



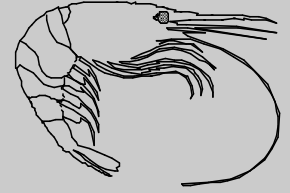
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Annual Pink Shrimp Review

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TO: OREGON SHRIMP INDUSTRY
FROM: Bob Hannah and Steve Jones
Subject: Opening of 2009 Commercial Fishery
Date: 16 February 2009

The 2009 pink shrimp (*Pandalus jordani*) season will begin 1 April and extend through 31 October. A summary of the 2008 season is provided for your review, including catch, effort and market sample information. Indicators for the 2009 season, new logbook compliance, research findings, fleet innovations and other topics are discussed.

Heads-Up!

- New Logbook Requirements & Info. (pg. 5)
- Weight Approximations for estimating discard (pg. 6)
- Declaration/VMS required (pg. 6)
- EFH Trawl Closures (pg. 6)
- Potential Fishery Issues (pg. 9)
- Fleet Innovations (pg. 10)

2008 Season Summary

Despite a slow start, Oregon shrimpers landed just over 25.5 million pounds during the 2008 season (Figure 1). The total was about 20% more than during 2007 and was the highest landing total since 2002. Ex-vessel prices were up and catch rates were generally high. By most accounts it was a darned good season, despite shrimpers struggling with soaring fuel prices and the abnormally high abundance of young-of-the-year (“mini”) hake on much of the grounds.

The Oregon shrimp industry also reached a milestone this season: the total poundage of pink shrimp landed into Oregon since the fishery began in 1957 reached one billion (yes that’s BILLION with a B) pounds. Over the time period of 1957 through 2008, the average annual landing for Oregon was about 19.6 million pounds (Figure 1). Coincidentally, that’s just about the same as our 15 year average that we usually use for comparison. In any case, this milestone is impressive both in terms of poundage and duration. It speaks well of the sustainability of our Oregon pink shrimp fishery.

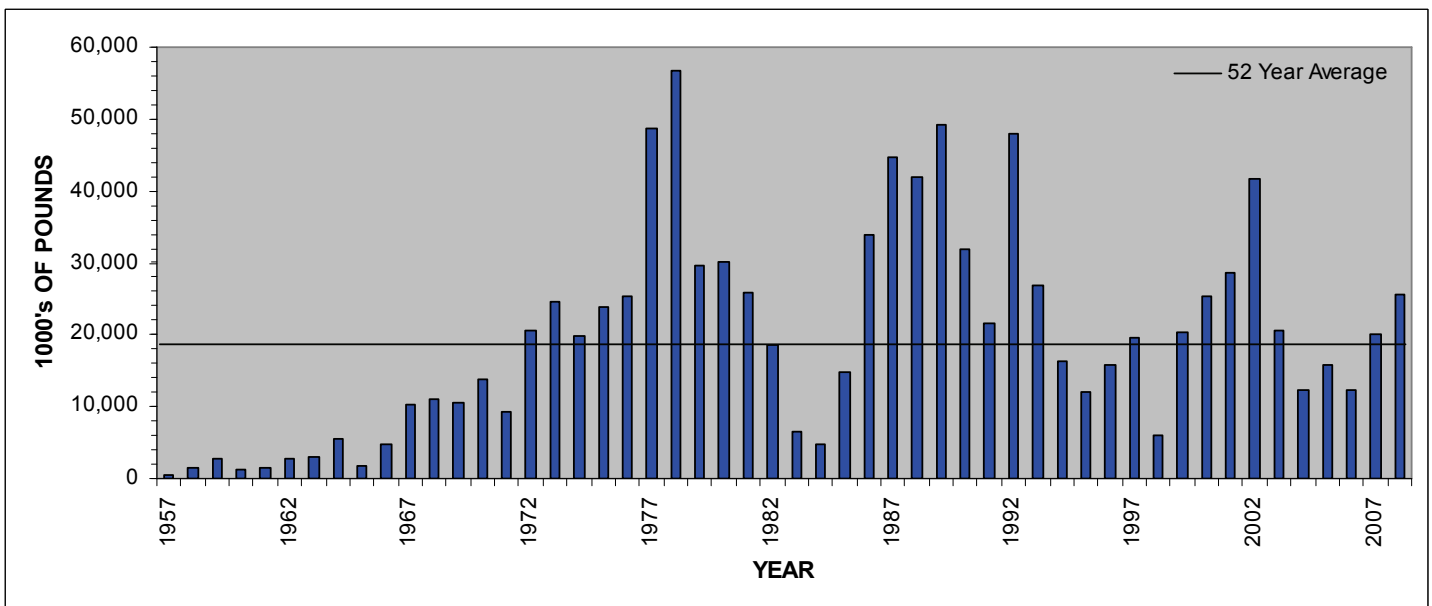


Figure 1. Oregon pink shrimp commercial landings (millions of pounds) 1957-2008. Includes all pink shrimp landed into Oregon ports.

Fishing began slowly for the most part with most vessels not fishing until about 18 April due to price negotiations. Once fishing began though, shrimpers managed to harvest a respectable 1.5 million pounds for the month; below average but about the same as in 2007 (Figure 2). Monthly landings were well above average from May through August, then declined to just about average during the last two months of the season.

Shrimp catches were widely distributed among areas during 2008, with good catches reported from most areas from Destruction Island to Cape Mendocino (Figure 3). In 2007, production areas were less widespread with most of the catch occurring from the Tillamook Head bed to the Port Orford bed. The top producing area in 2008 was the Mudhole bed which produced about 4.5 million pounds. Monthly production by area was highly variable, but the highest month-area harvest occurred during May in the Cape Lookout bed with a total of about 2.2 million pounds.

Fishing effort increased slightly during 2008 both in terms of hours fished (Figure 4) and number of vessels participating (Figure 5). Shrimpers put in approximately 39,000 hours catching shrimp, maintaining the relatively low range seen since about 2003 but still showing an increase. The number of vessels landing shrimp into Oregon in 2008 was 58, an increase of 13 vessels over 2007. The number of shrimp landings into Oregon ports also increased during 2008 with shrimpers making 821 landings as compared to 715 trips in 2007 (Figure 6).

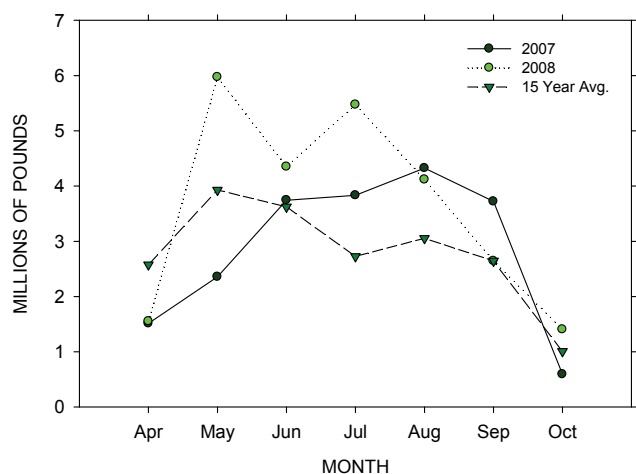


Figure 2. Oregon pink shrimp landings by month during 2007, 2008 and the 15 year average (1992-2007).

The 2008 overall catch per unit of effort (CPUE) came in at 657 pounds per hour, the highest level since 2002 (Figure 7). The area with the highest overall CPUE was the Northern California bed at 1,355 pounds per hour. Coast-wide, CPUE was over 500 pounds per hour in most areas and was sharply higher from the Bandon bed and south. However, no effort or catch was recorded from south of Cape Mendocino in 2008.

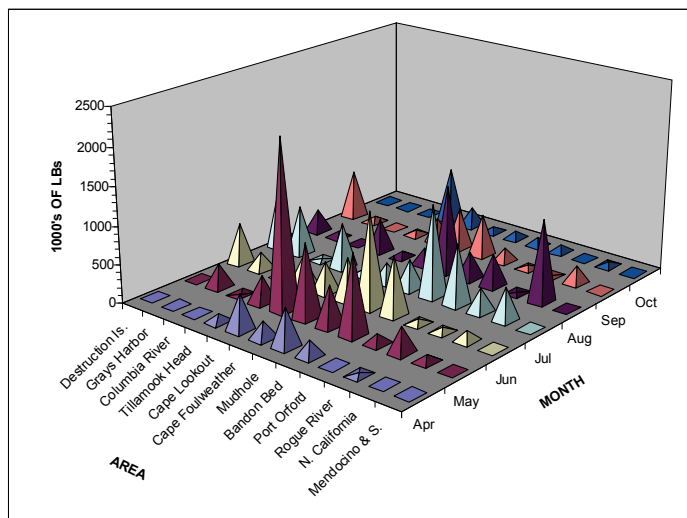


Figure 3. Total 2008 Oregon pink shrimp landings (1000's of pounds) by month and statistical area.

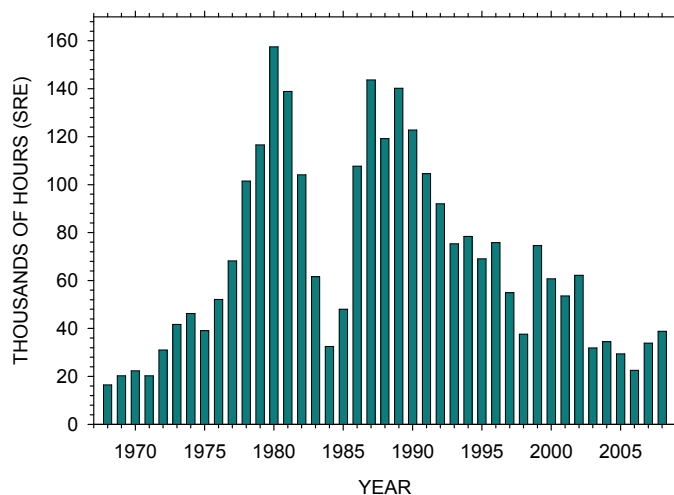


Figure 4. Fishing effort for pink shrimp landed in Oregon, 1968-2008. Note: 1000's of single-rig equivalent hours: 1 SRE = (1 single-rig hour) = (1 double-rig hour X 1.6).

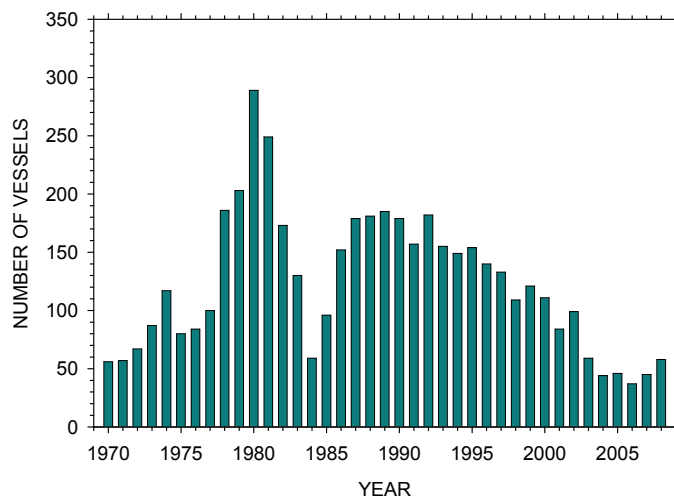


Figure 5. Annual number of vessels landing pink shrimp into Oregon ports: 1970-2008.

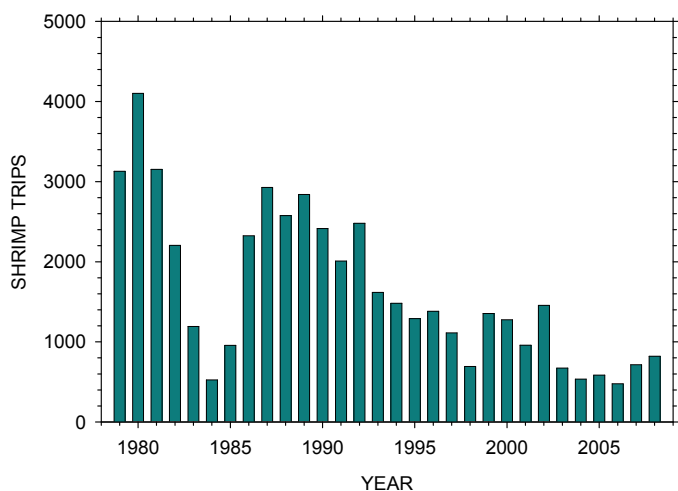


Figure 6. Annual number of trips landing pink shrimp into Oregon ports: 1979-2008.

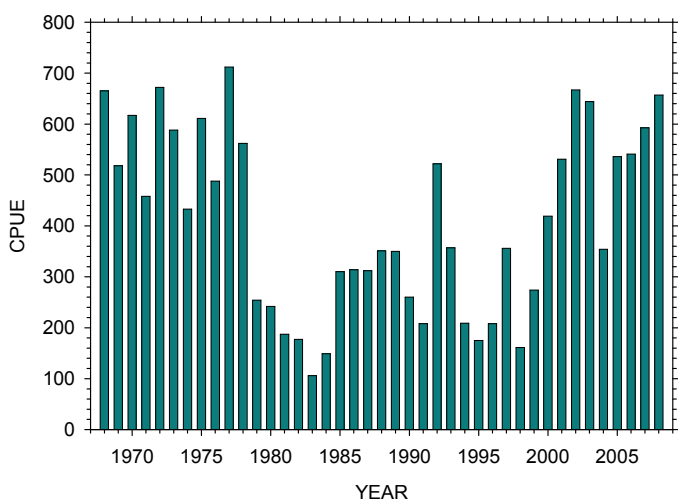


Figure 7. Catch per unit of effort (CPUE = lbs/SRE hour) for vessels landing pink shrimp into Oregon; 1968-2008. Note: 1 SRE = (1 single-rig hour) = (1 double-rig hour X 1.6)

The shrimp catch during 2008 was heavily dominated by age-2 shrimp, about 57% of the number of shrimp caught (Figure 8). Age-1 shrimp comprised about 40% of the catch, a sharp decline from the 83% recorded in 2007. The shrimp catch taken from the Mudhole and south tended to have a higher percentage of age-1 shrimp than those taken from grounds to the north, suggesting that age-1 recruitment was strongest south of Heceta Head in 2007.

The weighted average count per pound (count) of shrimp landed during 2008 was 114 shrimp per pound, a sharp decline from the 2007 count of 133 (Figure 9). The lower average count resulted from the high percentage of age-2 shrimp in the catch. Relatively slow growth rates of age-1 and age-2 shrimp seen during 2008 apparently kept the average count from being even lower.

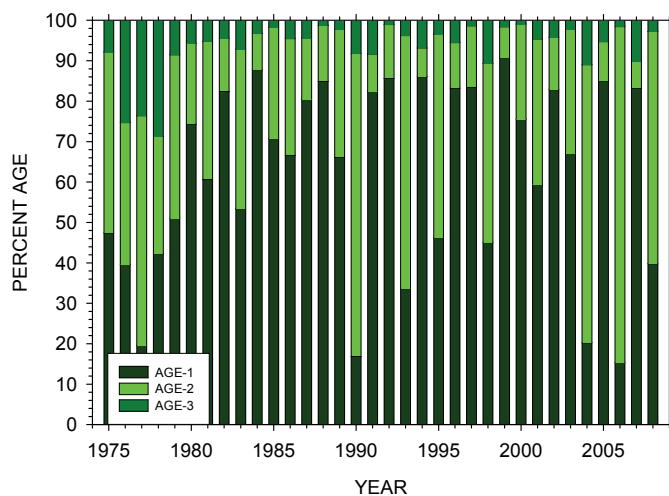


Figure 8. Annual percent age composition of pink shrimp (#'s of shrimp) landed in Oregon, 1975-2008.

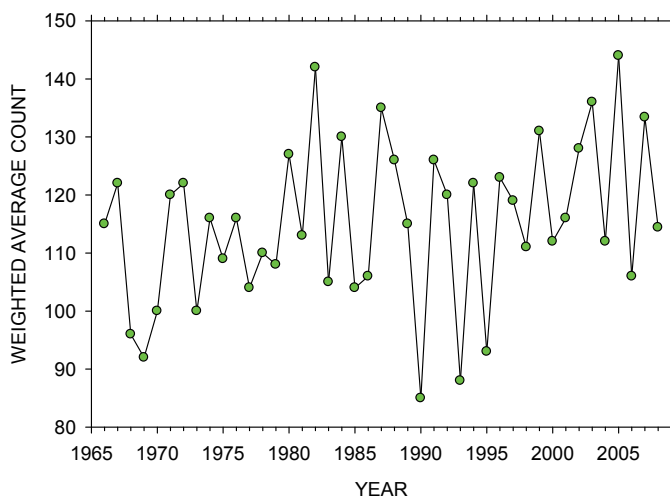


Figure 9. Average (catch weighted) count per pound of pink shrimp landed into Oregon; 1966-2008.

The coast wide average ex-vessel price for shrimp in Oregon during 2008 was \$.55/lb., a \$.07/lb increase over the average in 2007 (Figure 10). The higher price was welcomed by the fleet which, like everyone else, experienced unprecedented fuel price increases during the season. The monthly average increased steadily through the season, starting at \$.51 during April and ending at \$.60 during October (Figure 11). The average monthly price varied along the coast, with central coast landings receiving a slightly higher price through August. In southern areas, the lower average prices were probably related to relatively high percentages of age-1 shrimp in the catch causing increased counts. Some loads of marginal grade shrimp from southern beds reportedly received \$.25/lb. The percentage of age-1 shrimp was lower in northern beds, but shrimp are generally smaller at-age in northern waters contributing to higher counts than in areas to the south.

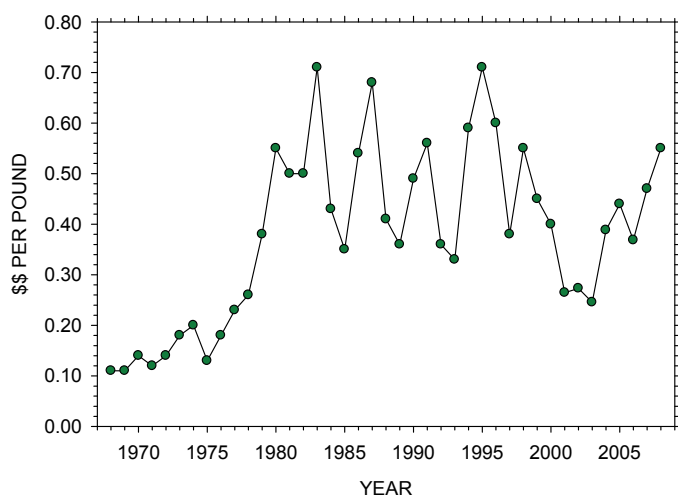


Figure 10. Annual average ex-vessel price per pound paid for pink shrimp landed in Oregon; 1968-2008. Prices not adjusted for inflation.

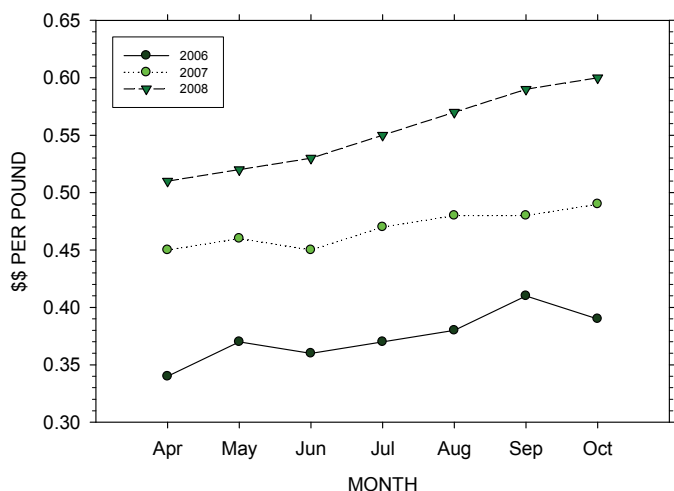


Figure 11. Monthly average ex-vessel price per pound paid for pink shrimp landed in Oregon during 2006, '07 and '08.

Indicators for 2009

Prospects seem good for shrimp production during the 2009 season, with little reason to expect less than average shrimp abundance. However, the majority of harvest may occur in southern areas, depending on recruitment patterns and hold-over. Just how market conditions during the recession and/or fuel prices will influence fishing effort patterns in 2009 is unknown, but we think the shrimp will be available.

Overall, hold-over of shrimp from 2008 should be fairly good, especially in areas south of Cape Perpetua where age-1 shrimp were most abundant. Season-end CPUE was high in October at 539 lbs/hour, just slightly lower than the 569 lbs/hour seen in October 2007 (Figure 12).

For perspective, good hold-over of the dominant age-1 year class of shrimp from 2007 (harvested at age-2 in '08) was a major contributor to the 2008 harvest coast-wide. The scenario will probably be different in 2009 because the age-1 component of the late-season catch in 2008 was fairly high only in areas south of Cape Perpetua. Northern areas may have sharply less hold-over of age-1 shrimp (age-2 in '09). Hold-over survival to age-3 in 2009 is a big question. The age-3 component of the catch over the last three decades has been about 10% or less, by number of shrimp (Figure 8). Though possible, it doesn't seem likely that age-3 shrimp will be a large component of the catch in 2009. However, abundance should be high enough to help improve counts early in the season.

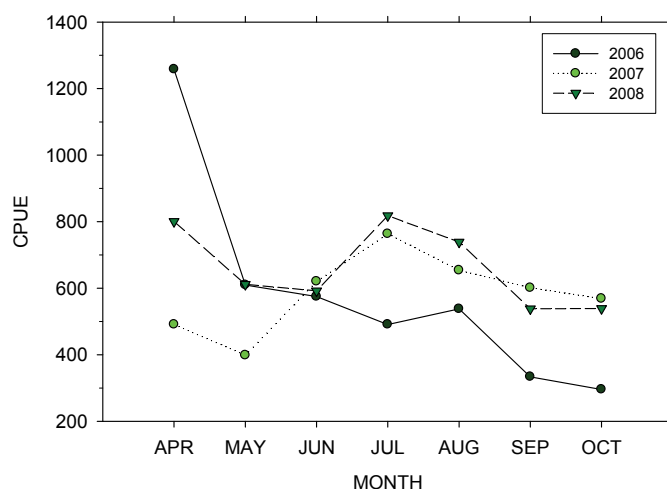


Figure 12. Monthly CPUE (=lbs/SRE hour) for vessels landing pink shrimp into Oregon in 2006, 2007 and 2008.

Recruitment strength and distribution of age-1 shrimp will be the major driver of shrimp abundance in 2009. The zero-age shrimp (zero's) component of market samples collected during fall 2008 showed a similar distribution pattern and slight increased abundance to that seen in fall 2007. As in fall 2007, only samples south of Cape Perpetua had more than trace amounts of zero's in 2008. Backing up these results, shrimpers reported seeing good numbers of zero's in southern areas. We also received many early reports from shrimpers of zero's in areas ranging north to the Tillamook Head bed (Shalepile). So based on market sample results, it looks like we have a good chance of increased age-1 recruitment in 2009 and they will probably be most abundant to the south.

Adding to the mix of information, our recruitment model suggests that age-1 recruitment could be strong in 2009. The model is still being tested and has had variable predictive value in the past, but this year it indicates that we could experience one of the strongest recruitment events since the time series began in the mid 1980's. The model, which is based on the spring transition in coastal currents, uses April sea level to predict age-1 recruits the following

year (Figure 13). Sea level during April 2008 was 6.8 feet, the lowest level in our time series, suggesting that recruitment could be well above average in 2009. The model doesn't indicate where along the coast the recruitment will occur though. It's still our best guess that most recruitment will occur south of Cape Perpetua, based on market sample information.

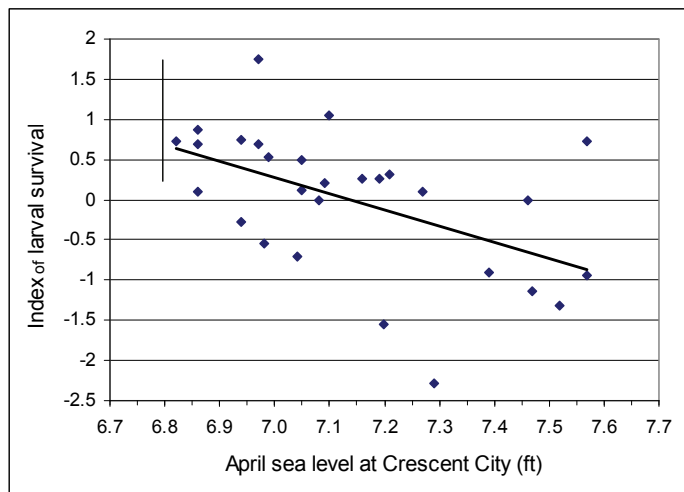


Figure 13. Index of larval survival vs. April sea level on year prior at Crescent City, CA. Points shown indicate year at age-1 catch. The vertical line shows the survival range that might be expected with a sea level of 6.8 feet.

Another environmental factor that we think may affect recruitment success is the presence or absence of extreme upwelling events during summer months when shrimp larvae are vulnerable to offshore surface transport. Looking back, shrimp recruitment south of Cape Perpetua was poor from about 2000 through 2006. Shrimp production occurred mostly to the north during these years. During this period, record setting upwelling levels occurred along the south coast several times. It now seems likely that most shrimp larvae along the south coast during the extreme events were pushed seaward and hence lost to the fishery. The good news this year is that upwelling during summer 2008 was about average. So, in theory, retention of shrimp larvae hatched during March and April 2008 should be high on the south coast.

New Logbook Performance

In 2008, ODFW began requiring Oregon shrimpers to use a new logbook that included new information on fish by-catch and shrimp discard. The new logbook will continue to be required for the foreseeable future. Overall compliance wasn't bad for the first season of use, but we had some problems with incomplete data and some misunderstanding of the instructions. We want to remind shrimpers that good logbook data is not only required, but is essential for maintaining the MSC certification and for maintaining quality shrimp management in general. Please take the time this season to re-read the logbook

instructions (inside cover) and to fill out all sections of each log. Like last year, ODFW personnel will be contacting all skippers and will hand out an example sheet with each new logbook. If you've got questions, please give us a call (541 867-4741) or contact us on the docks.

One of the biggest problems when interpreting log discard data from 2008 were entries of zero pounds in the "estimated weight of fish discarded" column, or the space was simply left blank. About 38% of all tows were entered this way, which unnecessarily minimizes any estimate of fish discard for the season. We all know that zero fish catch rarely (if ever) occurs, although the total is truly often just a few pounds. Rather than recording zero or leaving the space blank for an estimated low number, please make the best estimate you can. If it looks like just a couple pounds, please put that down as "2" or "<3". Remember, one of our methods for verifying the accuracy of fish discards in the future will be comparing hailed discards with those of documented discards on observed trips.

Use of the "Dumped Unsorted" section of the new log appeared to have had better compliance, perhaps because dumping tows was a relatively unusual event. The two columns in this section are used to record the estimated weight of all fish in dumped bags and an estimate of the PERCENTAGE of fish in those dumped bags (Note: Skippers sometimes estimated a poundage rather than a percentage of fish). The logbooks show that about 1.4% of all Oregon shrimp tows in 2008 had at least one bag dumped. Also, only about 16.3% of all reported dumped catch was shrimp. Comments in the "Notes" column of the logs indicate that "mini" and "small" hake were by far the predominant reason for dumped tows during 2008.

As you can discern from the last paragraph, comments in the "Notes" column can be very useful when analyzing the logbook data. Use of this column was fairly weak and was often very sporadic. Please follow the logbook instructions, and record the predominant fish species and any reasons for dumping tows.

Over the year, several shrimpers asked us to put together some fish weight-to-volume estimates that they could use when recording the "estimated weight of fish discarded" column in the new shrimp logbook. For example: what's a fairly accurate estimated weight for a half basket of mixed flatfish that was picked out of a tow? We took their request to heart and commend their desire to provide the best logbook data possible. We recognize the difficulty of accurately estimating the weight of relatively small amounts of fish, especially when mixed sizes of a species or type of fish are involved. We used a scale on the F.V. Miss Yvonne to generate the approximate weight conversions listed on the next page.

- Weight approximations for estimating fish weights;
- ½ basket of mixed flatfish = approximately 40 pounds.
 - ½ basket of juv. rockfish = approximately 30 pounds.
 - ½ basket of juvenile hake = approximately 40 pounds.
 - ½ basket of adult hake = 35 pounds.

Regulation Information

VMS and Declarations required;

The National Marine Fisheries Service (NMFS) requires shrimp vessels to have an approved and operating Vessel Monitoring System (VMS) on-board during 2009. 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 OLE 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.

Essential Fish Habitat Trawl Closures;

The Pacific Fisheries Management Council (PFMC) has 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 which became required on shrimp vessels during 2008. 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/gffmp/gfa19.html>, under Appendix C #3: Coordinates for EFH Conservation Areas.

NMFS Observers in 2009;

The NMFS will be deploying fishery observers on selected shrimpers again during the 2009 shrimp season. Observer coverage of the shrimp fishery remains an important aspect for maintaining MSC certification. Observer bycatch data, plus new ODFW logbook data on discards, will help demonstrate the low bycatch rates that define this clean fishery. Observers reportedly were

on-board for 48 trips during the 2008 season, or about 5.8 percent of the total trips (821). For more information on the NMFS observer program and coverage plans for this year, please contact Mr. Allen Cramer (NMFS Northwest Fisheries Science Center, Newport, OR) at 541 867-0527.

The NMFS has just released a report covering shrimp fishery information gathered by west coast observers during 2004, '05 and '07. The report is titled "Data Report and Summary Analysis of the California and Oregon Pink Shrimp Fisheries". Shrimpers that are interested can access the report on-line at <http://www.nwfsc.noaa.gov/research/divisions/fram/observer/datareport/>.

Groundfish Limits;

The NMFS proposed 2009 groundfish limits for shrimpers are listed below: PLEASE NOTE! Groundfish limits may be changed in-season. Be sure to check on the current regulations frequently again this year!

- 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.
- No Canary Rockfish, Thornyheads or Yelloweye Rockfish may be landed.
- 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 monthly species limits for the limited entry groundfish fishery.

BRD Use Update

The estimated use of rigid-grate Bycatch Reduction Devices (BRD's) on trips by vessels landing shrimp into Oregon during 2008 increased to 96.9%, the highest level since BRD's were required in 2002 (Figure 14). Only two of the 58 vessels landing shrimp into Oregon used soft-panel BRD's (3.5%), the only other type of (and relatively inefficient) approved BRD. The increased rigid-grate use occurred despite having 13 vessels re-enter the fishery in 2008, and all of these incoming vessels used rigid-grates.

Progress toward our goal of 100% rigid-grate use in the shrimp fishery is good, but it's in the fishery's best interest to achieve the goal soon. Rigid-grate BRD's are by far the most efficient BRD available, especially when constructed with a bar spacing of one inch or less.

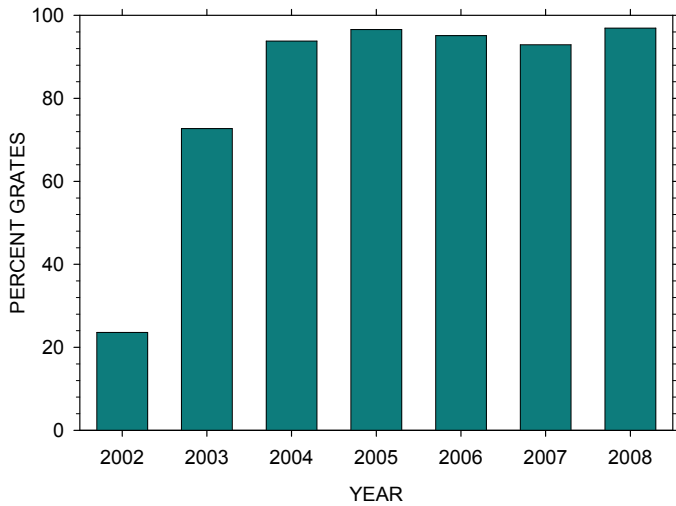


Figure 14. The estimated percentage of shrimp trips landing into Oregon ports that used rigid-grates during the last seven pink shrimp seasons. Note: the 2002 estimate includes only trips from July through October, when BRD's were required.

Meeting this goal would help maintain the fishery's MSC certification and would reduce the catch of small fish species, some of which may be regarded as species of concern in the future (see Potential Eulachon ESA Listing, Pg. 9). Some vessel skippers that use net reels (either single- or double-rig) still may not be familiar with, or have confidence in, the folding rigid-grates commonly produced now. Many vessels now use them with great success. It's time for all Oregon shrimpers to use rigid-grates. Simply put, they work and they probably will be the only approved BRD at some time in the future.

The average bar spacing of rigid-grates decreased in 2008 to 1.18 inches, with more vessels using rigid-grates with one-inch bar spacing or less than ever before (Figure 15). One rigid-grate manufacturer on the south coast commented that one-inch spaced rigid-grates are all that he sold during 2008. In the 2008 logbooks, shrimpers reported using a bar spacing of one inch or less on 22 vessels (37.9% of vessels) at least some of the time during the season. We estimate that about 27% of all tows by vessels landing shrimp in Oregon during 2008 were made using rigid-grates with one-inch spacing or less. The apparent shift to narrower bar spacing was probably in response to the large numbers of "mini" hake this year. The shift undoubtedly helped reduce the catch of other small fish as well, including juvenile rockfish and smelt.

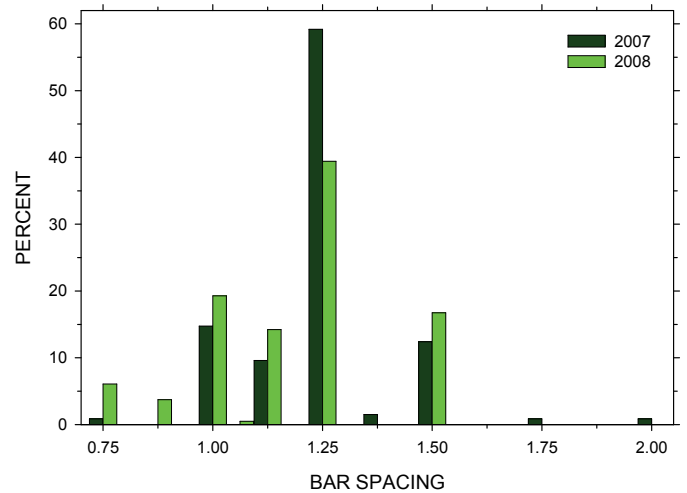


Figure 15. The percentage of shrimp trips versus the rigid-grate bar spacing (inches) used on the trips during 2007 and 2008.

Research Activity

Horizontal Bar Research;

We tested the performance of a rigid-grate BRD with the bars oriented horizontally during August 2008 on the F.V. Miss Yvonne. The rationale for testing this bar orientation was to see if bycatch species such as smelt or juvenile rockfish had a different behavioral response to horizontal bars as opposed to vertical bars. Our suspicion was that certain fish species, such as smelt and juvenile rockfish might be more readily excluded due to their shape and/or aversion to going through a narrow horizontal space. Each 42 inch diameter grate was constructed so that the bar orientation could be easily changed from vertical to horizontal, facilitating a side-to-side comparison. The 1.25 inch bar-spaced grates were tested using a standard setup with an accelerator-panel. Using our underwater video camera gear, we got excellent footage of a variety of small fish and shrimp encountering the rigid-grates.

The results were disappointing but illuminating. We didn't encounter any smelt during two days of testing, at least none that were identifiable on the video or that passed through the rigid-grate. Overall, we found no statistical difference between the fish compositions caught with either rigid-grate orientation. However, we did have significant shrimp loss using the horizontal bar rigid grate (about 11%). It was clear from video footage that shrimp tended to accumulate around the sides of the rigid-grate and didn't pass through as readily. As the shrimp built up, they tended to flow upward and out of the excluder aperture, causing the loss. The shrimp buildup did not occur with vertically oriented bars.

Our video observations of fish encountering the rigid-grates and the finding that fish catch is not significantly different between vertical and horizontal bar orientations

strongly suggest that small fish are not responding visually. Small fish often appear to be more sluggish than larger fish once they reach the rigid-grate. The small fish that are excluded seem to be excluded mechanically, rather than behaviorally as they encounter the rigid-grate and respond to it. If we're interpreting these observations correctly, narrowing the bar spacing of rigid-grates may be the most practical way of further reducing passage of small fish through rigid-grate BRD's.

Accelerator-panel vs. No Accelerator-panel;

The conventional wisdom when setting up a rigid-grate BRD system is to install an "accelerator -panel" forward of the rigid-grate (Figure 16). The mesh panel functions by forcing potential catch to the bottom of the net just forward of the rigid-grate. Nordmore grate systems use a mesh funnel that performs the same function. We've always encouraged the use of an accelerator-panel, thinking that it reduced shrimp loss by giving shrimp more opportunity to pass through the BRD and by keeping them away from the escape hole. Here's the "rub" though: over the years, a few very successful shrimpers have elected not to use accelerator-panels and claim they don't lose shrimp and their bycatch rates are low. We conducted a limited 2-day test last summer on the F.V. Miss Yvonne, comparing shrimp trawl catches taken with and without an accelerator-panel. The goal was to get a preliminary assessment of rigid-grate BRD performance in terms of shrimp loss, but especially in terms of how fish exclusion was influenced.

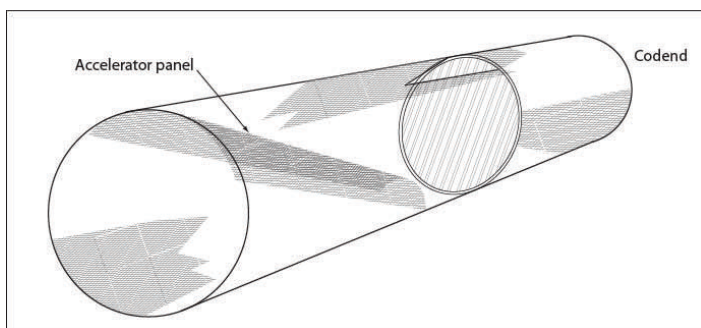


Figure 16. A schematic drawing of an rigid-grate setup, showing typical placement of the accelerator panel.

The results surprised and intrigued us. Based on a very limited set of tow comparisons, we detected no shrimp loss and fish catch was generally the same. However, there was a hint of better smelt exclusion without an accelerator-panel. It's just a hint though, since we only encountered smelt on a couple of tows during the two-day test. If the reduction of smelt catch is real, we speculate that the mechanics causing the reduction may be related to smelt swimming behavior as they pass through the net. A species (such as smelt) that "prefers" swimming off-bottom would have easier access to the escape aperture if it didn't need to pass underneath an accelerator-panel. Fish that are forced to the bottom of the net in front of the rigid-grate may also be more fatigued and/or disoriented

than those not encountering an accelerator-panel. Conversely, bottom-oriented fish species (i.e. flatfish) typically may not have good access to the escape aperture until they are forced up the grate, with or without an accelerator-panel present. The hypothesis may explain why we didn't detect any fish exclusion difference in our short experiment with any species except smelt. If valid, the hypothesis suggests that "bait fish" (i.e. smelt, herring, sardines, shad) may be best excluded without an accelerator-panel.

Progress Report - Nehalem Bank Trawl Impact Study;

As reported in last years newsletter, during June 2007, we conducted a baseline video survey of the sea floor within and adjacent to the Nehalem Bank Essential Fish habitat (EFH) no-trawl zone (Figure 17). Analysis of the survey is complete and a report has been submitted to The Journal of Experimental Marine Biology and Ecology. In the paper, we compare the occurrence and relative abundance of the macro-biota (invertebrates and fish) and topographical features between the four areas sampled. We conclude that shrimp trawling has had a moderate level of impacts on the seafloor biota, warranting further research into how shrimp trawls impact benthic invertebrates. We anticipate that the paper will be accepted and printed in 2009.

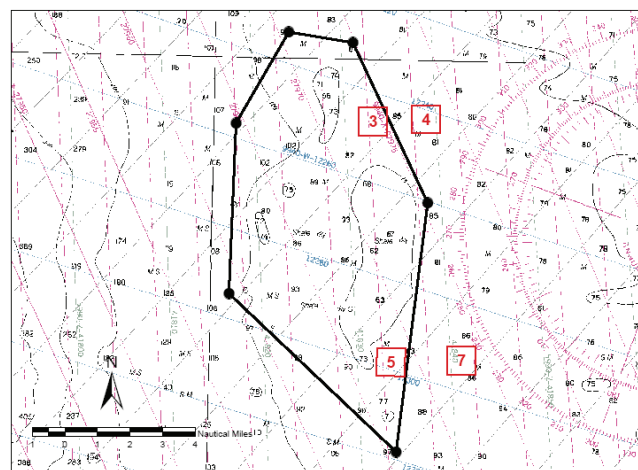


Figure 17. A chart of the Nehalem Bank/Shalepile area showing the EFH no-trawl zone boundaries established in June 2006. The squares labeled #'s 3, 4, 5 and 7 are the areas surveyed during the June 2007 charter on the F.V. Miss Yvonne.

Research Plans for 2009 - 3/4" Rigid-Grate Revisited;

Shrimp project research for the next few years will probably focus on ways to further reduce bycatch in the shrimp fishery, either through rigid-grate BRD modifications or fishing-line/footrope changes. Both approaches have promise, but we think that further work using a rigid-grate with 0.75 inch bar spacing has the best chance to reduce the catch of a wide variety of small fish species while still

using existing technology. The goal of further reducing the catch of small fish (i.e. “mini” hake and eulachon smelt) benefits shrimpers both from a public relations standpoint and when considering on-deck sorting time and possible dumping due to small fish.

In 2005, we conducted a limited test using a rigid-grate with 0.75 inch bar spacing versus one with a 1.25 inch bar spacing (the average used in the fleet) and got very encouraging results. Both rigid-grates had a 44.5 inch diameter and used 0.375 inch diameter bars. Total fish catch was reduced by an additional 70 percent using the 0.75” rigid-grate, with only a modest shrimp loss (Figure 18). Our conclusion at the time was that shrimp loss could be eliminated by constructing the rigid-grate with 0.25 inch diameter bars and perhaps increasing the rigid-grate diameter to facilitate water passing through the grate.

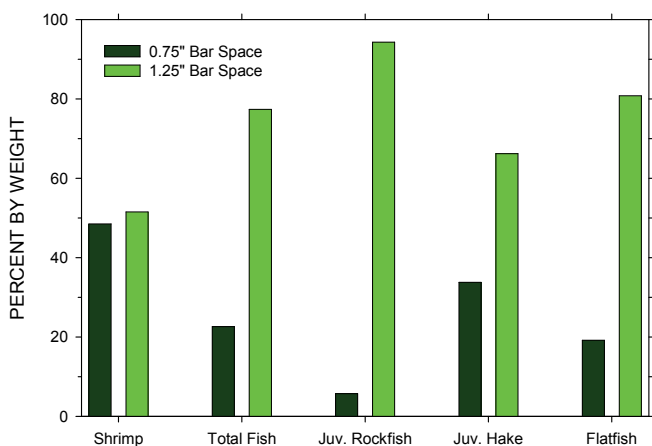


Figure 18. The percentage of total catch (pounds) of selected catch categories caught during a charter experiment using a 0.75” bar-spaced rigid-grate and a 1.25” rigid-grate in 2005.

We plan to conduct a full test of a refined rigid-grate with 0.75” bar spacing this year to confirm our initial results and to further demonstrate its utility to the fleet. We’re encouraged that one Oregon shrimper used a grate with 0.75” bar spacing this year with good success and we may be using his design in our test. He began using it in response to the “mini” hake problem. There may be other issues in the near future concerning other species. For example, if the NOAA Fisheries Service decides to propose Endangered Species Act (ESA) protection for eulachon smelt (see Potential Eulachon ESA Listing page 9), requiring reduced bar spacing of rigid-grate BRD’s may be the simplest way of dealing with this problem.

MSC Developments

The Marine Stewardship Council (MSC) conducted its first Annual Surveillance Audit of the Oregon shrimp fishery during November 2008. ODFW staff met with an MSC representative and reviewed our progress toward fulfilling performance conditions set by the MSC for

maintaining certification. Subjects discussed included design and use of the new shrimp logbook, general updates on various aspects of the fishery and a review of progress made on the Nehalem Bank EFH study (see page 8). We feel the audit went well and that important progress was demonstrated.

Potential Shrimp Fishery Issues

Potential Eulachon ESA Listing;

During March 2008, the NOAA Fisheries Service formally accepted a petition to list eulachon smelt (or candlefish) populations found south of the U.S./Canada border. The petition was submitted by the Cowlitz Indian Tribe. The Fisheries Service is currently reviewing the petition as of this printing. If the agency determines that eulachon warrant protection under the Endangered Species Act (ESA), a formal year-long review process including peer review, public comment and public hearings would occur before any final decision about final ESA listing is made. Up-to-date agency announcements and information can be found on the Web at: <http://www.nwr.noaa.gov/Other-Marine-Species/Smelt.cfm>.

Whether or how the Oregon shrimp fishery would be affected if the Fisheries Service proposes ESA protection for eulachon is yet to be determined. Eulachon have always been a component of shrimp trawl bycatch, but have not been a noticeably significant portion during the last decade or more. The advent and increased use of rigid-grate BRD’s since 2002 has helped reduce eulachon catch to extremely low levels compared to historical catches.

Green Sturgeon Critical Habitat Designation;

During 2006, the NOAA Fisheries service listed the Southern Distinct Population Segment (Southern DPS) of North American green sturgeon as threatened under the Endangered Species Act (ESA). In September 2008, the agency published a proposed rule to designate critical habitat areas for these green sturgeon along the coasts of California, Oregon and Washington. The areas described include all ocean waters shoreward of 361 feet (approximately 60 fathoms). According to a NOAA fact sheet, “Following the public comment period and hearings, the final rule is scheduled to be completed by NOAA Fisheries by June 30, 2009”.

Most traditional shrimp grounds trawled by Oregon shrimpers are deeper than 60 fathoms. However, some areas shrimped off the southern Oregon coast and off northern Washington fall within the current proposed critical habitat. Whether or how future shrimp trawling within the critical habitat may be affected under the final rule hasn’t been determined. Detailed information on the progress of the proposed rule and maps of proposed areas can be found on the Web at <http://www.nwr.noaa.gov/Other-Marine-Species/Green-Sturgeon.cfm>.

Potential Upcoming Shrimp Permit Legislation;

A group of Oregon shrimpers is currently working with state legislators to introduce a bill to reduce the overall number of shrimp permits in the pink shrimp fishery. As of this printing, no bill had been introduced. Once introduced, a bill can be tracked at the Oregon state legislature website (http://www.leg.state.or.us/bills_laws/).

Count Per Pound Issues

No count per pound (count) citations were issued during 2008. There was concern on the south coast during late May and early June when several shrimp loads were sold for only \$.25/lb. The Oregon State Police (OSP) inspected some loads and found some high counts but the loads inspected were legal. We want to remind industry that both shrimpers and shrimp buyers may be cited for count violations. Shrimpers need to closely monitor shrimp count at-sea and buyers need to call OSP to report suspected illegal loads.

Shrimpers should be prepared for an abundance of small age-1 shrimp during the first few months of the 2009 season, especially on the south coast. Age-2 shrimp should be abundant enough to supply good catches early in the season, but shrimpers should be prepared to take frequent counts and to avoid large volumes of small shrimp. The Oregon State Police is aware of the possibility of abundant small shrimp in 2009 and will be actively monitoring landings in all Oregon ports. For anyone who is unsure about which type of scales work best at-sea, or how much

the average weight of retained shrimp is likely to change, we have two reports available which detail our research in these areas. Just call us for copies, or to ask any other questions about count per pound issues (541 867-4741).

Fleet Innovations

Several new gear innovations came to light during 2008 as some shrimpers attempted to solve problems they were encountering on the grounds. Even though we haven't tested these promising innovations, we view this as an opportunity to share the rationale for these devices, presenting the shrimper's views on how they performed and ideas on how they might modify them for better performance. If you've got an innovation you'd like to share with the fleet, please contact us and we'll try to get it in next year's newsletter. Two examples of innovations we heard of this year are described below.

One device that we may be testing in the future is Corey Rock's (F.V. Kylie Lynn) version of an expanded mesh BRD that he had built by Foulweather Trawl's Sara Skamser. Like the rest of the fleet, Corey had big problems with "mini" hake this year. Attempting to reduce this work-intensive bycatch, he placed the device behind a rigid-grate with a 1.25" bar spacing (Figure 19). The concept is to allow small fish that pass through the rigid-grate another opportunity to exit the net by swimming forward and out the expanded meshes after entering the codend. Corey basketed the catch and found that it



Figure 19. Corey Rock, who fishes the F.V. Kylie Lynn, stands at the aft end of the "expanded mesh" BRD he designed to help exclude "mini" hake that passed through his rigid-grate BRD. The device was installed between the rigid-grate (not shown, but to the right) and the codend (not shown, but to the left). Shrimp and small fish pass through the rigid-grate and are funneled back into the codend. In theory, fish can swim forward and out the expanded meshes after entering the codend.



Figure 20. John McMillan, who fishes the F.V. Evolution, showing his “accelerator ring” setup. The ring, shown braced against John’s knee, is laced in at the forward end of the codend behind his rigid-grate BRD.

reduced “mini” hake measurably but sporadically, but found no shrimp loss. He feels that shortening the length of the funnel may allow easier fish access to the expanded mesh, thus improving fish escapement. Using larger mesh in the expanded-mesh section may also help. He found the device easy to install and to handle on-deck. Further reducing bycatch of any kind is a worthy and practical goal. We feel that testing the expanded mesh next season may be particularly timely considering that eulachon smelt may be considered for listing as a threatened species. Smelt are relatively strong swimmers and this device may be a way to further reduce their catch in the shrimp fishery.

Another device, called an “accelerator ring”, was used by John McMillan (F.V. Evolution) to help move shrimp back into the codend and to keep them there after passing through his grate. He had a problem with shrimp not moving back into the codend well, which caused shrimp loss when he hauled-back. John created a simple fix when he installed a two-foot diameter aluminum tube ring laced in just at the forward end of the codend (Figure 20). The ring effectively “necked-down” the netting behind the grate, which John feels created a Venturi effect that

jetted shrimp back into the codend. It also sharply reduced the amount of shrimp sloshing forward when hauling back in a following sea. The device solved John’s problem and he says he’s never going back.

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Good Luck Shrimping in 2009!



“Billions & Billions”
Carl Sagan

