 survey and determined that we had 100,000 pounds of Pacific halibut that could be caught and used as table fare! Great zukers! We finally had done it…proved to the Royalty that us Peasants actually knew something about our landscape. However, the PFMC folks in OR/WA promptly confiscated the vast majority of those fish, leaving us frustrated once again. So over the years efforts at the Groundfish Subadvisory Meetings at the PFMC yielded a whopping 4% of the 2A non-tribal portion, about 25% of that 100,000 pounds found in the survey. The politics of why that is would fill several pages, and I would lose my readers.

So, bring us to the present, where we (say Treaty Tribes) in the 2A managed to get the IPHC to allot us 1.33 million pounds of halibut for 2017. But, that was under threat of legal action by the Tribes, who have had quite enough of the IPHC and their Statisticians. We were slated to get cut back to 0.75 million pounds again, back to before the 2012 survey in California, clipping us back to a measly 2.2% of the allocation over the entire population. So the clever mathematicians have devised a Time-Space Model and a **Hook Competition Correction Factor** that reduces by 15% the actual poundage of the fish that were caught in the surveys in 2012 and 2013. This 15% of lost fish are shifted up north into the Gulf of Alaska, since they have a higher Hook Competition Factor. But, to respond to our cries of anguish, they are taking some mercy on us by starting up the 15 surveys again in California from 40d to the 42d line (CA/OR Border). And, just to make us feel better they are re-enacting the 8 surveys from 40d down to the 39d line (of which 0 fish were caught). And if that is not enough to puzzle you, they are going to install 34 more sample stations below the 39d line all the way to Monterey at the 36.5 d line, where most likely 34 more zeros will show up. This should really help us out! So, yours truly appealed and asked for about ten of those 34 proposed survey stations be placed north of Cape Mendocino, where halibut are actually known to exist, and place another dozen or so up in the Tribal Country where lots of halibut are known to exist. The Commission compromised: about a dozen stations will be placed from the Northern tip of Washington down to the Columbia River between 100 and 150 fathoms at 5 nautical mile square grids (the normal is 10 nautical miles squared). Also, somewhere between 17 and 34 sites will be added below the 39d line, down to the San Francisco at the 37.5d line.

Here's the statistical logic…I say that tongue in cheek! Since with this new Time-Space model, it is already assumed there are no (or a small fraction) of halibut south of the 40 d line, so anything they find will be of benefit to us! And, while it expands the bottom area by another 2,000 square nautical miles, the biomass will stay the same, even if they don't find anything! So we have nothing to be concerned about they claim. But, here is my dilemma. In the 2012 survey we had a 23 lb/skate average for Weight Per Unit Effort (WPUE), similar to OR and WA. With another 42 sites showing zeros, our WPUE will drop to probably 5 lbs/skate. But, since it's a smaller WPUE but over a much larger area, the total will be the same biomass (less 15% of course).

Here's a math problem. The initial survey yielded a 16% increase in 2A harvest biomass. Last year we had 1.02 M lbs recommended by the statisticians, that was cut to 750,000 lbs this year. That 25% loss is a result of the 15% loss to Hook Competition in conjunction with the survey shifting more up north. The expansion in 2013 of eight more sites below 40d yield only a few fish from the off-shore Trawl survey, so we got a 0.02% increase (or 3,000 lb) addition to the CA harvest model. The next 2,000 sq mile expansion down to San Fransisco will probably yield about the same or possibly a bit more, lets says 5,000 lbs. We've lost 150,000 lbs of the 1 million pounds (a 15% loss) and we gain a whopping 8,000 lbs from the expanded surveys, and our WPUE drops to something in the area of 5 lbs/skate (a net loss of 142,000 pounds) OUCH! Keep in mind the other Sectors all have 30 to 250 lb/skate by comparison, so where do you thinks that leaves us for a bargaining position? But, statistically its VALID and MEANINGFUL!

One has to wonder why the IPHC is now willing to spend close to $200,000 in cash to sample 42 sites with little expectation of getting anything! I have to ask myself "WHAT ARE THEY TRYING TO PROVE!?" Why, from a statistical point of view are they expending large sums of cash when we are less than 1% of the Pacific halibut population. From a Normal Distribution Curve analysis, this seems puzzling at best and ludicrous in retrospect. After 8 years of being intimately involved with all of this, I am at a loss to understand what is going on, or am I just a slow learner? Two steps forwards, three steps back! Maybe someone smarter can explain all this to me. I realize from a binary world, a 0 is just as important as a 1, but CMON, LET'S BE REAL!
I feel like I'm part of a Carney Act, and I'm being told to "pick a card, any card"!

Editors note: If you are like me then you don't understand the number game that Tom is ranting about. What should be obvious to everyone is the level of Tom's frustration. He spends countless hours working the issues and I can't think of anyone more suited to represent us in this arena. Most of us would be steamrolled into silence.

We have been promised an article for the Spring issue from the CDFW explaining how the dock survey data is used to estimate the total catch. We have been asking for this information for a couple of years. It is likely to be complicated and as difficult to understand as the halibut number game. But we will continue to do our best to provide clarity and reason so everyone will better understand.

Amending the MLMA Master Plan: Committed to Improving Fisheries Management through Greater Efficiency and Transparency

Tom Barnes, CDFW Environmental Program Manager

The California Department of Fish and Wildlife (CDFW) together with our partners, including tribes and stakeholders—such as HASA members and the greater recreational fishing community—is taking steps to amend the Marine Life Management Act (MLMA) Master Plan.

Amending the MLMA Master Plan will enable CDFW to better achieve the mandates of the MLMA, the State's primary fisheries management law. The current Master Plan has not been updated in over 15 years, during which time there have been advancements in management strategies, newly available technologies, and changes in fisheries dynamics. We expect an amended Master Plan to enhance the transparency and predictability of the state's approach to fishery management. It will also enable the state to apply scientific advances in fisheries management, be more responsive to potential impacts due to changing climate and oceanic conditions, and increase our understanding of socio-economic drivers and human dimensions to better support healthy marine ecosystems and sustainable fisheries.

Starting last year, CDFW has taken a phased approach to amend the MLMA Master Plan:

Information Gathering Phase (2016): Led by CDFW, a series of information gathering projects have been developing tools and recommendations to be considered during the Amendment Phase. Additionally, CDFW developed a draft "Amended Framework for MLMA-Based Management" to help advance discussions with our stakeholders about how to accomplish MLMA objectives (Fish and Game Code Section 7056).

Amendment Phase (late 2016-2017): CDFW is hosting discussions with stakeholders to invite review of and feedback on the options developed during the Information Gathering Phase. It is anticipated a draft amended Master Plan will undergo independent scientific review in late 2017, which is a key step in preparation for submitting the amended Master Plan to the California Fish and Game Commission for their consideration.

Approval Phase (late 2017-2018): CDFW's goal is to submit the draft amended Master Plan in late 2017 to the California Fish and Game Commission. The Commission's process for considering the draft amended Master Plan will provide additional opportunity for public input. The amended Master Plan must be formally approved at the conclusion of the Commission process in order to be implemented.

The Master Plan amendment is intended to improve California's fisheries management framework by helping the state identify and prioritize fisheries that are in need of management changes. The amendment will not directly change fishing regulations; rather, it will establish priorities, policies, and approaches that will guide management of each state-managed fishery in the future. This effort is expected to make management more consistent.

Successful implementation of an amended Master Plan may lead to:

- Fishing opportunity that better aligns with resource productivity;
- Increased commercial revenue and sport opportunity over the long-term;
- Healthier marine ecosystems;
- Improved marketability for state fishery products; and
- Fisheries that are more adaptable to changing climate and oceanic conditions.

HASA members and other interested stakeholders are invited to help inform the MLMA Master Plan amendment process. Please join us during upcoming stakeholder discussions, which include webinars, conference calls, and workshops. Additionally, CDFW will continue to provide updates to the California Fish and Game Commission's Marine Resources Committee, which you are welcome to attend.

For more information about the MLMA Master Plan Amendment process, please visit the CDFW website or email us at MLMA@wildlife.ca.gov.

Best Tire Value PROMISE.

WITH EVERY PASSENGER & LIGHT TRUCK TIRE PURCHASE

Whatever the road throws at you, from potholes to nails–any road hazard, our FREE GUARANTEE protects you

Peace of Mind Tire Protection

- If a Tire is Damaged Beyond Repair, We'll Replace its Value
- Our Work is Guaranteed for the Life of Your Tires
- Free Pre-Trip Safety Checks

Lifetime Tire & Mileage Care

- Free Flat Tire Repairs
- Free Tire Rotations
- Free Tire Rebalancing
- Free Air Checks
- Free Brake & Alignment Checks
- Hundreds of Locations to Serve You

Tires LES SCHWAB

Doing the Right Thing Since 1952.

MCKINLEYVILLE • 2210 CENTRAL AVE • 707-839-8986
CRESCENT CITY • 1105 NORTHCREST DR • 707-464-2156
UKIAH • 1250 AIRPORT PARK BLVD • 707-472-0300
FORTUNA • 275 N FORTUNA BLVD • 707-725-1169
EUREKA • 2440 BROADWAY •707-443-3507
WILLITS • 1565 S MAIN ST • 707-459-5938

For more information, visit: LesSchwab.com

Disentangling maternal and environmental effects on the early life history dynamics of a viviparous fish, the redtail surfperch (*Amphistichus rhodoterus*)

Kathryn E. Crane, California Department of Fish and Wildlife
Eric P. Bjorkstedt, NOAA Fisheries/Humboldt State University

Brief Fishery Background:

In general, very little research that is relevant to management has been conducted on surfperch (Embiotocidae) in California, despite the fact that this family supports a large state-wide recreational fishery as well as a small commercial fishery in northern California. Redtail surfperch, the most popular sport-caught surfperch species locally, is currently managed by two recreational restrictions; a daily bag limit of 10 fish and a 10.5 inch minimum legal size. A small-scale commercial fishery for redtail also exists, which has no restrictions aside from a three month seasonal closure during the summer to protect aggregations of parturating (i.e. live-birthing) fish. As of December 2012, three State Marine Conservation Areas (SMCA's) went into effect in the north coast region (Samoa SMCA, Reading Rock SMCA, and Pyramid Point SMCA) that prohibit the take of surfperch in locations where they were previously encountered by the recreational and/or commercial beach fisheries. Currently, my project is engaged in several research efforts focused on evaluating the effectiveness of the current regulations, species and region-specific population health, and generally the science needed to support management decisions in the future. The goals of this particular project are aimed at learning more about how surfperch populations may respond to varying ocean conditions, and whether managing for an older age structure may help mitigate the effects of poor ocean conditions on survival during early life.

Study Overview:

Surfperch (Embiotocidae) are a viviparous (live-bearing) family of fishes that provide a unique model species for examining environment-maternal relationships since several months of growth data can be linked to an individual mother. Since 2012, we have collected gestating female surfperch along northern California beaches and have collected condition and age information from each maternal surfperch. The neonatal surfperch (embryos), which are up to 3 months old, were retained from each female and evaluated for their condition. We also removed the otoliths from the neonates, and retained them for age and growth analysis. Aging the neonates, by examining their daily growth rings using a high resolution microscope, is essential to evaluating the maternal effects on offspring condition. It will both allow offspring condition to be standardized by age (to avoid bias), and will allow us to recreate the offspring's growth history so that we may relate it to environmental conditions.

Aging neonatal surfperch otoliths is a relatively slow process, and having a student work through a subset of samples has helped us develop the preliminary data needed to justify the time needed to analyze the full dataset in the future, and potentially pursue a larger grant to fund a full-time graduate student. Thomas Adams was selected to perform this work. He is an Oceanography and Fisheries major at Humboldt State University, and has prior experience working with larval and juvenile rockfishes at the National Marine Fisheries Services' Southwest Fisheries Science Center as a summer student/volunteer. He is approximately ¾ of the way through meeting his obligations to the project, and so far contributions have been very helpful in determining the merits of a further research effort. His accomplishments include: 1.) completion of a training period where he demonstrated an ability to produce reliable data using advanced microscopy methods, 2.) providing preliminary data to validate daily growth rings in surfperch otoliths, 3.) showing observed growth patterns for developing surfperch embryos, and 4.) helping us determine if maternal age and/or environment appear to influence observed growth patterns, and if pursuing a larger research effort is warranted. The progress in these categories to date is described below.

Student Training:

There is a steep learning curve to developing the skills necessary to analyze otoliths for daily growth. Thomas worked through approximately 20 "extra" embryo otoliths, under the direction of myself and/or Eric Bjorkstedt, before we were confident in using the data for analytical purposes. Analyzing an otolith involves using a very fine-grit abrasive film to gently thin the surface of the otolith structure while it is mounted on a microscope slide. This allows light from the microscope to penetrate through the otolith so that it is visible under the microscope at 1000x magnification. This process generally needs to be repeated several times throughout the reading of a single otolith since the thickness varies. The process continues by counting the number of rings (age estimate), and measuring their width (growth estimate) across a standardized transect that begins in the center and extends across the longest axis to the otolith edge.

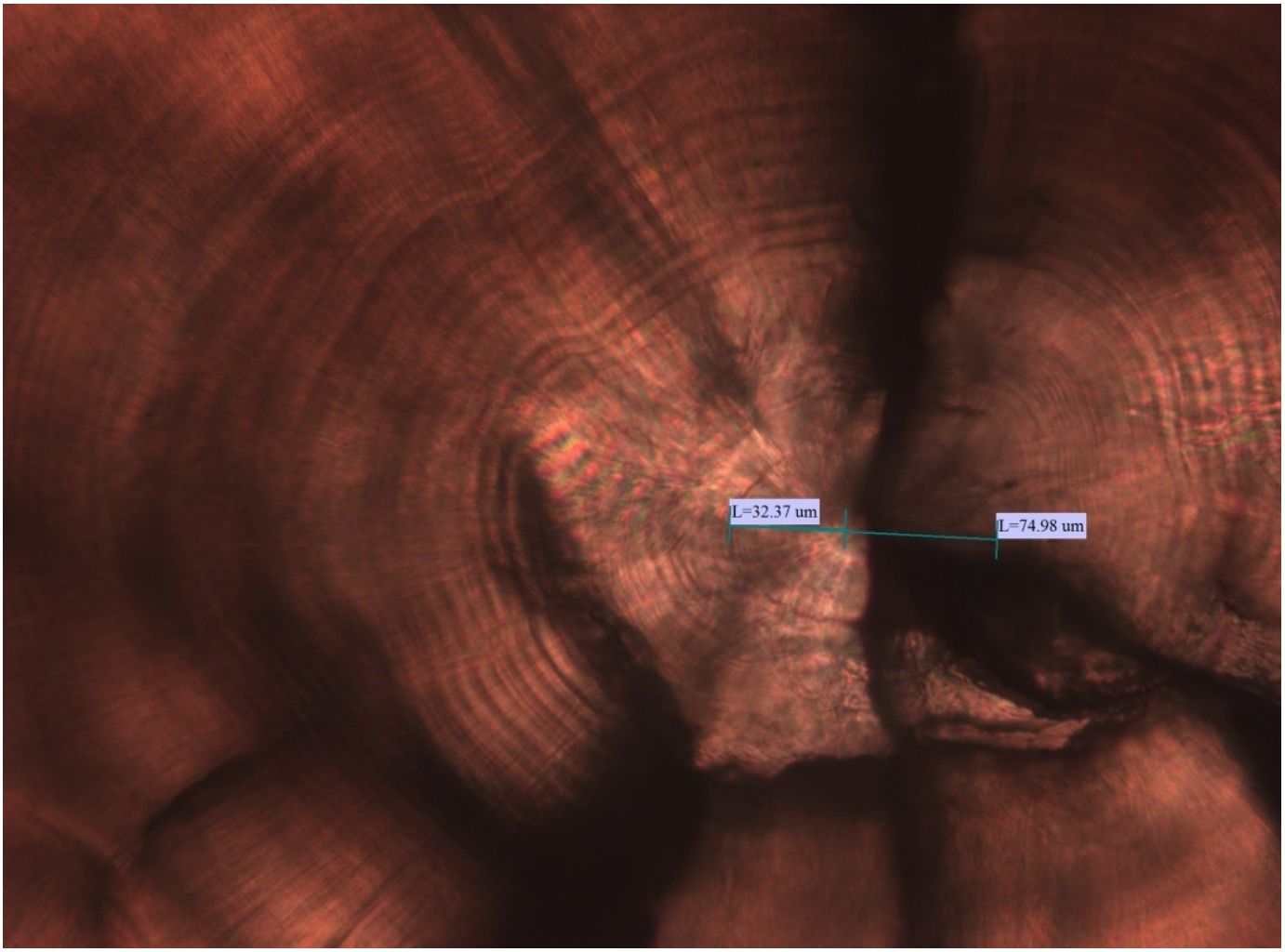


Figure 1. Image of a redtail surfperch embryo otolith taken at 200x magnification shows the center of the otolith, with concentric rings extending outward. The first day of growth is recorded around the very center of what is called the 'nucleus'; each subsequent ring represents an additional days' growth.

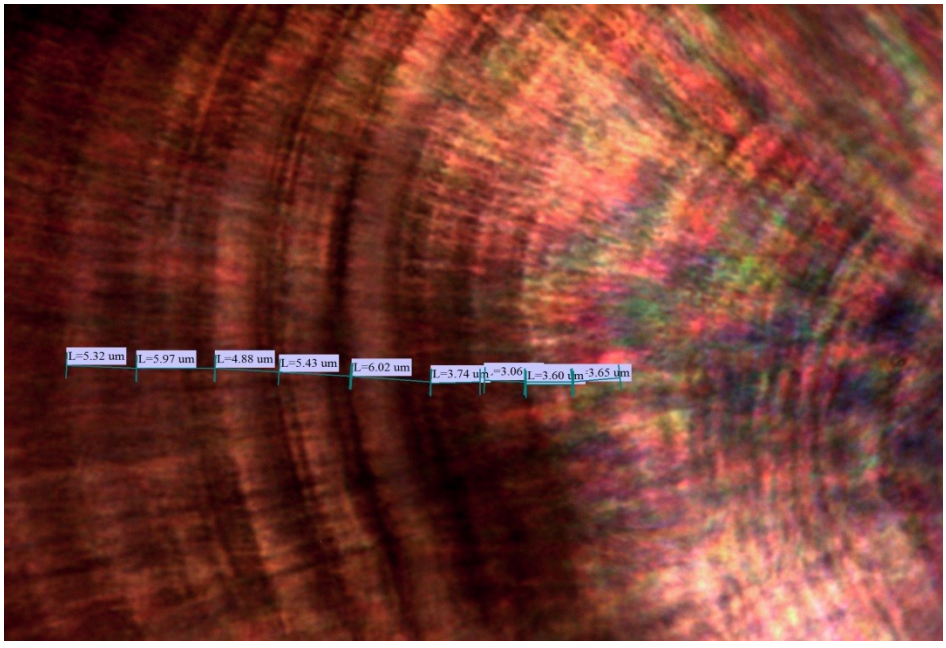


Figure 2. Image of a redtail surfperch embryo otolith taken at 1000x magnification shows daily growth rings at the magnification under which they are measured. The rings generally are smaller towards the center, and width increases as they age since the bigger they are, the faster they tend to grow.

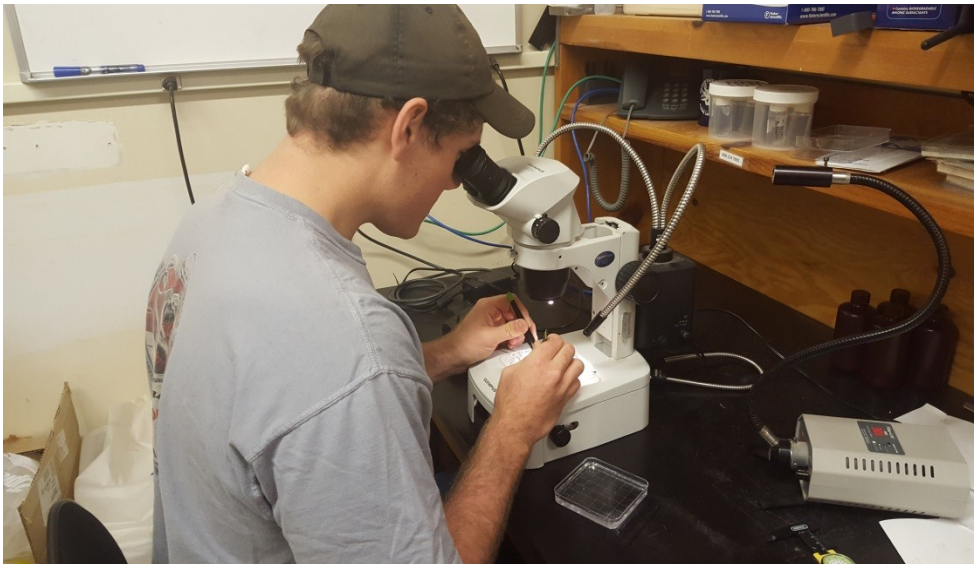


Figure 3. Thomas Adams concentrating very hard on removing the otoliths from a very small embryo at Trinidad Marine Lab.

Daily Age Validation:

Since redtail surfperch embryo otoliths have never been studied previously, we needed to determine that each ring we were observing did actually represent one days' worth of growth, as they do for many (but not all) other species. This is often overlooked because it's quite difficult to validate outside of performing a complex aquarium experiment (which have had mixed success). We attempted to do this by comparing our estimates of age-at-length from this study, to observations from our field collection data. We have several years' worth of observations showing when larvae begin showing up in the population, and can track the average population-level growth rate over the course of a season by examining what size embryos are at what time. We've compared the expected age-at-length from the otolith data to the expected age-at-length from the field data below. If the otolith-based estimates of age are reliable, we would expect the two relationships to be very similar.

Figure 4 depicts the two relationships; the red line is fit to the otolith-based estimates of age (blue diamonds) from this project, and the purple dashed line is the estimated age-at-length relationship from our field observations. They appear to mirror each other very closely, but diverge a bit as age increases. This could be a result of only having two data points at the higher age range, and so we'll need to obtain more samples to be sure that otoliths produce reliable age estimates. That being said, it is clear that age estimated by counting the number of otolith rings is at least in the ballpark of what we're seeing in the field, which is very promising.

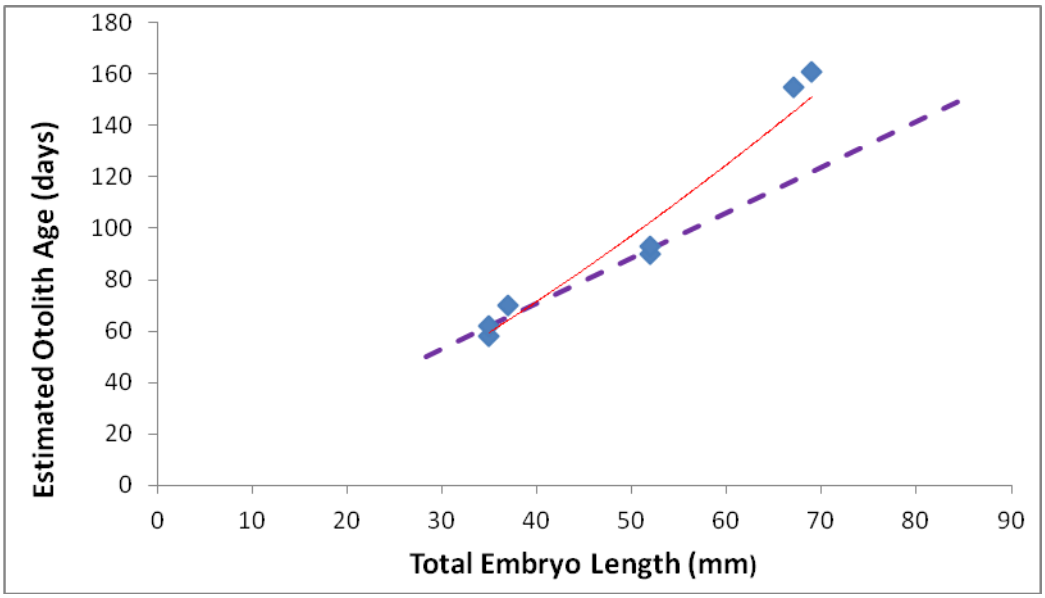
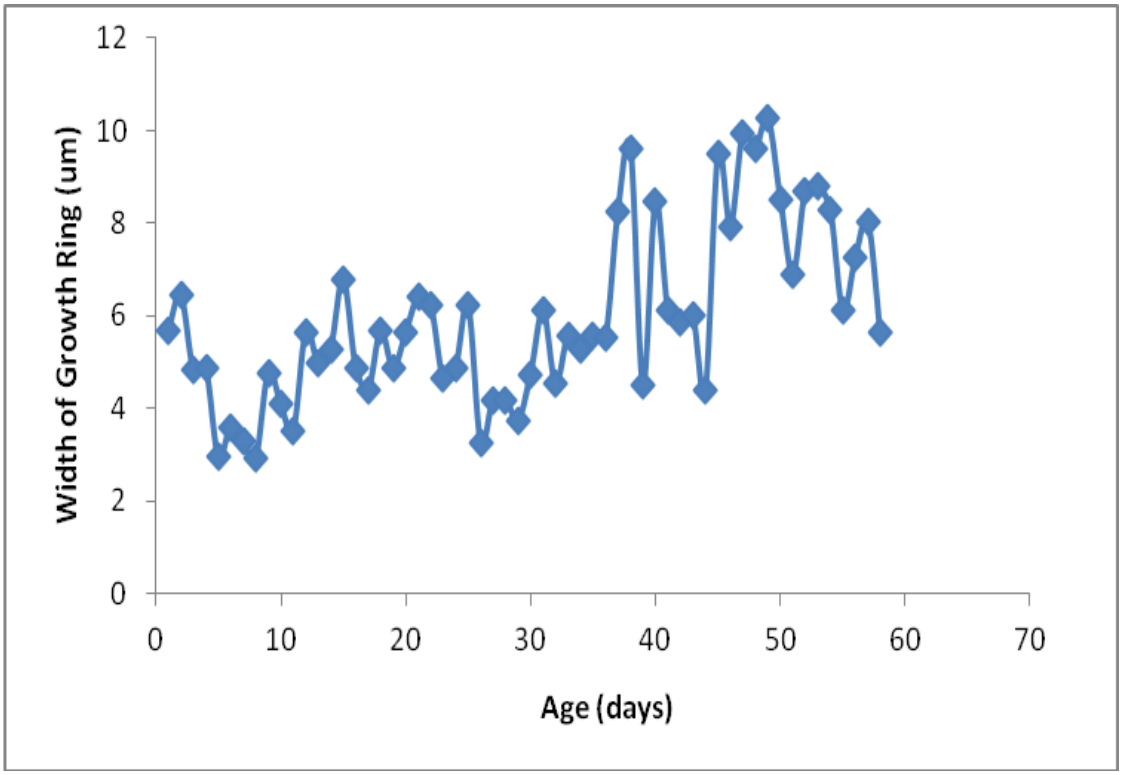


Figure 4. The embryo otolith age-at-length relationship (red line) is compared to the relationship calculated from field observation data on the size and timing of larvae and embryos in captured surfperch (purple dashed line). The two produce similar results, except at the oldest ages.

Observed Growth Patterns:

The growth patterns for each individual fish were examined; one fish embryo is depicted in the figure below as an example. We assume that the width of each ring/increment was, based on a lot of supporting literature, proportional to how much that fish grew in terms of body size on that day. We can then, by looking at the patterns that we observed, notice where there were periods of time that growth was either slower or faster. This presumably is influenced by environmental conditions such as ocean temperature, or by the quality of feeding conditions encountered by the maternal fish. We noticed that there was less variability in daily growth rate when compared to other larval or embryonic fish that develop externally (such as the rockfishes), suggesting that developing internally provides a significant buffer against environmental conditions.



Maternal and Environmental Influence on Growth; Future Research:

After completing numerous "training" otoliths (which are not usable for analysis), Thomas has finished reading the otoliths from 10 fish that are now ready for analysis. This has given us enough data to begin looking through, and so far we can already tell that these fish are likely buffered against the environment to some extent by developing within their mothers. We have examined several surfperch embryos that came from mothers of different ages, and unfortunately there does not appear to be enough data yet to determine if maternal age has an effect. Thomas has not yet completed his work on the project, and so our hope is that the additional data he is providing will shed a bit more light on this potential phenomenon. If we are able to see some sort of signal, we will have enough information to pursue a larger research effort. We look forward to updating everyone with additional results in the near future!

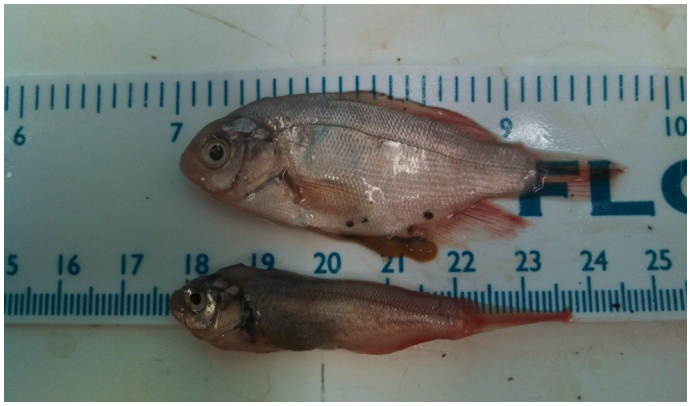


Figure 5. Two redtail surfperch embryos of similar length, but of very different conditions. The fish above is much more typical, but the one below may have poorly developed as a result of less favorable environmental conditions.

Editors note: This is another project that HASA helped fund with community donated dollars. We plan to continue our involvement in fisheries studies in the future.

Tickets are now available at Mad River Tackle in Arcata, and at Pacific Outfitters, Englund Marine, RMI Outdoors, Bucksport Sporting Goods, and W&W RV & Sporting Goods in Eureka. Please pick them up while they last!

Recreational Angling Groups Call for Innovative New Approaches to Marine Fisheries Management

Coalition reveals the findings from a series of workshops on alternative solutions for federal fisheries

ORLANDO, Fla. – Last summer at ICAST, the world's largest sportfishing trade show, recreational fishing and conservation group leaders revealed the preliminary findings from a series of collaborative workshops on alternative approaches to federal fisheries management.
The same broad coalition behind the 2014 landmark report on recreational fisheries management worked closely with NOAA Fisheries, state game and fish managers, biologists, and researchers to identify ways to revise the current approach. Right now, federal fisheries managers set catch limits for both commercial and recreational sectors in a way that undervalues recreational fishermen and their $70-billion contribution to America's economy. Innovative new solutions could give anglers more predictable seasons, boost conservation, and improve local economies in coastal communities and beyond.

"Although recreational anglers only catch two percent of the total fish harvested in U.S. waters, we create almost as many jobs as the commercial fishing industry"—455,000 jobs, in fact, said Mike Nussman, president and CEO of the American Sportfishing Association, the trade group that produces the ICAST conference and events. This year's is their biggest show yet, with 13,000 attendees walking a 650,000-square-foot showroom packed with close to 600 exhibitors—a perfect backdrop for a discussion of new ideas.

The first workshop, facilitated by the Florida Fish and Wildlife Conservation Commission in Tampa this May, was geared towards identifying where existing federal fisheries management approaches fail to adequately accommodate the unique nature of recreational fisheries and specific ways to address these issues. The group discussed alternatives that are rooted in existing management practices currently used for fish and waterfowl at the state level, such as:

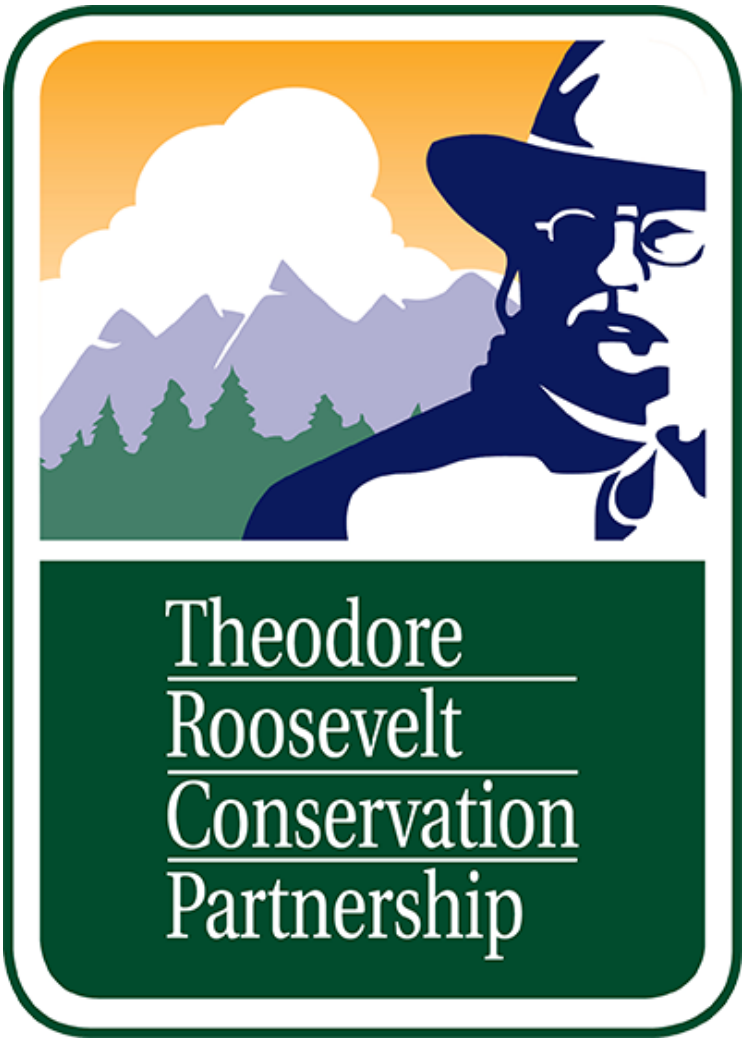
- Managing for a harvest rate, rather than a quota that must be tracked in real time.
- Spatial management, or allowing fishing out to certain depths or distances from shore, while making deeper waters off-limits to recreational harvest so brood stock can replenish.
- Looking at temporary and long-term allocation shifts between the recreational and commercial sectors, which might include shifting some species from recreational to commercial allocation and others from commercial to recreational.
- Developing new programs to gather better recreational harvest data or take advantage of existing voluntary harvest data.

Reducing release mortality with new technology or better education on existing tools. These initial conclusions were presented to congressional staff and representatives of the environmental community at a second workshop this June in Washington D.C. The group also discussed the potential legislative and regulatory changes needed to achieve these possible alternatives. Some solutions possibly require changes to the existing federal fisheries law, but others could be addressed through collaboration with NOAA Fisheries.

"When the Magnuson-Stevens Act was written 40 years ago, recreational fishing was an afterthought in the statute, and it is unlikely that this Congress will get around to discussing reauthorization," a process that might allow for beneficial updates, said Jeff Angers, president of the Center for Coastal Conservation. "But we've found friends at NOAA who are trying to help. There are things that can be done by an agency that's willing to look at things a little differently."

Russ Dunn, the national policy advisor on recreational fisheries at NOAA, added that the agency is currently addressing each of the six recommendations from the coalition's 2014 report. "It's undeniable that NOAA Fisheries is more receptive to recreational fishing now than at any other time in its history," he said.

The Theodore Roosevelt Conservation Partnership and its sportfishing partners are committed to working within each region and with each fisheries council to determine ways to implement new innovative approaches to federal fisheries management, and conservation leaders are calling for collaborative effort from state partners and the public. "Using a commercial fishing paradigm to manage recreational fisheries is holding back our economy, and nasty fights on issues like red snapper keep anglers from engaging on critical national conservation fights, like state takeover of our federal public lands," said Whit Fosburgh, TRCP president and CEO. "With NOAA's renewed commitment to recreational anglers, there's a lot we can do."



Humboldt Currents

By Casey Allen

I must start with a notable catch on the Smith River. River guide, Mike Coopman, who is no stranger to big fish, guided his angler, Joanne, to a monster steelhead pushing 28 pounds. The huge fish was 42" long with a 23" girth. It could be a state record but that did not matter to Coopman or his anglers. They released the great fish to continue its journey upstream to spawn and pass on its genetics to future Smith River steelhead. Check out the video on Facebook. Mike says, "I'm just happy to hold the biggest steelhead in my life." He credits Joanne for fighting the big steelhead with skill and, always the businessman, credits his equipment manufacturers. I have fished with Mike on a number of occasions and he guided me to my personal best steelhead. I imagine his next opening is five years out. It could not happen to a better guy, he definitely earns it.

The next item is bad news. HASA salmon representative Bob Smith (RBob) wrote about the dim season prospects on page 4. I asked him how long before we see a recovery and he thought at least 3 years. The drought seems over and with a good ocean, salmon could recover quickly. The Klamath numbers are much worse than 2008/09 when we had no season and then a 10 day season. But that was when the Sacramento stocks crashed (for 41 reasons). The meeting, March 1st in Santa Rosa, will tell the whole story. We will have people there to relay the news.

In 2010 a leopard shark from Humboldt Bay tested with the highest amounts of mercury in the state. The coast wide testing program, Surface Water Ambient Monitoring Program (SWAMP), checks for bioaccumulation of toxins in marine organisms. SWAMP is a program under the California State Water Quality Control Board and looks for things like mercury and PCB's. In 2016 Humboldt Baykeeper received a grant from the California Environmental Protection Agency to investigate the levels of toxic contamination in Humboldt Bay. They will be assisted by the Wiyot Tribe and others in analyzing fish caught in the bay. Lingcod, leopard sharks, bat rays, perch, oysters and clams will be tested. We will follow the study and report the results.

Bay dredging and mariculture expansion in North Bay are hot topics at the Harbor Commission, but they are not getting much press. Two separate meetings addressing the issues each brought a packed house. I would think that would spark more interest in the media, but I have seen little except on local blogs.

Dredging is desperately needed throughout the bay. Boats are sitting on the mud at low tide at both Woodley Island and the City of Eureka Marina. This places stresses on boat hulls that could cause severe damage and possible fuel spills. Commercial fishermen are restricted to come and go at a high tide. Launch facilities are shallow, restricting recreational access. The entrance to the bay is shoaling again and has caused the cancellation of at least one forest products ship visit. Although entrance dredging is scheduled for May/June the bay dredging is mired in debate over the options for spoil disposal. Baykeeper is opposed to beach disposal which is the preferred option for many stakeholders. The concern is the spread of toxins and lost beach access. The cost of moving the material is a huge factor, as well as who will pay for it. More meetings and workshops will be scheduled. The debate is too complicated to adequately address in this column but look for a full report in the Spring issue.

Mariculture expansion is no less complicated and boils down to a balance of uses on the bay. Large and small oyster growers want more tidelands which encroaches on waterfowl and waterfowl hunters. Nature watchers do not want to see a bay full of white PVC markers and blue and white buoys. Fishermen are concerned with herring spawning, sturgeon, California halibut, and boating access. But most everyone loves oysters and the mariculture companies bring jobs and protect the bay through water quality monitoring. The Harbor Commission has a tough task in striking that balance between commerce, environment, and recreation. A special Harbor Commission public meeting to consider Coast Seafood's expansion is scheduled for Feb 28th at the Warfinger Building at 6pm.

California's Department of Fish and Wildlife has begun publishing a new magazine devoted to the State's hunters and fishermen. It is titled "California Game & Fish". They've targeted some potential subscribers by mail with an invitation to subscribe. If you missed your notice, you can subscribe on-line here: california-game-fish-magazine.com-sub.biz.

ENGLUND MARINE & INDUSTRIAL SUPPLY

#2 Commercial Street
Eureka, CA
(707) 444-9266

LET'S GO CATCHING.
ENGLUND MARINE SUPPLY HAS THE BEST SELECTION AND PRICES ON ALL YOUR SPORT AND COMMERCIAL FISHING TACKLE. QUIT WISHING AND GO FISHING, COME SEE THE GANG AT ENGLUND MARINE.

FREE LINE WITH ANY ROD AND REEL COMBO PURCHASE