~25th (Silver Anniversary Edition:)~

Annual Pink Shrimp Review

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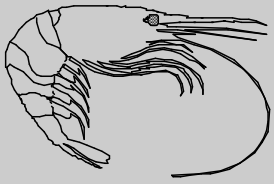

TO: OREGON SHRIMP INDUSTRY
FROM: Bob Hannah and Steve Jones
Subject: Opening of 2014 Commercial Fishery
Date: 24 February 2014

The 2014 pink shrimp (*Pandalus jordani*) season will begin on 1 April and will extend through 31 October 2014. This newsletter provides a summary of the 2013 season for your review including catch, effort and market sample information. Some possible indicators of shrimp abundance in 2014 are presented and discussed. We also present results of our 2013 research (including eulachon bycatch reduction efforts), and our research priorities for 2014.

Important Topics

2013 Season Summary

What a season! Shrimpers maintained a stretch of near-record production for the third straight season. They did it even with the season opener functionally delayed, as most of the fleet stayed at the dock for nearly three weeks due to price negotiations. Once an acceptable price structure was reached, the fleet still managed to put in 3.25 million pounds by the end of April. The price structure and high catch rates remained fairly constant through the season.

A total of 47,628,780 pounds of pink shrimp were landed into Oregon in 2013, just 1.5 million pounds less than in 2012 (Figure 1). It was the 7th highest season on record and caps the highest cumulative three-year landing total in the history of the fishery (2011-13). The series has been maintained by repeated good recruitment events and excellent hold-over of age-1 shrimp to age-2 shrimp the following year. Also, high growth rates of age-1 shrimp in 2013 helped keep poundage high.

Monthly landings were far above average again in 2013, despite the slow start in April (Figure 2). May landings topped out at about 9.2 million pounds alone, the highest May landing total since 1989. Monthly totals remained high through the remainder of the season, showing a similar pattern to 2012.

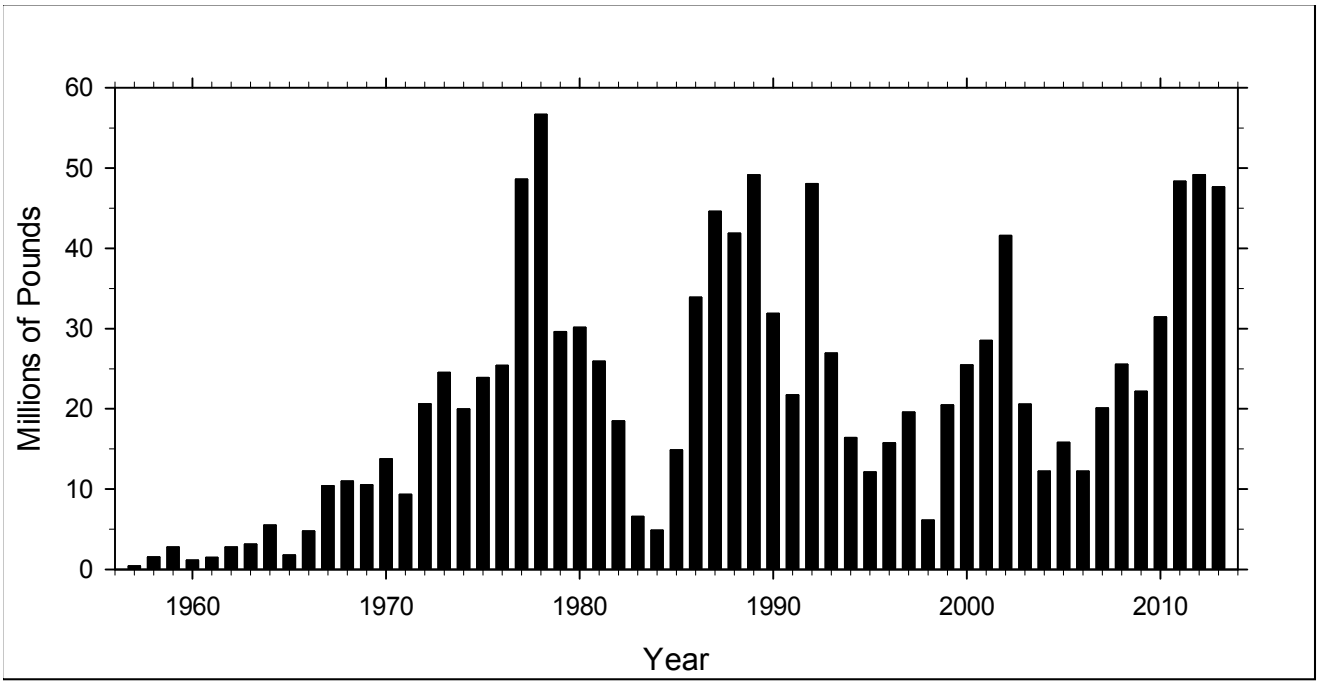

Figure 1. Oregon pink shrimp landings (millions of pounds) 1957-2013. Includes all pink shrimp landed into Oregon ports.

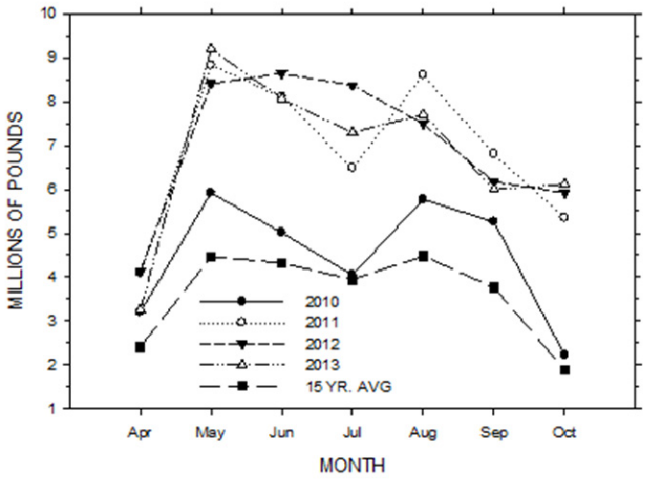

Figure 2. Oregon pink shrimp landings by month in 2010, 2011, 2012, 2013 and the 15 year average (1997-2012).

Area-month catches were highly variable in 2013, and were widely distributed spatially (Figure 3). Month-to-month catches were most consistent in areas from northern California to the Mudhole bed. To the north, the Cape Lookout bed produced heavily during the first half of the season before dropping off, while the Grays Harbor bed produced more during the latter half. The catch distribution pattern was markedly different from what we saw during the past two seasons, when area-month catches were strongly skewed to southern areas. The harvest distribution shift was probably due in large-part to better age-1 recruitment in areas north of the Mudhole bed than we'd had for the last few years.

Annual fishing effort declined modestly in 2013. Sixty-one vessels landed shrimp into Oregon ports during the season, down from 64 in 2012 (Figure 4). Shrimpers put in 1,017 trips in 2013, down from 1,124 trips in 2012 (Figure 5). Total hours fished (nets on-bottom) was 32,723 single-rig equivalent hours (sreh), down from 38,649 sreh in 2012 (Figure 6). The loss of the Pacific Seafood plant in Warrenton, Oregon, during early June likely helped reduce trip numbers and hours fished to some degree. The eight vessels that typically landed there were redistributed to other ports with Pacific Seafood plants or offloading stations. Taking on more vessels had the general effect of lengthening time between trips for other vessels which also helped reduce the total hours fished. Fewer vessels participating this year contributed as well.

Shrimpers spent more hours fishing in areas off the central Oregon and southern Washington coasts this year than they did in 2012. Monthly fishing effort peaked sharply in the Cape Lookout bed during May and June (Figure 7). The Cape Lookout bed also had the highest effort total for the season this year. In 2012, both monthly and total effort by area peaked more to the south, in the Mudhole and Bandon beds. Effort off Washington increased sharply this year in the Grays Harbor bed.

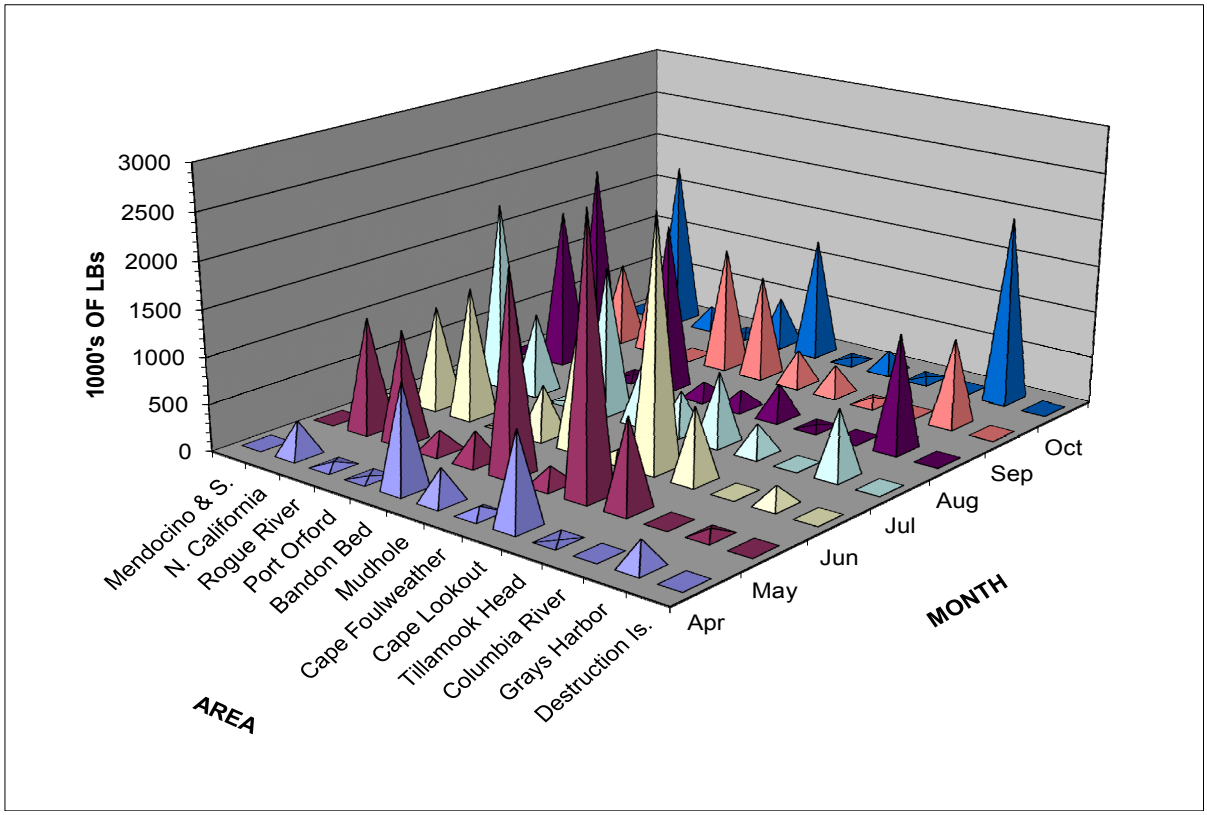

Figure 3. Total 2013 Oregon pink shrimp catch (1000's of pounds) by month and area.

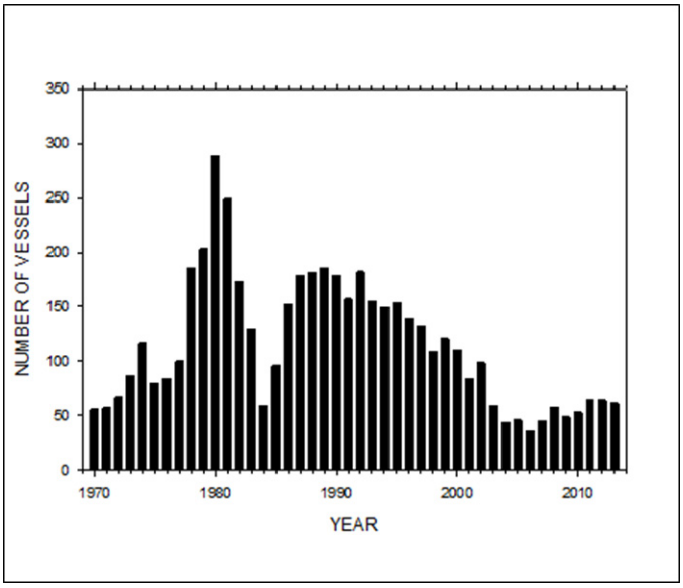

Figure 4. Annual number of vessels landing pink shrimp into Oregon ports: 1970-2013.

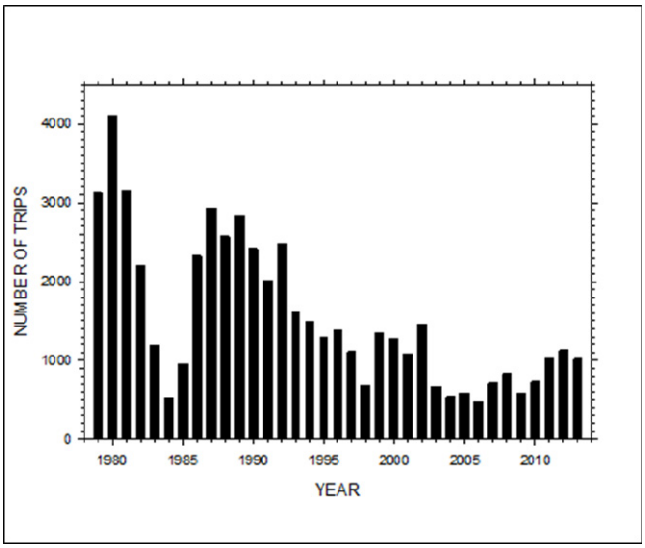

Figure 5. Annual number of trips landing pink shrimp into Oregon ports: 1979-2013.

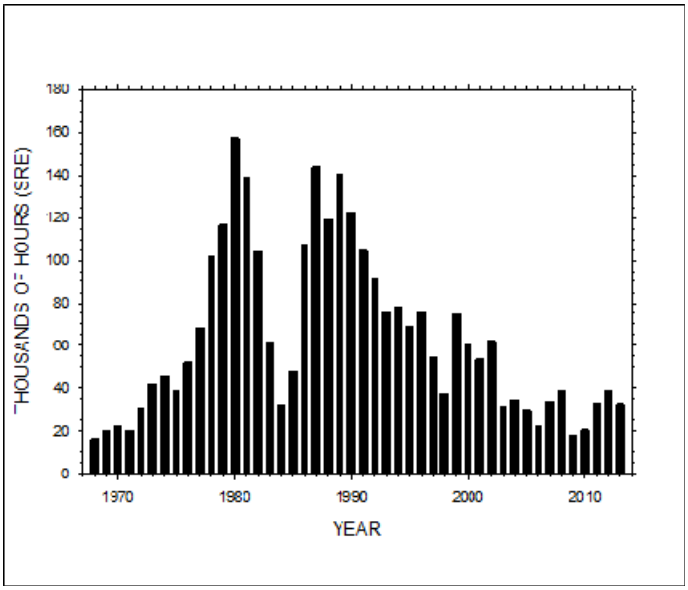

Figure 6. Fishing effort for pink shrimp landed in Oregon, 1968-2013. Note: single-rig hours = 1.6 X double-rig hours.

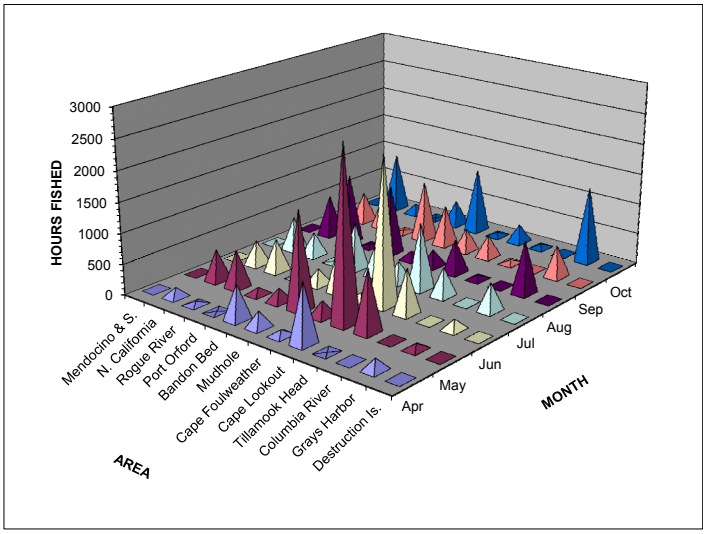

Figure 7. 2013 Fishing effort for pink shrimp landed in Oregon by month and area. (Thousands of single-rig equivalent hours, Note; single-rig hours = 1.6 X double-rig hours).

Overall catch-per-hour (CPUE) in 2013 was 1,455 pounds/sreh, an increase of 183 lb/sreh over last year (Figure 8). The 2013 level matched the second highest level ever achieved in the Oregon shrimp fishery in 2011 and was the fifth straight year with exceptional CPUE. Monthly CPUE by area was highest in southern areas and generally declined to the north (Figure 9), as it did in 2012. Peak area/month CPUE generally occurred earlier in the 2013 season (Apr.-Jun.) though, as opposed to later in the season (Jun.-Oct.) in 2012. Monthly CPUE was very stable during 2013 and was consistently above 2012 values, with the exception of October (Figure 10).

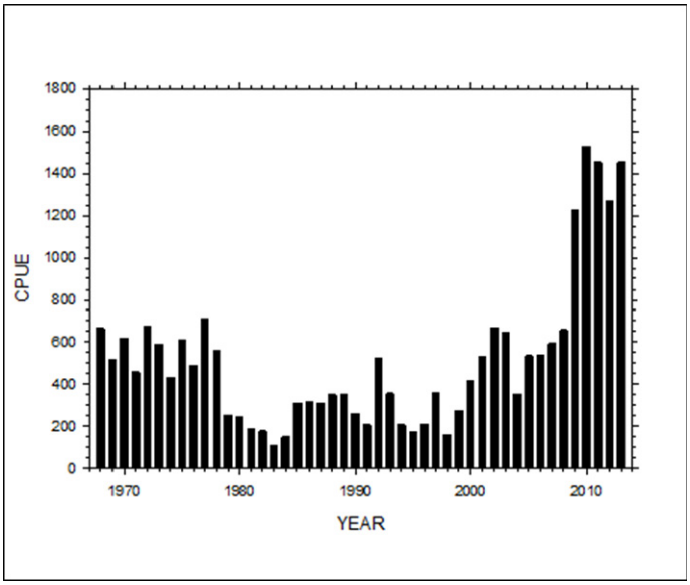

Figure 8. Catch-per-unit-of-effort (CPUE = lbs/SRE hour) for vessels landing pink shrimp into Oregon; 1968-2013.

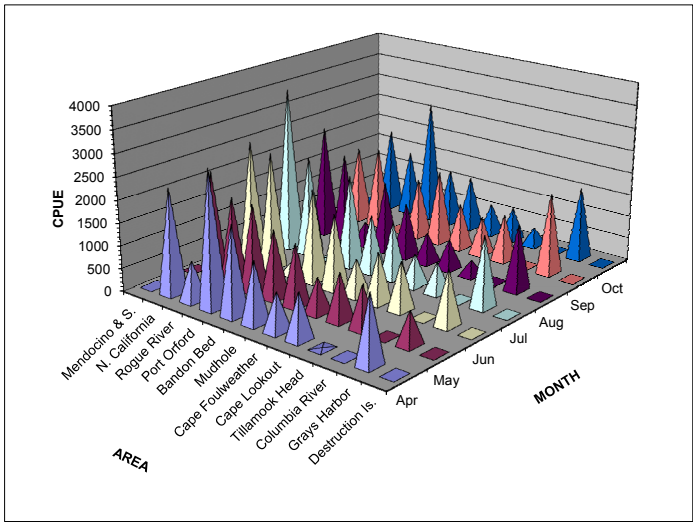

Figure 9. CPUE (=lbs/SRE hour) of vessels harvesting pink shrimp by month and area during 2012.

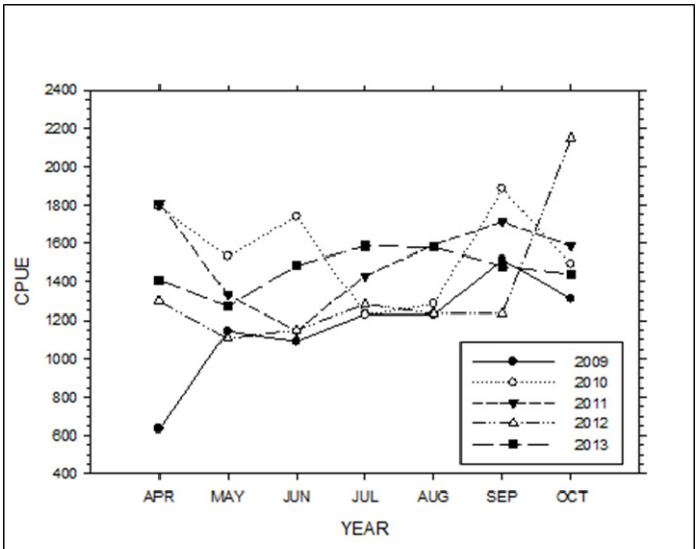

Figure 10. Monthly CPUE (=lbs/SRE hour) for vessels landing pink shrimp into Oregon in 2009, 2010, 2011, 2012 and 2013.

Another way to look at effort is catch-per-trip. It's a fairly crude measure, but shows an interesting long-term trend (Figure 11). Many factors can influence this measure, such as shrimp abundance and age structure, price and the adoption of split-pricing, gear improvements and plant-enforced trip limits; the list goes on. The average catch/trip in 2013 was 46,833, just edging out the previous record in 2011. The catch/trip has ramped up steadily since 2004, the year after the buyback. The levels shown from 2009 on clearly reflect the high shrimp abundance available, but also suggest that harvest and processor strategies may be at-play.

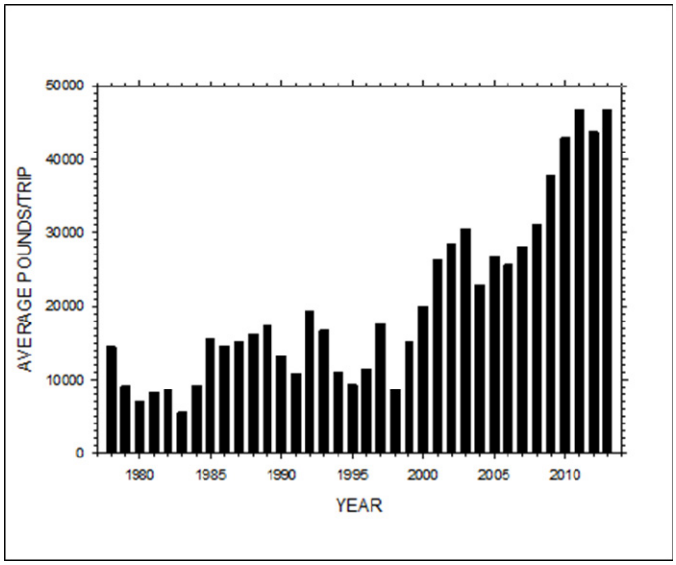

Figure 11. Average annual shrimp catch (pounds) per trip of shrimp vessels landing into Oregon ports; 1978-2013.

The age composition of the 2013 shrimp catch (numbers of shrimp) showed an increased percentage of age-1 shrimp and corresponding decline of age-2 & 3 shrimp, compared to the 2012 catch (Figure 12). Overall, age-2 shrimp remained dominant in 2013, comprising about 53% of the number of shrimp caught (down from 61% in 2012). Holdover of age-1 shrimp from 2012 to 2013 was apparently strong. The relatively low percentage of age-1 shrimp (abundant, but avoided due to small size?) harvested in 2012 may have helped bolster age-2 catches in 2013. It's worth noting that 2013 was the third consecutive year that age-2 shrimp comprised more than 50% of the total catch (number of shrimp), which is unprecedented in the history of the fishery. The trend highlights the potential benefits of avoiding age-1 shrimp when possible and delaying their harvest until the following year.

The catch-weighted average count-per-pound (count) of shrimp landed in 2013 was 106 shrimp/pound, down from 122 in 2012 (Figure 13). The count decline was apparently due to two main factors; high stock abundance with a balanced age composition and rapid growth rates. High coast-wide shrimp abundance allowed shrimpers to target older and larger shrimp in volume, which paid a higher price at the dock under the split-price structure. Also, as many shrimpers told us this year, shrimp appeared to be larger at-age this year. Which environmental factors contributed to the rapid growth is unknown. One possibility that seems plausible is that the shrimp population was spread out over larger areas in 2013 than in recent years, potentially decreasing competition for food.

The overall average ex-vessel price for pink shrimp in 2013 was $.509/pound, up just a fraction of a cent from $.504 in 2012 (Figure 14). Shrimp was generally sold under a four-tier split-price structure ranging from $.30/lb to $.63/lb. The average price per month was stable though the season, varying less than $.02/lb through the season (Figure 15). The total ex-vessel value of the 2013 landed catch was $24,152,361, down $532,932 from 2012.

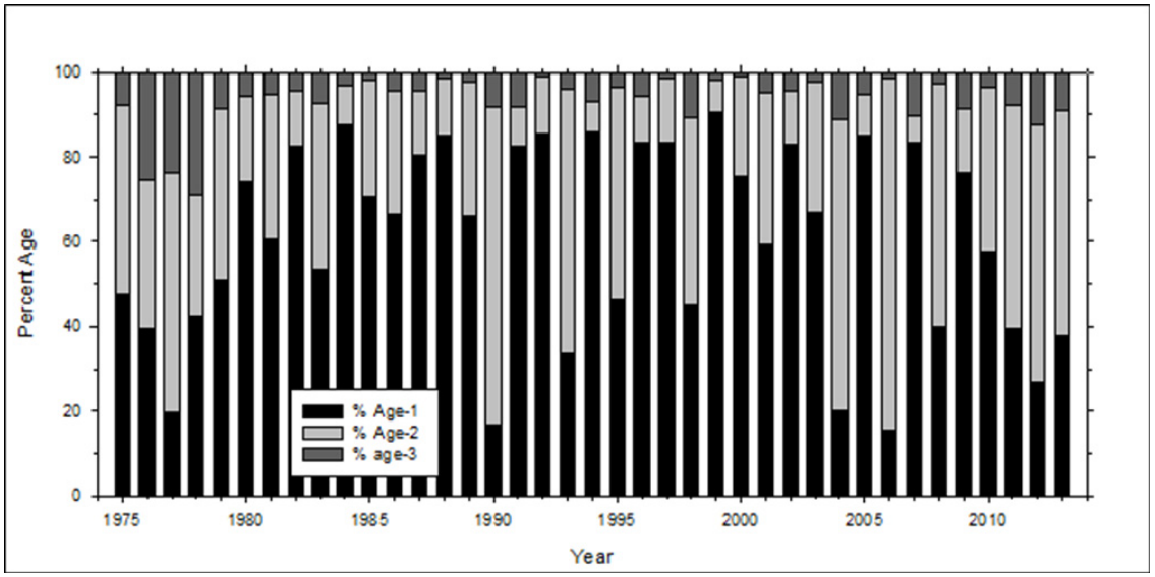

Figure 12. Annual percent age composition of pink shrimp (#'s of shrimp) landed in Oregon, 1975-2013.

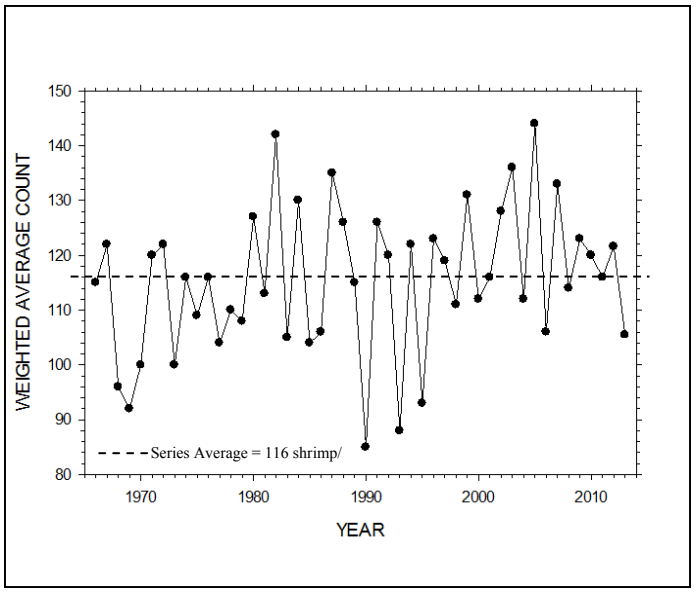

Figure 13. Average (catch weighted) count-per-pound of pink shrimp landed into Oregon; 1966-2013.

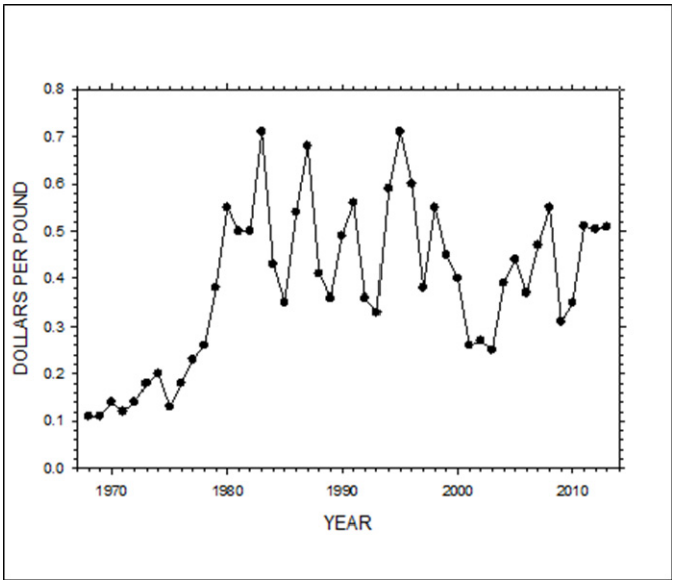

Figure 14. Annual average ex-vessel price per pound paid for pink shrimp landed in Oregon; 1968-2013.

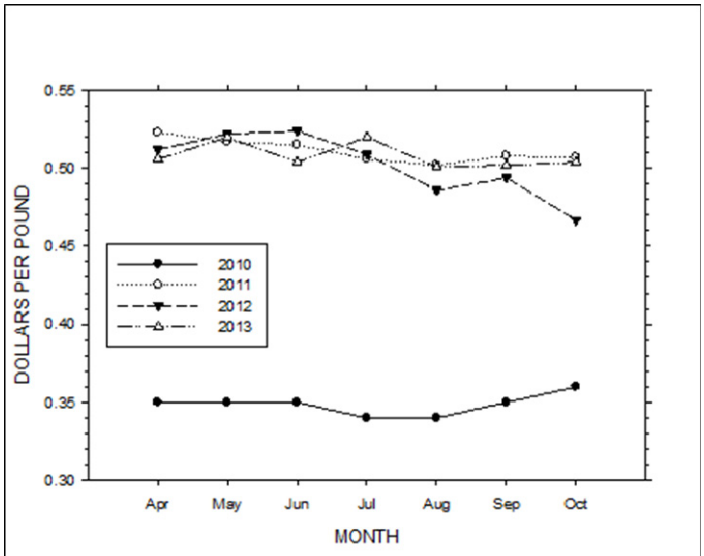

Figure 15. Monthly average ex-vessel price-per-pound paid for pink shrimp landed in Oregon; 2010 through 2013.

Indicators for 2014

The prospects for shrimp availability in 2014 seem very good, barring an unforeseen environmental shift that severely alters shrimp abundance or distribution during winter months. CPUE at the end of the 2013 season was high in most areas, indicating widespread high shrimp abundance along the coast. Conditions for good hold-over of shrimp into the 2014 season appear to be excellent, so we're anticipating enough good-grade shrimp available early in the season for shrimpers to avoid potential count problems.

The percentage of age-0 shrimp in our fall market samples is also encouraging. Age-0 shrimp were present in all areas sampled, from Northern California to Grays Harbor, with the highest percentages coming from the Mudhole, Bandon Bed and Northern California. Peak percentages were sharply higher than what we documented in fall 2011 and 2012, but were not as high as those from 2008 to 2010. The possibility of an above-average recruitment of age-1 shrimp in 2014 is indicated.

Our recruitment model also suggests that age-1 recruitment in 2014 could be high. The predicted index of larval survival is the highest we've seen (Figure 16). If the model holds true, the April-January sea level height value of 7.12 indicates record recruitment is possible, ranging from above average to record levels. An exceptionally large incoming year class could mean that age-1 shrimp will be abundant in many areas, and there's a good chance they will be small due to density effects. They could also comprise a larger percentage of the age composition in 2014 leading to higher counts. Good hold-over of age-2 shrimp should allow shrimpers to target areas with larger shrimp, but if our model proves correct shrimpers may have a harder time finding areas with a high percentage of older shrimp than they have in recent years.

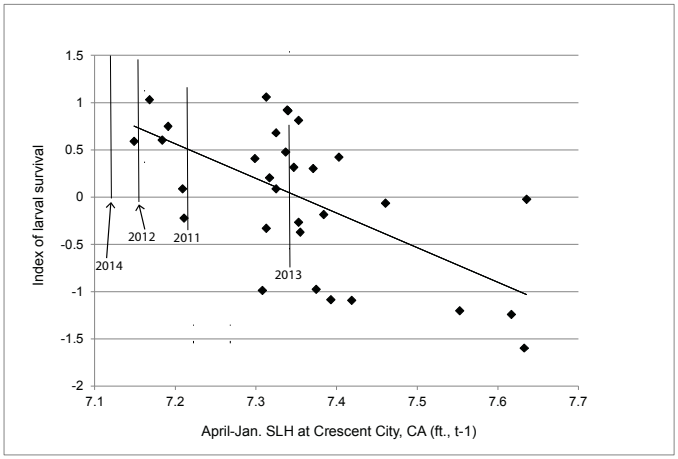

Figure 16. Index of larval survival vs. April-January average sea level at Crescent City, CA. Points shown indicate the year of age-1 catch. The vertical lines indicate the range of larval survival that might be expected given the sea level height for the years identified.

Eulachon Issues/Developments

Although uncertainty remains regarding if or how the shrimp fishery will be further affected by the 2012 listing of eulachon smelt as threatened under the Endangered Species Act (ESA), things appear to be looking up. A tremendous run of eulachon into the Columbia River system in late March 2013 is an encouraging sign that the Southern Distinct Population Segment (DPS) of eulachon has increased in abundance. As in 2012, shrimpers reported that eulachon were widespread and abundant in their catch again during the 2013 season indicating good ocean conditions and suggesting that another good in-river run may be coming in 2014. All this is great news, but shrimpers still need to remember that eulachon remain a listed species and to do what they can to minimize eulachon bycatch. We'll be continuing our efforts in 2014, testing gear modifications aimed at reducing eulachon take in the fishery (see 2014 Research Priorities, pg. 9).

Since the listing of eulachon as "threatened", protected resources staff at NOAA's Northwest Region Office have been charged with developing plans to protect and rebuild the eulachon population. The Office released a recovery plan outline for eulachon in June that serves as a guide for the development of a draft recovery plan, due for completion in September 2015. To get more details, interested shrimp industry folks should check out the documents posted (including the draft plan) at the NOAA website: http://www.westcoast.fisheries.noaa.gov/protected_species/eulachon/pacific_eulachon.html.

In March 2013, ODFW shrimp project staff attended an informational meeting with protected resources staff to describe and discuss various aspects of the west coast shrimp fishery. Washington shrimp project staff also attended. We provided a detailed presentation of how the Oregon fishery is prosecuted and of the eulachon bycatch reduction and eulachon behavioral research that ODFW has conducted.

MSC News/Updates

We want to let Oregon shrimp industry participants know that we plan to move forward with our proposed "Target and Limit" (T&L) shrimp management plan, in order to satisfy a major requirement of the fishery's recent Marine Stewardship Council (MSC) recertification. We plan to discuss the plan with the MSC assessment team during our annual performance review meeting in early 2014. Although we have four years to fully complete the task, the proposed plan must be acceptable to the MSC and then can be considered for adoption as ODFW policy.

Target & Limit (T&L) Management System

T&L Management Progress

After developing the proposed "Target and Limit" plan, our next step in the process was to evaluate industry support for the proposal before deciding on moving forward. We mailed a survey to all Oregon shrimp permit holders in March 2013 and hand-distributed the survey to other industry participants (i.e. skippers, crew and processor personnel) in major ports. Recipients were asked to choose one of the following two options; 1)"I support implementing T&L management as outlined (or something similar)." 2) "I do not want to see any changes to the current management system; understanding that this will result in loss of the MSC certification".

Surveys were mailed to 139 permit holders and 64 were returned (46%). Of those received, 73.4% of respondents chose Option 1; supporting plan implementation. Those choosing option 2 constituted 23.4% (not wanting change), while 3.1% were undecided.

Survey participation by non-permit holders (i.e. skippers, crew and processor personnel) was poor, with only 30 returned. Many potential participants were reluctant to fill out a survey, weakening any results concerning these categories. Tallies by participant category are as follows. Skippers returned 13 surveys with 10 choosing option 1. Crew returned 8 surveys with 4 choosing option 1. Processor personnel returned 8 surveys with all choosing option 1.

Available Resources

We presented details and a discussion of the potential new T&L system in last years' newsletter, which can be viewed on the ODFW website at http://www.dfw.state.or.us/MRP/publications/ under "shrimp reports". Also, we'd be glad to supply a copy of the draft T&L document to interested parties upon request. Just give us a call at 541 867-4741, or request copies from any of our port biologists when you see them.

Just as a brief refresher, a T&L shrimp management system establishes specific guidelines to curtail portions of the shrimp season if certain conditions indicate that the shrimp population is at an extremely low level. This type of system is used in most of the world's fisheries and simply requires a "target"; a level we'd like to keep the stock above, and a "limit"; a level where we take more serious steps to protect the stock. Historically, the Oregon shrimp fishery has been liberally managed by establishing a 7-month season, a maximum count-per-pound regulation and a limited entry system. Under the current system, shrimpers could continue to fish despite evidence for extremely low stock levels, unless ODFW took emergency action. It's important to remember that ODFW could take emergency action if warranted even without adoption of the "T&L" system.

The "Target" in this draft T&L proposal is just a minimum stock size that we don't want to fall below. Concern about a low shrimp spawning stock would be triggered if the average catch/trip for landings into Oregon during the month of June falls below 12,500 pounds. Under this scenario, the season would end on 15 October. The following season would not start until 15 April. The closure would provide increased protection for a small spawning stock of egg-bearing females, and increase the chance of a quick rebound.

The "Limit" in this draft T&L proposal is a threshold stock size at which shrimp fishing is halted to prevent the stock from going below the lowest levels of spawning stock biomass observed to date. If we experience a larval year with very high sea levels (i.e. El Nino) AND June catch/trip the following year drops below 10,000 pounds, the season would end during mid-July and would remain closed until 15 April of the following year.

2013 Research results

Eulachon Bycatch Reduction Efforts

We continued our tests of "footrope windows" as a tool to reduce eulachon bycatch this year, aboard the chartered vessel F.V. Miss Yvonne. As in 2012, we tested a trawl with groundgear modified to create a five-foot wide escape window underneath the fishing line (Figure 17). The only difference this year was that we used lighter and smoother materials (rubber hose covered cable) in the groundline sections to either side of the "footrope window". The new design was intended to reduce mud cloud formation and to reduce invertebrate disturbance caused by weight and pinching in spaces between rubber discs of more typical groundline gear (i.e. sea whip uprooting). Our results this year continued to demonstrate that

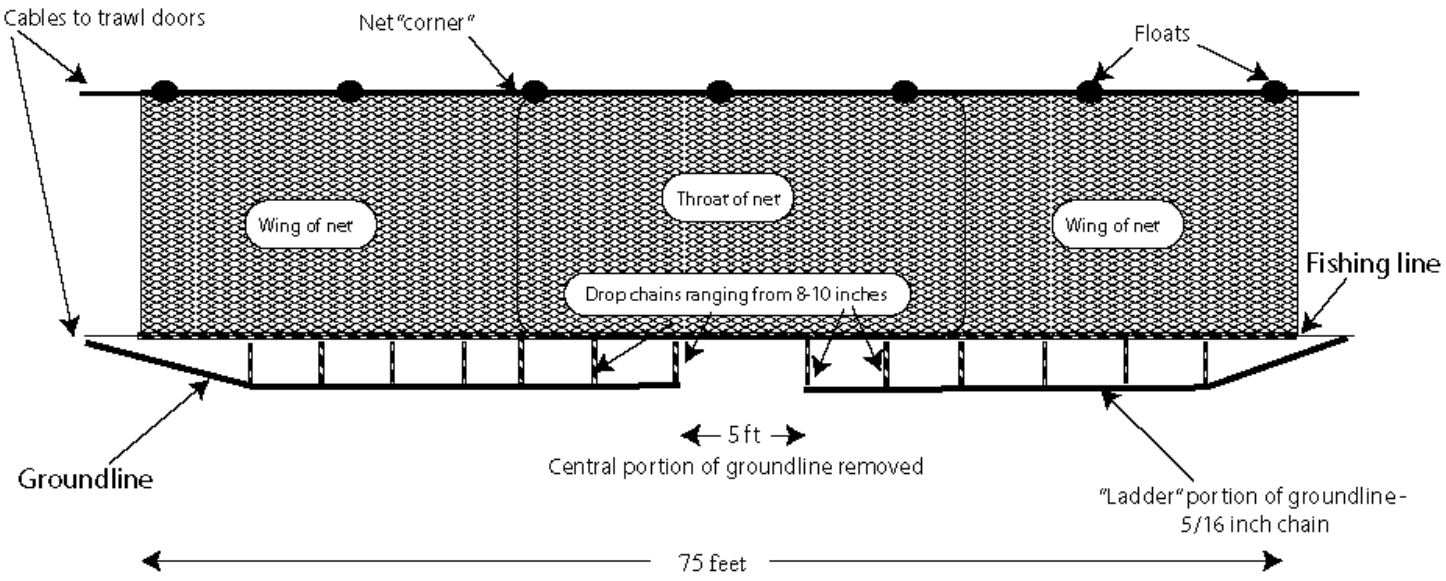

Figure 17. Schematic of a pink shrimp trawl net with a narrow center section of the groundline removed (viewed from front, not to scale. We tested this style against a trawl net with a complete groundline.

eulachon entrainment can be reduced significantly by providing a "small" footrope window at the center of the groundline. However, shrimp loss due to the window continued to be relatively high too.

The three footrope window experiments that we've conducted over the last three years have consistently demonstrated that eulachon bycatch can be reduced by introducing a footrope window. However, shrimp loss due to a footrope window may lead a shrimper to do more tows during a trip, potentially negating the benefits for eulachon bycatch reduction. We currently feel that the footrope window concept has been investigated adequately and the benefits/detriments are understood, and that requiring the use of footrope windows would not be an effective regulatory tool to reduce eulachon bycatch. We've produced an Informational Report titled "Tests of trawl footrope modifications to reduce the bycatch of eulachon (*Thalleichthys pacificus*) and other small demersal fishes in the ocean shrimp (*Pandalus jordani*) trawl fishery" that presents and discusses our findings in detail. The report is available on the ODFW web site at "http://www.dfw.state.or.us/MRP/publications/". Just give us a call if you'd like a hard copy.

Shrimp Trawl Impact Assessment

After a six-year hiatus, ODFW Marine Program Staff returned to the Nehalem Bank Essential Fish Habitat (EFH) area in August to continue our on-going study of shrimp trawl impacts on soft-bottom habitats and biota. The EFH is unique, in that it contains areas that were trawled regularly by shrimpers prior to the trawling prohibition imposed in 2006. Areas outside the closure continue to be trawled frequently.

As newsletter readers may recall, we conducted a base-line study in 2007 to document benthic macroinvertebrate and fish distribution within, and adjacent to, the newly created Nehalem Bank EFH. Four one-mile-square quadrats were originally selected for the 2007 study; two within the new EFH and two outside the new EFH boundary (Figure 18). A series of video transects were conducted across each quadrat, using our Remotely Operated Vehicle (ROV). Fish, invertebrates and bottom features observed along each transect were identified and counted. Densities of various species and bottom features were analyzed and our findings presented in a paper titled "Effects of ocean shrimp (Pandalus jordani) trawling on macrobenthos and seafloor habitat at four sites near Nehalem Bank, Oregon"; published in the January 2010 issue of Fishery Bulletin.

Our task in 2013 was to repeat the video transects and analyses conducted in the original study, which may allow us to detect any differences developing between trawled and untrawled habitats. We chartered the R.V. Pacific Surveyor as our research platform and successfully resurveyed each original quadrat using our ROV (Figure 19). The process went fairly smoothly, but we encountered some technical problems with the ROV tracking system and had poorer visibility than we experienced in 2007; factors that may complicate the analysis. We hope to complete the analysis of the 2013 transects sometime in 2014. Look for updates in next years' newsletter.

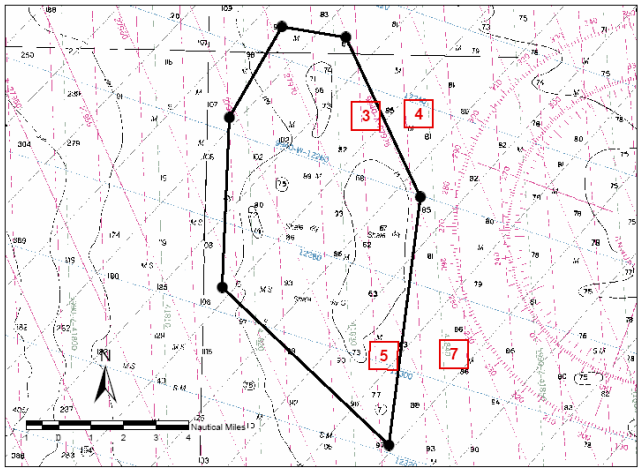

Figure 18. A chart of the Nehalem Bank/Shalepile area showing the EFH no-trawl zone boundaries established in June 2006. The squares labeled #'s 3, 4, 5 and 7 are the areas surveyed during the June 2007 charter on the F.V. Miss Yvonne and which we hope to resurvey in 2013.

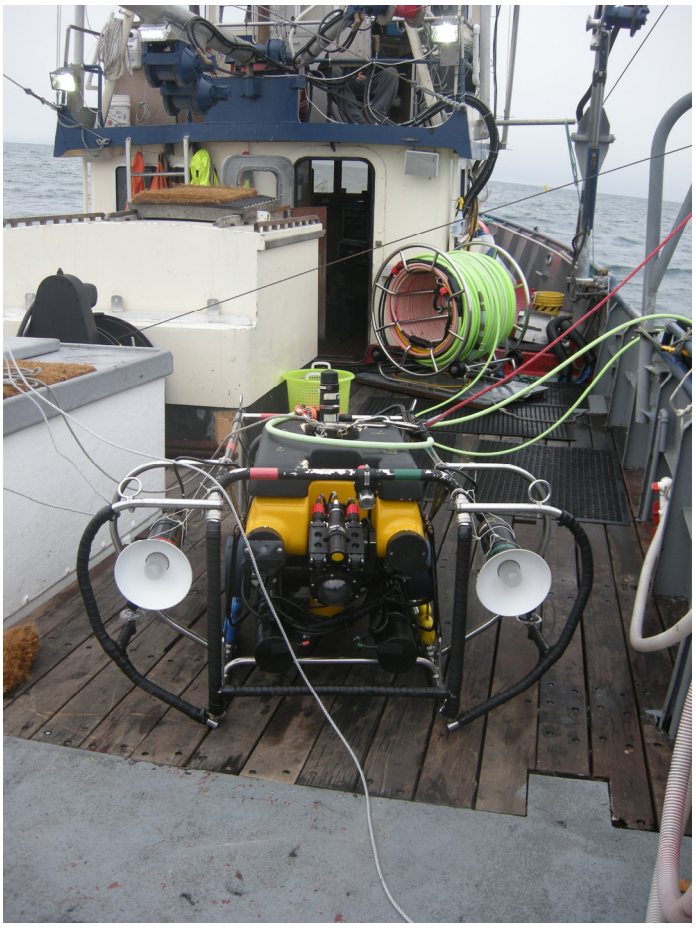

Figure 19. A view of the back-deck on the R.V. Pacific Surveyor, with the ROV ready for launch. After launch, the ROV descends to the bottom where it is guided along pre-established transects, just above the bottom.

2014 Research Priorities

Starting last year, we changed the format of this section presenting our research plans for the upcoming year. The change addresses an MSC requirement that the shrimp project formalize its approach to planning for the fishery-related research that we do. In our new format, we address three research areas briefly every year: shrimp population dynamics, non-target catch and ecosystem effects. Note that although we address each priority every year, we don't necessarily have planned activities for all three every year. In interpreting the 2014 priorities presented below, it should be noted that regardless of what priority is assigned to any particular research plan component, the completion of work in any given year will always depend on staff and equipment availability and the amount and type of funding available. The availability of research funding can be highly variable from year to year.

Shrimp Population Dynamics (Priority 1)

Our ongoing efforts to sample the fishery, analyze sample and logbook data and periodically evaluate our environmental models, trends in the fishery and any new evidence relating to fishery-driven stock declines is our top priority. This work is our top priority because it is the basis for managing the fishery the way we do, using primarily just a 7-month season, a limited entry system and a maximum count-per-pound regulation. In 2014, this component of our research plan will consist of three activities. First, we will continue with our basic monitoring program consisting of fishery sampling and collecting and analyzing logbook data. Second, we will re-evaluate the fishery's long term effects on shrimp population structure, which was last done several decades ago. We will be evaluating how recent increases in shrimp density have influenced growth, age composition and sex change. We will also update our shrimp population models and re-evaluate how environmental effects continue to influence shrimp recruitment.

Non-target catch (Priority 2)

Although the shrimp fishery has made great strides in reducing bycatch with BRDS and is probably the lowest bycatch shrimp trawl fishery in the world, working on further reducing bycatch, where possible, is still a high priority because of the "threatened" status of eulachon. We understand the substantial challenges of rebuilding eulachon and recognize that the factors that drive their population levels are primarily external to the shrimp fishery. However, we still need to do what we can to help lower bycatch and improve survival of eulachon that interact with shrimp trawl nets.

That being said, many of the obvious bycatch reduction strategies have already been evaluated for this fishery, so we initially did not have plans for bycatch reduction field studies in 2014. However, a joint proposal submitted with Mark Lomeli of the Pacific States Marine Fisheries Commission has been selected for funding by the National Marine Fisheries Service under their competitive Bycatch Reduction Engineering Program (BREP). The proposed study follows up on ODFW behavior studies of eulachon interacting with shrimp BRDs. We will be evaluating the influence of strategically placed artificial lights (Lindgren-Pitman LED Electralume® fishing lights) on eulachon exclusion/avoidance efficiency. In separate tests, the research will be conducted on a chartered double-rig shrimp vessel, and will involve placement of small battery-powered LED lights on or near the rigid-grate BRD and along the fishing line of the net being tested to see if bycatch reduction can be improved by making these elements of the trawl system more visible to fish.

Ecosystem Effects (Priority 3)

Research on ecosystem effects is our lowest research priority simply because our research program is small and the issue of ecosystem effects of west coast fisheries is large and complex (large spatial scales, effects from multiple fisheries, a generally poor understanding of many species that are not the focus of major fisheries, etc.). Quite simply, ODFW shrimp staff can occasionally conduct studies of limited scope that help some with specific ecosystem issues related to the shrimp fishery, but the larger problems are simply too spatially extensive to attack with our limited research budget and staff. However, in 2013 the "funding and ROV stars aligned" and we did return to Nehalem Bank and re-surveyed the 4 areas that were evaluated in 2007 for benthic effects from shrimp trawling. Research in 2014 will focus on analysis of the ROV video data obtained in 2013 to determine what types of changes may have occurred in benthic invertebrate populations in these 4 areas over 6 years. Two of the re-surveyed areas have been closed to trawling and two remained open to trawl gear.

Observer News

No major changes are anticipated in 2014 regarding the West Coast Observer Program activities in the shrimp fishery. Selected Oregon, Washington and California shrimp vessels will continue to be required to accommodate observers.

Enforcement Issues

Count-Per-Pound

Except for some spot-checks of loads, no count issues were reported by the Oregon State Police (OSP) or by ODFW dock personnel during the 2013 season.

Grate Spacing Issue

Before the 2013 season began, ODFW staff observed a net shop employee installing a rigid-grate BRD in a shrimp net. It was a double-ringed grate that appeared to have spaces between the rings well over ¾ inches across. The net owner was contacted and agreed to have the grate modified. Shrimpers are reminded that ALL spaces between bars (including rings) must be no more than ¾ inch wide.

We were contacted by OSP about obtaining more grate-space measuring gages for anticipated enforcement use. The implication is that OSP will be doing more spot-checks of grates in 2014.

Logbook Enforcement

ODFW staff requested OSP assistance after a shrimp vessel skipper repeatedly refused to supply logsheet copies upon request. The skipper was informed that OSP would be at the dock at his next scheduled landing. He delivered all his outstanding logs soon after at the local ODFW office. Such incidents rarely occur in Oregon, but occasionally a skipper

will claim that they don't need to keep or turn in a log. We want to remind all shrimpers that Oregon Administrative Rule (OAR) 635-04-050 clearly states that a logbook is required in the shrimp fishery and copies must be made available to ODFW personnel upon request.

Season-End Landing Requirement

We received a flood of questions during the last week of the season regarding the rules defining when a shrimp vessel had to stop fishing and be in-port at the end of the season. The unusually good weather and catch rates during late October led many shrimpers to take one last trip. Our standard response over the years, based on a liberal interpretation of the applicable rule (and in consultation with OSP), has been that a vessel needed to be in port by midnight on 31 October. Several skippers complained to us after the season that they had to cut a productive trip short due to long run times back to port.

The applicable rule defining when the season closes is Oregon Administrative Rule (OAR) 635-05-185. It clearly states that "**It is unlawful to take, land or possess pink shrimp from the Pacific Ocean from November 1 of any year through March 31 of the following year**". So technically, a shrimp vessel must begin the offloading process before midnight on 31 October to be legal. Our "liberal" interpretation has been and continues to be that being docked in port by midnight constitutes the beginning of the offloading process.

Shrimpers need to remember that the Oregon shrimp season is managed quite liberally in the first place. Allowing shrimpers to fish right up to the last hour could functionally extend an already lengthy season in some years. Harvest this late in the season also impacts large numbers of egg-bearing females, potentially negatively and unnecessarily affecting the next years' recruitment.

Hagfish/Shrimp Gear Conflicts Reported

Several shrimpers contacted us this year with complaints regarding interactions with hagfish longline gear on the shrimp grounds. The most common concerns were unmarked or poorly marked gear on the grounds, and lost hagfish gear that damaged shrimp trawls and reduced shrimp catches. As the number of hagfish fishery participants has increased, the potential for future conflicts has apparently increased as well; reportedly more along the central coast. Some shrimpers have told us that communication between shrimp and hagfish fishermen has been better along the north Oregon coast and Washington, resulting in fewer negative gear interactions.

No formal regulatory action is currently planned by ODFW, but the problem is on our radar and action may become necessary in the future if the problem persists. First, we encourage shrimpers to contact local hagfish skippers to establish fishing protocols that reduce conflict (i.e. adequate marking, setting longlines along fathom contours). In the meantime, we encourage shrimpers to start documenting conflicts that they experience in their logbook, noting the nature of the conflict, the vessels involved and location. Also, please mention your notes to a port biologist when they pick up your logs so we don't miss your comments.

Bats?!

Got bats? It seems like an odd question, but ODFW staff would like to gather information on bat sightings and locations at-sea. The information gathered may be considered in the future when evaluating environmental impacts of offshore development activities. If you see bats at-sea, please make a note in your logbook and mention any sightings to the ODFW biologist that picks up your logs. You can also contact Delia Kelly directly, the biologist archiving the information, at 541-867-4741. Several shrimpers reported seeing bats on the shrimp grounds this year. One skipper reported seeing bats of two distinct sizes, indicating two different species. Since there is so little known about bat occurrences off our coast, it's all good information.

Washington Buy-back Paid-up

Washington shrimpers paid off their vessel/permit buy-back loan during November. Robust landings for the last four seasons combined with good ex-vessel prices have really helped speed the payoff. Oregon shrimpers paid off their loan in 2012, while California shrimpers reportedly have some way to go.

Regulation Info.

Groundfish Limits

The NMFS proposed 2014 groundfish limits for shrimpers are listed below.

- The groundfish TRIP LIMIT for shrimpers is 1500 lb./trip, not to exceed 500 lb./day.
- The weight of groundfish landed may not exceed the weight of shrimp landed.
- Canary Rockfish, Thornyheads and Yelloweye Rockfish are prohibited.
- Lingcod, 300 lb./month with a 24" minimum size limit.
- Sablefish; 2000 lb./month.
- All other groundfish; Landings of these species count toward the per-day and per-trip groundfish limits and do not have species-specific limits.
- Limited entry groundfish vessels possessing pink shrimp permits and harvesting pink shrimp must stay within the daily/monthly limits established for the shrimp fishery. They must also include any fish catch taken while shrimping toward their species limits for the limited entry groundfish fishery.

Essential Fish Habitat Trawl Closures

In 2006, the Pacific Fisheries Management Council (PFMC) designated several Essential Fish Habitat (EFH) areas off the Oregon coast as no-trawl zones. The areas are set aside to protect hard-bottom habitats and associated species. Shrimpers are cautioned NOT to trawl within these areas. The NMFS will enforce the EFH no-trawl areas via the Vessel Monitoring System. The area-closure that may affect Oregon shrimpers most is the Nehalem Bank/Shalepile EFH. Other EFH no-trawl areas near commonly shrimped grounds are Daisy Bank, Stonewall Bank, Heceta Bank and Coquille Bank. The coordinates delineating the Nehalem Bank and other EFH areas are listed on the PFMC web page at "http://www.pcouncil.org/groundfish/fishery-management-plan/fmp-appendices/", under Appendix C #3: Coordinates for EFH Conservation Areas.

CA/OR Shrimp Trawl Mesh Regulations

Many Oregon shrimpers traveled below the California/Oregon border to harvest shrimp in 2013. We heard no reports of shrimping violations during 2013, but we want to remind Oregon shrimpers again of the need to be thoroughly aware of shrimp trawl regulations in both California and Oregon before they shrimp below the border.

California regulations require all California permitted pink shrimp trawlers fishing below the Oregon border to use trawls with a mesh size no smaller than 1-3/8" between the knots when shrimp trawling from 3-200 miles offshore. No trawling is allowed within California state waters (0-3 miles). Also, these vessels may not have any mesh smaller than 1-3/8" between the knots anywhere on-board (including extra codends). Oregon permitted pink shrimp trawlers fishing below the Oregon border that don't have a California permit must also use nets (including codends) with mesh no smaller than 1-3/8" between knots. If there is any other mesh in their nets or on-board (i.e. stored codends), such a vessel may not legally transit within California state waters (0-3 miles) at any time during the trip. Details on pertinent regulations can be found on the California Department of Fish and Wildlife website at: **http://www.dfg.ca.gov/**, pages 62-64.

Oregon regulations require that shrimp harvested below the California/Oregon border and landed into Oregon be caught with California-legal nets. The regulation reads; "It is unlawful to land shrimp taken south of the Oregon-California border with nets having a mesh size of less than 1-3/8 inches between the knots". Regulations pertaining to shrimp trawling can be found California Deparment of fish and Wildlife web site at: **http://www.dfg.ca.gov/**. Just search their site for "Commercial Fishing Digest".

VMS and Declarations required

The National Marine Fisheries Service (NMFS) permanently requires shrimp vessels to have an approved and operating Vessel Monitoring System (VMS) on-board. For VMS-related information, please consult the NMFS "Compliance Guide for the Pacific Coast Groundfish Fishery Vessel Monitoring Program" at the following website: http://www.nwr.noaa.gov/Groundfish-Halibut/Groundfish-Fishery-Management/Vessel-Monitoring-System/Index.cfm, or call NMFS Office for Law Enforcement at 206-526-6133.

Additionally, NMFS requires shrimpers to file a declaration report before the vessel is used to fish in any Rockfish Conservation Area (RCA). Shrimpers need to declare before leaving for their first shrimp trip of the season. Only one declaration is required for the season, providing that the vessel doesn't engage in another fishery during the season. For details about declaration procedures, please visit the NOAA Fisheries Office for Law Enforcement website (http://www.nmfs.noaa.gov/ole/nw_declarationreqs.html). Declarations may be made via phone by calling 1-888-585-5518.

2013 Publications

Hannah R.W. & S.A. Jones. 2013. Total catch, fishing effort and age and sex composition of the catch, by area, for the ocean shrimp (*Pandalus jordani*) trawl fishery, 1996-2012. Oregon Department of Fish and Wildlife, Pink Shrimp Project Data Report. 77pp.

Hannah R.W. & S.A. Jones. 2013. Tests of trawl footrope modifications to reduce the bycatch of eulachon (*Thaleichthys pacificus*) and other small demersal fishes in the ocean shrimp (*Pandalus jordani*) trawl fishery. Oregon Department of Fish and Wildlife, Information Reports. No. 2013-02.17pp.

Hannah R.W., S.A. Jones & M.J.M. Lomeli. 2013. Direct estimation of disturbance rates of benthic macroinvertebrates from contact with standard and modified ocean shrimp (*Pandalus jordani*) trawl footropes. Journal of Shellfish Research, Vol. 32, No. 2, 551-557.

Acknowledgements

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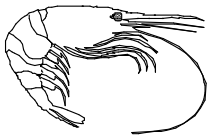
Good Luck Shrimping in 2014!



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