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Annual Pink Shrimp Review

Oregon Department of Fish and Wildlife

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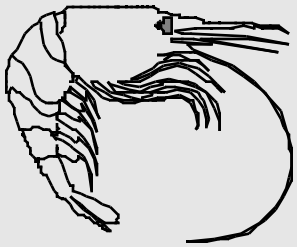

TO: **OREGON SHRIMP INDUSTRY**
FROM: **Bob Hannah and Steve Jones**
Subject: **Opening of 2003 Commercial Fishery**
Date: **14 February 2003**

The 2003 shrimp season will begin 1 April and extend through 31 October. This newsletter includes a traditional summary of the 2002 season for your review, including catch, effort, market sample information, and possible indicators for the 2003 season.

PLEASE TAKE NOTE! Bycatch reduction devices (BRD's) are scheduled to become mandatory for the entire 2003 season (see below). **No canary or yelloweye rockfish may be retained.** We've put the new proposed BRD regulations up front to help ensure that shrimpers don't miss the news. Information about BRD use during 2002 and the rationale for making BRD's mandatory are also presented. Fish landing limits are listed later in the newsletter under regulation changes.

New BRD Regulations for 2003

The following permanent BRD regulation changes will be proposed to the Oregon Fish and Wildlife Commission on March 21, 2003 in Newport for implementation on 1April 2003 upon approval.

1. **Approved BRD's will be mandatory throughout the shrimp season**.
2. Only approved grates and soft-panel devices will be allowed; **FISHEYES will NOT be ALLOWED**.
3. Webbing in soft-panel devices must be continuous and correctly attached to the net; **NO ZIPPERS OR OTHER DISABLING MEANS ALLOWED**.
4. **No BRD testing period allowed**. Shrimpers may apply to us for a special BRD testing permit to test new or altered devices for a short time period.

The rationale for recommending the proposed changes stems primarily from the extremely low canary rockfish allocation for 2003-2004 (0.5 metric tons) mandated by the Pacific Fisheries Management Council (PFMC). In order to assure that Oregon stays below its share of this three-state allocation, it is necessary to disallow the use of fisheyes (our least efficient BRD). Abandoning the daily testing period will also reduce the numbers of canary caught. Requiring continuous mesh in soft-panels should serve the dual purpose of further decreasing the probability of canary take, while also quelling Oregon State Police (OSP) and fleet concerns over enforcement.

BRD's: An Oregon Success Story in the Making

BRD Use in 2002:
BRD's were required on 1 July 2002, one month earlier than in 2001, due to higher early-season canary catch rates than seen in 2001. Oregon shrimpers seemed to be well prepared for the requirement and continued to be innovative in their approach to using them effectively and trying variations of approved devices. Logbook analysis from 2002 shows some interesting trends in BRD use. Our logbook analysis shows that BRD's were in use on approximately 20 percent of shrimp trips landing into Oregon during April and May (Figure 1). We suspect that most of this early-season use was because California requires BRD's while shrimping off its coast. Similarly in June, trips with BRD's increased to about 35 percent, which correlates with increased landings of shrimp from off California. However, there were several shrimpers during these months that fished BRD's in at least one of their nets in order to work on improved BRD performance.

Logbook analysis also shows that shrimpers choice of approved BRD's changed through the season. The most robust period for measuring this change is after 1 July, when BRD's were required. On shrimp trips when BRD's were used, soft-panel BRD's were the most prevalent throughout the season (Figure 2). From 1 July, soft-panel trips showed an initial increase but then decreased gradually to about 10 percent below its peak use. Fisheye trips showed a modest decline from July to August and remained at less than 10 percent of all trips through October. The most welcome surprise to us was the rapid increase of the use of grates. The use of round grates developed by Newport shrimpers during the 2001 season proliferated during 2002, primarily through word-of-mouth

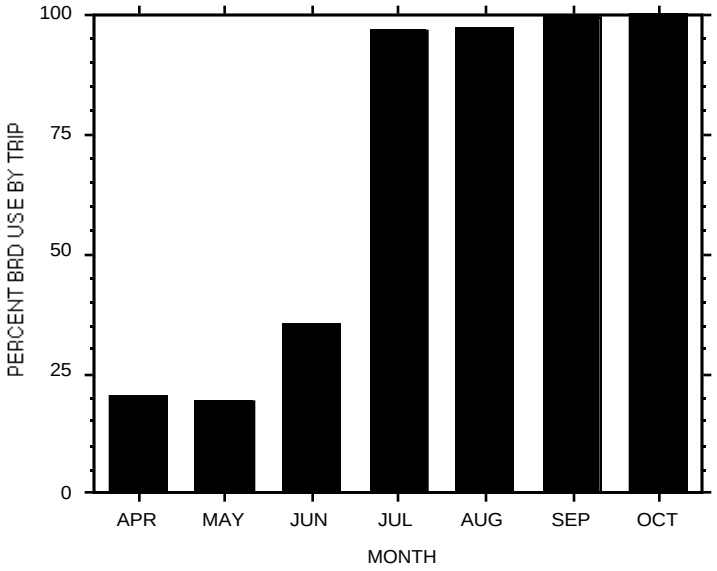

Figure 1. The percentage of 2003 shrimp trips landed in Oregon, by month, that had BRD's used during each trip.

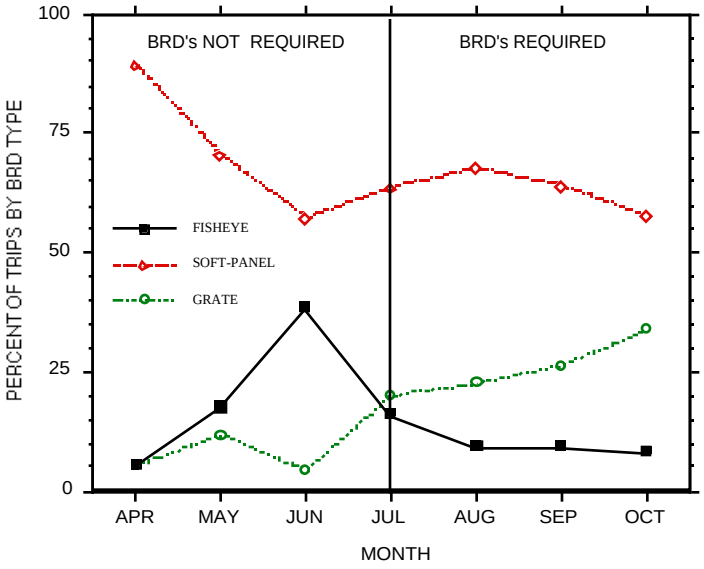

Figure 2. The percentage of 2003 shrimp trips that had BRD's in use, by BRD type.

among shrimpers and net shops. Most of the increase occurred in Newport where about 80% of shrimp vessels used grates. By the end of the season use had increased in other ports as well. We welcome this trend and encourage the fleet to try sharing innovations and using the grates.

Among the shrimpers using grates at the end of the season, the most popular design and setup was the circular dual-ring with a bar spacing of 1.25 to 1.5 inches, with a "down panel" and no hood over the aperture (Figures 3 & 4). The dual-ring (max. 2" spacing between rings) appears to allow more water flow back into the codend, pushing shrimp back as well. Added water flow seems to have diminished the need for a hood also. Most of those shrimpers that started out with 2 inch bar spacing later reduced the spacing to decrease gilling and to exclude more small hake. Some grates are designed with removable inner rings so the bar spacing can be changed without removing the outer ring, depending on potential bycatch in the area.

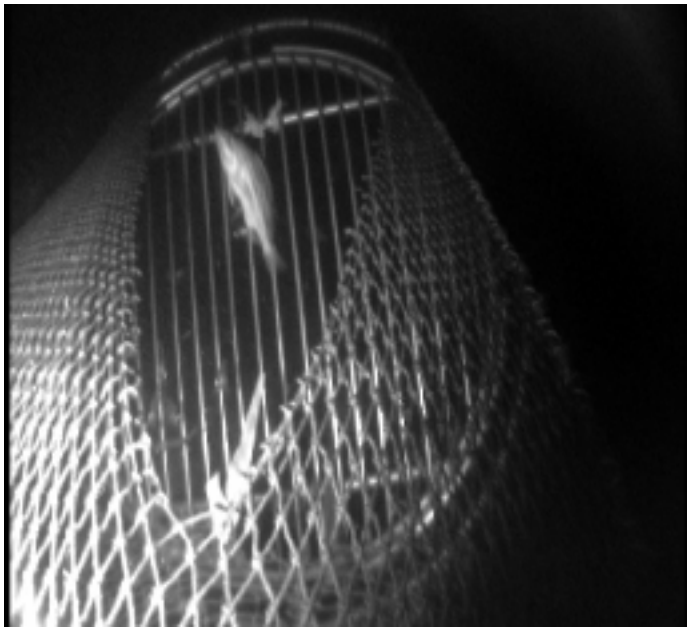

Figure 3. A greenstripe rockfish being excluded from a round grate BRD. The camera was mounted ahead of the BRD aperture looking aft. The footage was taken while shrimping in 2003 aboard the F.V. Miss Yvonne.

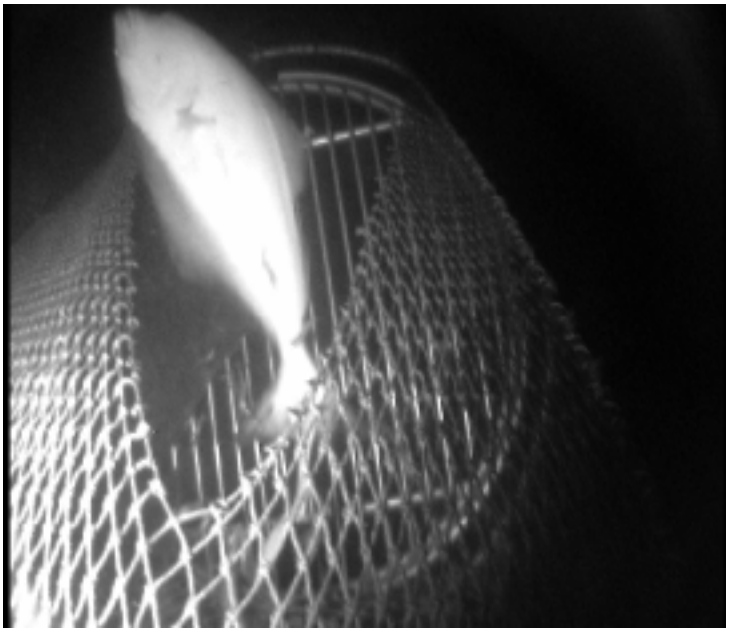

Figure 4. A Pacific halibut being excluded from a round grate BRD. The camera was mounted ahead of the BRD aperture looking aft. The footage was taken while shrimping in 2003 aboard the F.V. Miss Yvonne.

2002 BRD Questionnaire Results:
We recently conducted a survey of pink shrimp permit holders, via mail, concerning BRD use. The goal was to get a better measure of shrimpers views on specific gear use questions. The survey gave staff a valuable alternative view on issues relating to upcoming shrimp management decisions. We thank all the permit holders that participated! The response was quite good, coming in just shy of 50 percent.

We requested answers to three questions: 1) Should soft-panel BRD's be allowed? 2) Should we continue to allow a BRD testing period? 3) Should tickle chains be banned? The results (Table 1) provided valuable perspective on the fleets opinions regarding BRD and bycatch related gear regulations. Almost 60% of responders wanted soft-panels included as an approved BRD. Although we had considered recommending banning soft-panels, we feel that the new proposed changes will accomplish our goals and still keep a device that much of the fleet likes. Opinion was more evenly split over whether to retain the testing period, but was slightly in favor of retaining it. We compromised by recommending to allow testing by permit only, abandoning the daily testing period but recognizing the need for shrimpers to continue to be innovative and to improve existing BRD's.

Table 1. 2002 BRD Questionnaire Results (85 responders).

	Retain Soft-Panels		Retain Testing Period		Ban Tickle Chains	
	Yes	No	Yes	No	Yes	No
% Responders:	58.8	38.8	49.4	45.9	29.4	62.4

The third question we asked was not related to the proposed BRD regulation changes, but does relate to the bycatch issue. Shrimp trawls without tickle chains tend to catch fewer juvenile rockfish and small flatfish. Our past gear surveys have shown that relatively few vessels use tickle chains these days. We encourage any gear change that reduces unwanted catch and wanted the fleets' opinions on banning tickle chains as a means of furthering this goal. Surprisingly to us, responders were about two to one against this measure.

Opportunity ???
As the Oregon shrimp fleet continues to devise and utilize more effective BRD's, it may be transforming itself into one of the cleanest fishing trawl fisheries in the world. We feel that the fleet deserves recognition for their effort and success, which hopefully could translate into higher market value. Last summer, an aid to Governor Kitzhaber requested a meeting with Marine Program staff and shrimpers to identify fisheries that may qualify for Marine Stewardship Council "clean fishery" certification. Many viewpoints were expressed, including pros and cons. Since Oregon will now have a permanent BRD requirement, allowing only our most efficient excluders, maybe it's time for the fleet to reconsider applying for this certification. Please let us know your opinions on this matter (Bob Hannah or Steve Jones at 541 867-4741).

2002 Season Summary

Approximately 41.5 million pounds of pink shrimp were landed into Oregon ports during 2002, about 13 million pounds more than in 2001 (Figure 5). It was the largest landing total since 1992 when about 48 million pounds were landed and well above the 15 year average landing of about 27 million pounds. The landings were particularly impressive considering that fishing didn't begin in earnest until late April due to price disputes and many shrimpers were on trip limits through much of the season. Monthly landings were well above average, except in April when the price disputes reduced fishing effort (Figure 6).

Shrimp harvest was highest on the central coast, with about one third of all Oregon landings coming from the Cape Lookout bed alone (Figure 7). The Tillamook Head and Cape Foulweather beds were also strong secondary producers. Landing totals declined sharply north and south of these beds. Landings from south coast beds were unusually low, but almost 4 million pounds were harvested in beds south of Cape Mendocino, California, and landed into Oregon.

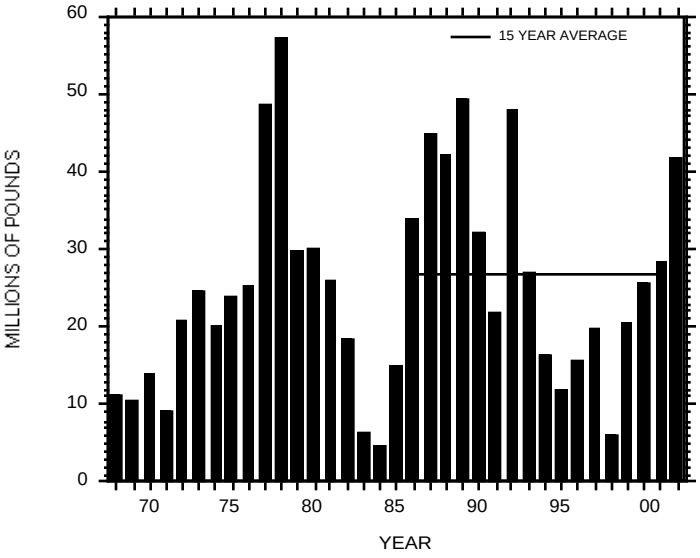

Figure 5. Oregon pink shrimp commercial landings (millions of pounds) 1968-2002. Includes all pink shrimp landed into Oregon ports.

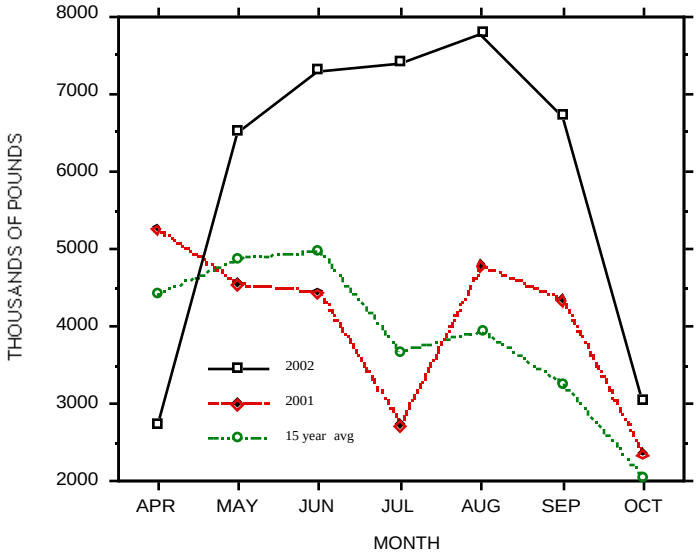

Figure 6. Oregon pink shrimp landings by month during 2001, 2002 and the 15 yr average (1986-2001).

Shrimp fishing effort in 2002, measured in single-rig equivalent hours (SRE), increased by about 16 percent over the total in 2001 (Figure 8). A total of 99 vessels landed shrimp into Oregon in 2002, an 18 percent increase over 2001. They made 1,455 landings into Oregon ports during 2002, a sharp increase over the 1,084 landings in 2001. A significant portion of the effort increases were apparently due to permitted vessels switching over from the limited entry groundfish fishery, much of which was fostered by groundfish closures in summer and fall.

Shrimp harvest for Oregon shrimpers was extremely efficient during 2002. Overall catch per unit effort (CPUE) was the highest it has been since 1977 (Figure 9). Average monthly CPUE was highest in April (end of the month) at about 850 lb/hr and declined very gradually to about 550 lb/hr in October. Southern Oregon coast beds, and California beds south of Cape Mendocino, showed very high early season monthly CPUE, but had relatively modest harvest and effort.

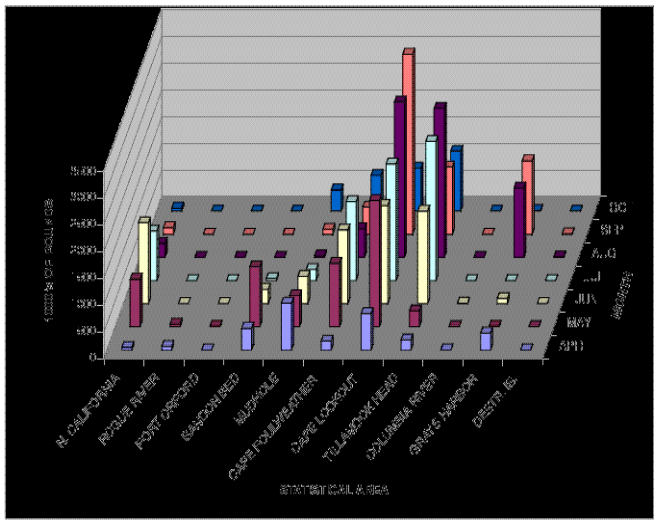

Figure 7. Total 2003 Oregon pink shrimp landings (1000's of pounds) by month and statistical area.

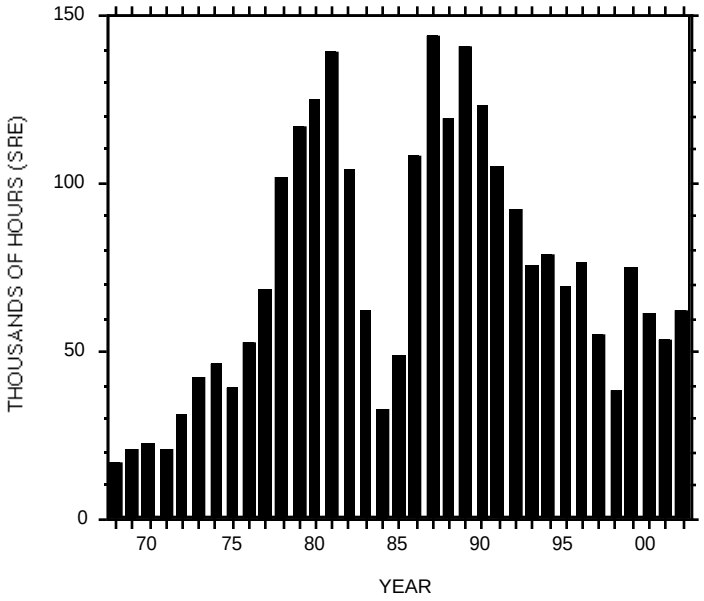

Figure 8. Fishing effort (1000's of single-rig eqivalent hours) for pink shrimp landed in Oregon, 1986-2002.

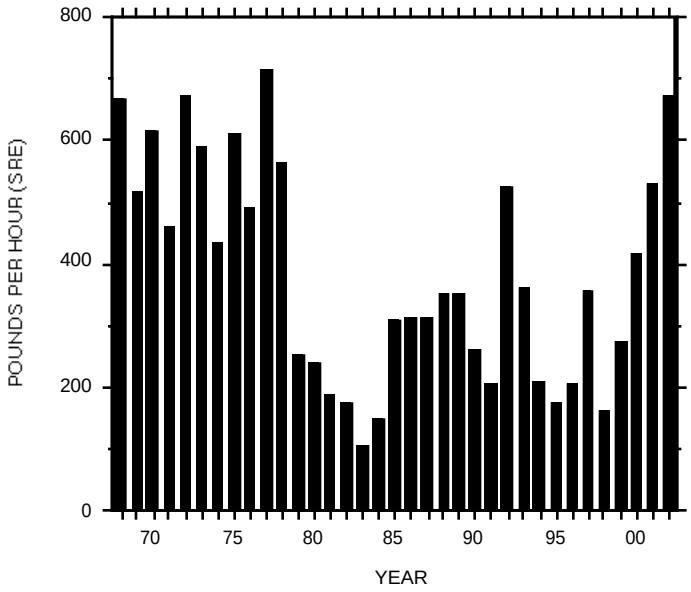

Figure 9. Catch per unit of effort (CPUE=lbs/SREhr.) for vessels landing pink shrimp into Oregon, 1968-2002.

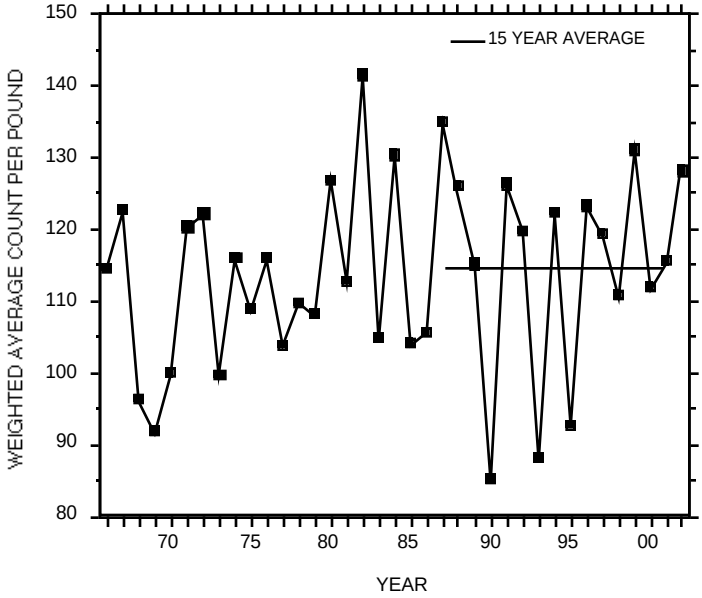

Figure 10. Average (catch weighted) count per pound of pink shrimp landed into Oregon, 1966-2002.

The weighted average count per pound of shrimp harvested from Oregon beds was 128 shrimp/lb in 2002, an increase of 12 shrimp/lb over the average count in 2001 (Figure 10). The increase can be attributed to a higher percentage of age-1 shrimp in the 2002 catch (Figure 11). In general, shrimp growth was modest during 2002, with average size-at-age falling in the mid to low range of growth rates we've documented since 1978.

The average ex-vessel price for Oregon shrimp in 2002 was 27.3¢/lb, about 0.8¢ more per pound than in 2001 (Figure 12). The 2002 landings were worth approximately 11.35 million dollars, up from about $7.54 million in 2001. The average price for the last two seasons has remained sharply below the 15 year average price of about 48¢/lb, and remain the lowest prices seen since 1978. Most shrimp were sold under a split price structure in 2002, based on either whole shrimp per pound or "finish count". The predominant price breaks for whole shrimp were at 15¢, 27¢, and 31¢ per pound.

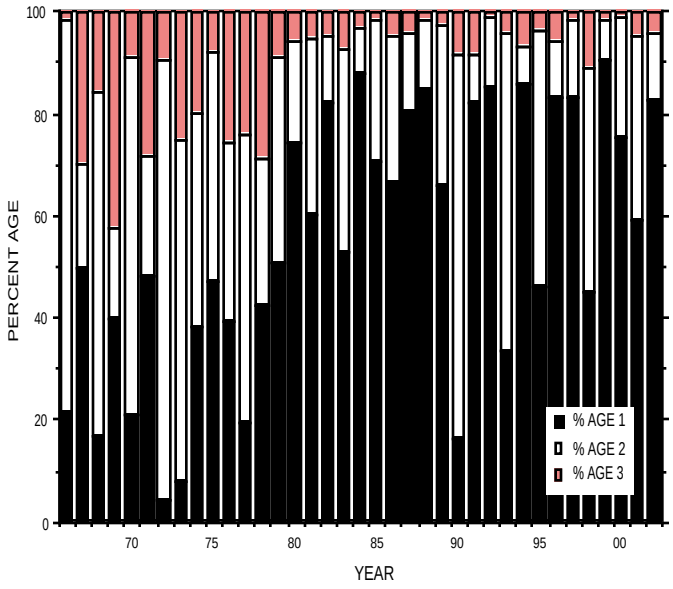

Figure 11. Annual percent age composition of pink shrimp (#'s of shrimp) landed in Oregon, 1966-2002.

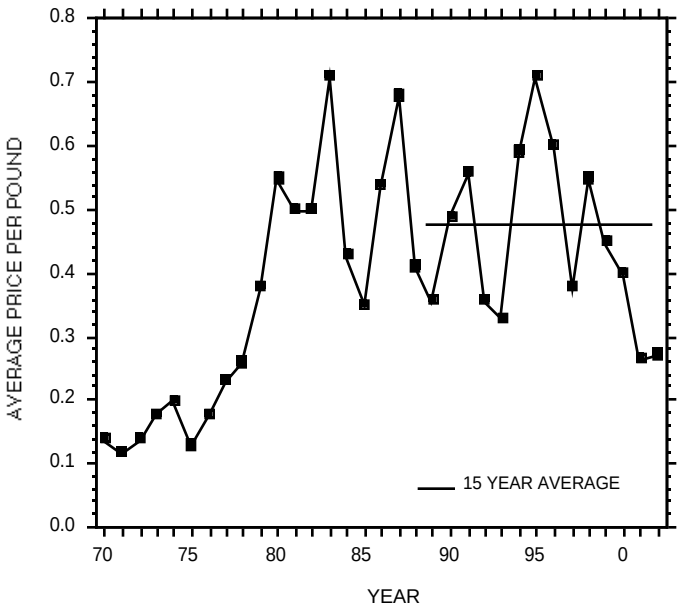

Figure 12. Average ex-vessel price per pound paid for pink shrimp landed in Oregon, 1970-2002.

Indicators for 2003

So what do things look like for the 2003 season? All of the indicators we consider point to an above average incoming year-class (age-1 shrimp) going into the 2003 season. Our recruitment model, which we continue to test, indicates that recruitment will be lower than in 2002 but still could be well above average (Figure 13). The model does seem to have successfully predicted the strong recruitment that we apparently had in 2002.

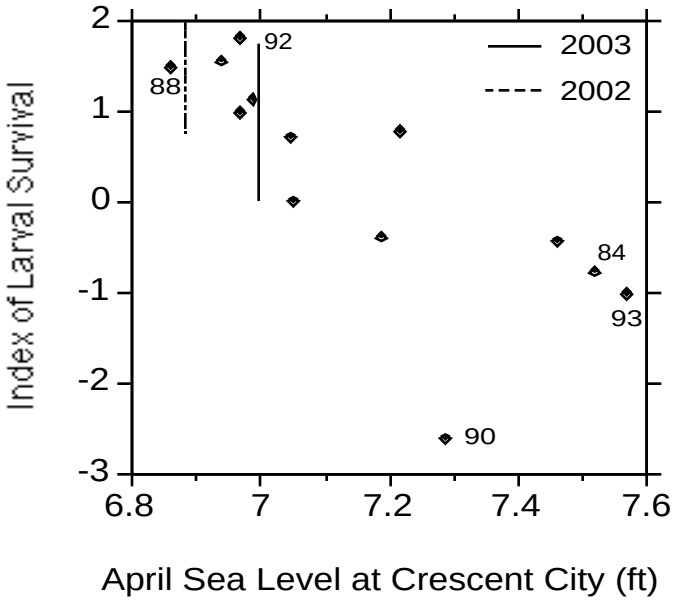

Figure 13. Index of larval survival vs. April sea level on year prior at Crescent City, CA. Points shown indicate year at age-1 catch. For example, 1990 (90) refers to the shrimp recruited to the fishery in 1990 at age-1. The solid line shows the survival range expected for 2003 1-year olds. The dashed vertical line shows the comparable range from 2002.

There was a fairly strong showing of age-0 shrimp (zero's) during fall 2002. Our market samples showed a higher percentage of zero's in fall 2002 than we've seen in several years, with the highest percentage coming from the Tillamook bed. Interpreting these numbers is tricky though, since zero's are probably retained better under the "volume conditions" like we had last year. On the other hand, many shrimpers reported that zero's were abundant and widespread on the grounds, perhaps validating the market sample indicator.

The high season-end CPUE that we had in October 2002, and the generally slow decline in monthly CPUE that we had through the season, suggests that hold-over of age-2 shrimp may be relatively high in 2003 (age-1 shrimp not harvested last year). The age-2 holdover combined with an above average recruitment of age-1 shrimp may potentially produce another large volume season.

Regulation Changes & Related Issues

Groundfish Limits:

The National Marine Fisheries Service (NMFS), now called NOAA Fisheries, has **altered groundfish retention limits** in the pink shrimp fishery for 2003. We strongly encourage fishermen to check the **CURRENT** regulations in late March. Any questions: please give us a call at (541) 867-4741.

The current groundfish limits for shrimpers as proposed by NMFS are listed below: PLEASE NOTE! groundfish limits may be changed in season and are scheduled for review at the March Pacific Fishery Management Council (PMFC) meeting. Be sure to check on the current regulations frequently this year!

- The groundfish **TRIP LIMIT** for shrimpers is **1500 lb/trip**, not to exceed **500 lb/day**.
- For any delivery, the weight of groundfish must not exceed the weight of pink shrimp.
- **No Canary Rockfish** may be landed
- **No Thornyheads** may be landed
- **No Yelloweye Rockfish** may be landed.
- **Lingcod**; 300 lb/month April through October. 24 inch minimum total length.
- The limit for **Sablefish** is 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 shrimp permits** and harvesting 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.

Logbooks:

ODFW will continue to use and issue the enhanced logbook that was used during the last two seasons. The logbook requires the same information as older versions, plus information on excluder use. Logbook compliance was generally good in 2002, but could have been better. **It is very important that complete and accurate excluder use information is provided**, including excluder type, mesh size/bar spacing and tow by tow use. Documentation of compliance with the BRD rule helps support our approach to bycatch management, preventing more draconian actions by NMFS, such as implementing federal management of shrimp.

Upcoming Research Possibilities

Shrimp project staff are tentatively planning an at-sea shrimp research project during May or June 2003. The project will be to test the exclusion efficiency of the new round-style grates, particularly their effectiveness with small rockfish and flatfish. We hope to be able to test gates with 2.0" and 1.0" bar spacing, measuring both shrimp loss and small fish exclusion. The charter would require a double-rig shrimper with two matched nets and adequate accommodation for two biologists, for two 4-day trips. Please let us know if you'd be interested in such a charter; we'll send you a bid packet once we're sure our budget will allow the project.

Miscellaneous Activities

In late July, Marine Program staff met with a U.S. Department of Commerce fact finding team, members of the Newport Shrimp Cooperative and their legal counsel to discuss ODFW's method of accurately documenting shrimp landings and related statistics. The Commerce folks had met previously with shrimpers and processors up and down the coast in response to an "anti-dumping" petition filed by multiple west coast shrimper industry groups. They also requested a meeting with ODFW staff to basically affirm that Oregon has the means to produce accurate landing and price statistics. Apparently, shrimp landings in some countries are based on estimated weight of whole shrimp rather than the actual weight used in the pink shrimp fishery. We answered all the Commerce Teams questions and apparently the "anti-dumping" petition is proceeding.

Count-per-pound Issues

No count per pound citations were issued in Oregon during the 2002 season. The prevailing market conditions (i.e. 15¢/lb for counts above 145; plant imposed trip limits) during 2003 probably reduced the likelihood of count violations. Large areas with small shrimp were available, but shrimpers were able to find older shrimp early in the season which sold for a much higher price. With good ocean conditions providing the possibility of above average recruitment again this year, the potential exists for some higher than average counts in 2003. If a good recruitment event has occurred, small age-1 shrimp will predominate early in the season, especially in areas with low shrimp abundance last Fall. The OSP will be actively monitoring count-per-pound again in 2003. 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 for any other questions about count-per-pound.

Reports Available

Hannah, R.W. and S. A. Jones. 2003. Measuring the height of the fishing line and its effect on shrimp catch and bycatch in an Ocean shrimp (*Pandalus jordani*) trawl. Fish. Res. 60/2-3 pp 427-430.

Acknowledgments

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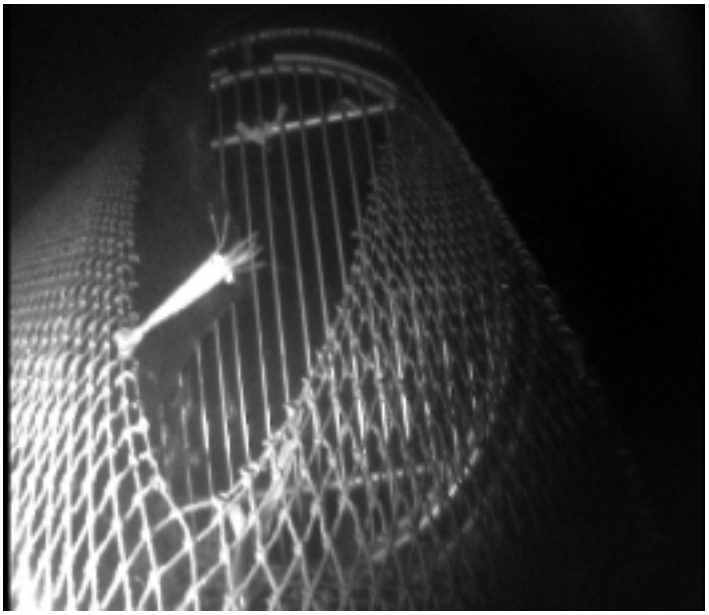
Good Luck Shrimping in 2003!



INCOMING! This shrimp is shown outside the net, just ahead of the BRD aperture. The video footage shows the shrimp being drawn into the aperture and through the grate.

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