



August 5, 2020

Dear Oregon pink shrimp permit holder,

## Background

Currently, Oregon's pink shrimp fishery season opens on April 1 and extends through October 31 of each year. No seasonal closure was in effect when the commercial pink shrimp fishery began in 1957. Annual seasonal closures were adopted on two occasions in response to concerns raised by the industry regarding increased winter/early-spring landings coupled with presence of egg-bearing shrimp. For example, a March 1 start date was established in 1964 to protect egg-bearing shrimp. In 1972, the season start date was extended to April 1 because an increase in spring fishing effort and landings contributed to an increase in the catch of egg-bearing shrimp. The season end date has also been modified over time, first shortening to October 15 in 1972, and then extending to October 31 in 1981.

Recently, changes in the pink shrimp fishery and fleet have prompted industry and fishery managers to reconsider proposed adjustments to the season start date in an effort to improve sustainability and ensure an orderly start. Efficiency of the commercial pink shrimp fleet has increased (e.g. more and larger boats, better fishing technology, etc.) over the past several seasons (2011-2015) which have been characterized by high catch volumes and elevated value of the landings.

Three key issues are addressed by establishment of an earlier start date for the pink shrimp fishery: (1) biological concerns (avoid catch of egg-bearing females); (2) economic value (giving shrimp time to grow larger and increase in economic value); and (3) improved orderliness with regard to the seasonal start date.

1. **Biological Concerns:** Egg-bearing shrimp are common in the southern shrimp beds during early April. These shrimp have little market value, but high biological value. By late April, nearly all shrimp shed their eggs and then become a valuable product. Also worth considering, catch rates for egg-bearing shrimp at the end of the season (September and October) are higher than in April, especially in the North areas. Despite their prevalence, total catch of egg-bearing shrimp is typically lower in the fall, and these late-season shrimp are of less value to the population (given the lack of maturity of recently developed eggs).

While recruitment of pink shrimp is primarily driven by environmental factors (upwelling, spring transition, etc.) the number of spawners is

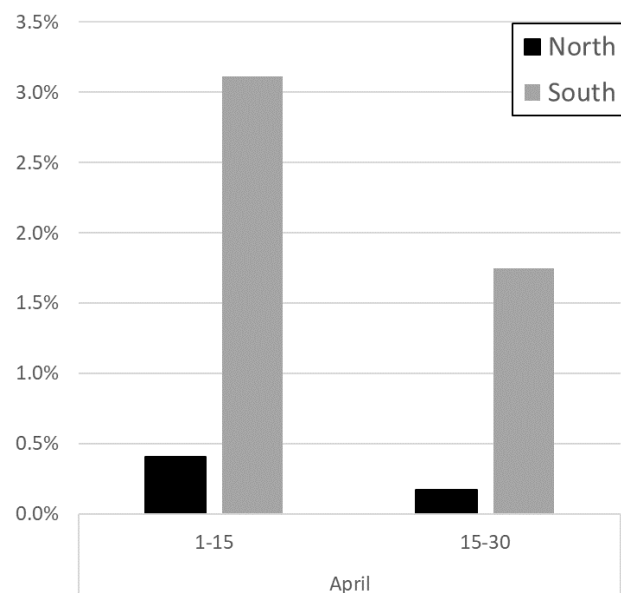


Figure 1: Percentage of egg-bearing shrimp during April from Oregon samples, separated by North and South using Heceta Head, OR, 2003-2020.

also critical. Conservation of these “ready to hatch” eggs is beneficial to the overall population of pink shrimp throughout the harvest areas.

- Economic Value:** Shrimp become more economically valuable as they grow larger. However, as time passes natural mortality affects their overall abundance and how many shrimp may be caught. The intersection of these two factors is optimal for fishery value. Since shrimp live short lives, key factors like natural mortality are difficult to understand, however other factors (e.g., growth) are well understood.

In 2004, ODFW staff collaborated with OSU to develop a bio-economic study of the season start date. Results of this study were that in most scenarios a later start date increased the value of the fishery overall (Gallagher, Hannah and Sylvia 2004).

### Growth

Age-one shrimp are small (roughly 260 count per pound in April), but they grow quickly and reach legal size (160 count per pound) by August (Figure 2). In a typical year, the fishery relies on harvest of a mix of larger age-two and age-three shrimp to contribute to lower count values and to help bring the entire seasonal catch for April-July into compliance. Increased fishing power of the fleet shifts the annual catch to an earlier transition of primarily age-one shrimp.

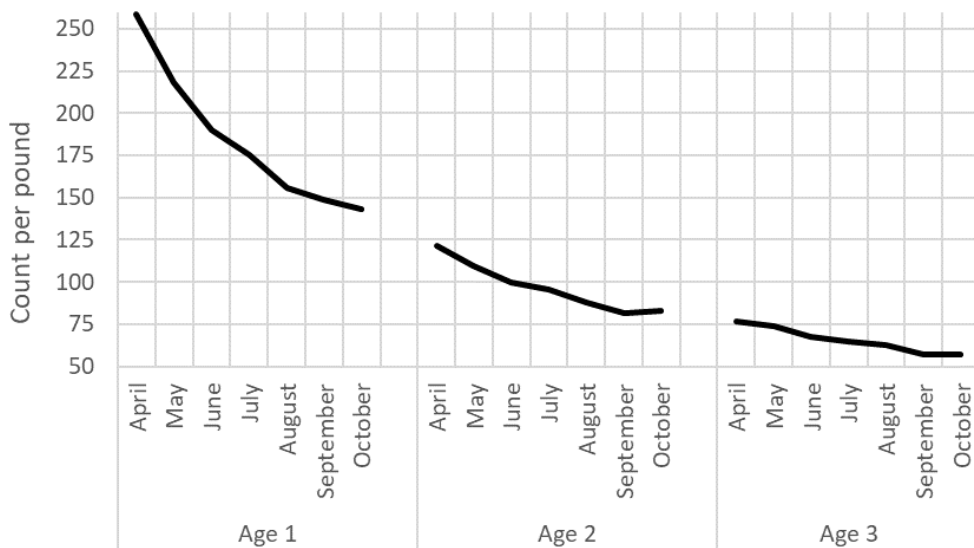


Figure 2: Estimated size (expressed in count per pound) of pink shrimp by age from Oregon biological samples, 2008-2019.

### Wastage

Excessive catch of small, age-one shrimp in the early months of the fishery causes several problems, including: (1) lower shrimp count per pound; (2) dumping of tows (rendering those shrimp valueless); and (3) motivation to sort catch mechanically (e.g. grading devices, large mesh sizes, etc.) which result in wastage of shrimp.

### Catch composition

The mix of shrimp throughout the year is critical to landing valuable and legal shrimp. In a typical season, age-two and age-three shrimp are the major component of catch in the first part of the season in terms of both numbers and weight. These age-two and age-three shrimp are then rapidly fished down (Figure 3 and 4), at which time problems with shrimp count per pound can arise in the event of excessive fishing effort or low abundance of age-two and age-three shrimp. The pink shrimp fishery is predominantly composed of age-one shrimp (by count; Figure 3a). The percentage catch of age-one shrimp increases throughout the year as age-two and age-three shrimp are fished down (Figure 3b). However, by weight, age-two and age-three shrimp become a more important share of the overall catch (Figure 4a and 4b), particularly since they are larger and have greater value.

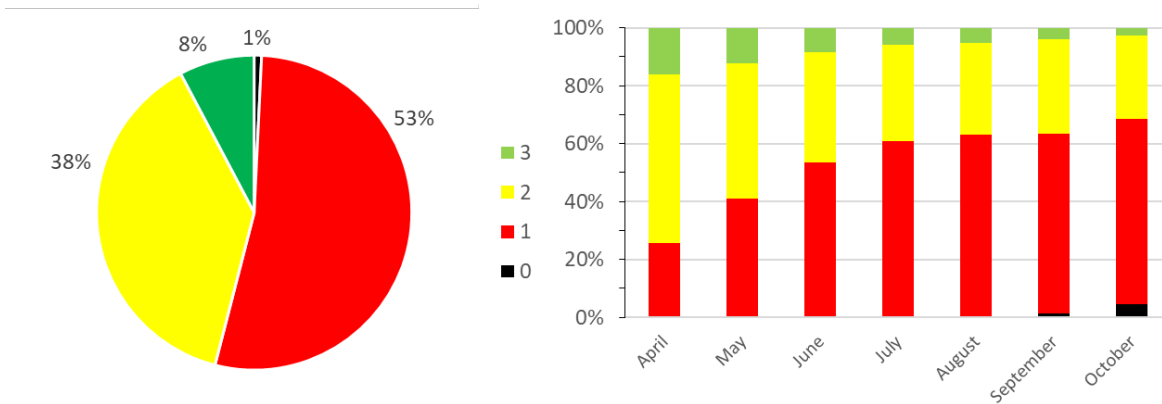


Figure 3: **Number** of shrimp, by age in catch composition from Oregon biological samples 2008-2019. Note that age-one shrimp, by count (number of shrimp) are a smaller component of the fishery, as the fleet works to avoid these smaller shrimp.

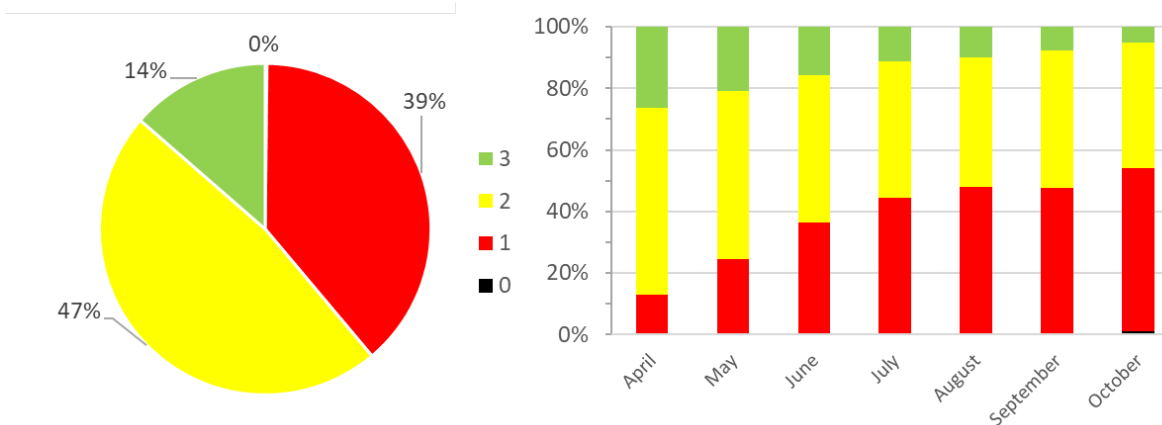


Figure 4: **Weight** of shrimp, by age, in catch composition from Oregon biological samples, 2008-2019. Note that, age-one shrimp are a minor component of catch by weight, given their smaller size. By August, these shrimp are larger and constitute a higher component of the weight of catch.

- Orderly Start:** In recognition of the fleet’s growing fishing power and the low value of small or egg-bearing shrimp, most of the fleet has voluntarily stood down during the early months of the season in recent years. Optimal market size of shrimp varies by buyer. Market differences have confused the fleet’s cohesiveness in a simultaneous start, where markets with demand for small shrimp have started earlier than those that prefer larger shrimp.

Traditionally, most of the fleet does not start fishing at the season opening date (April 1) as they await the outcome of price negotiations and allow shrimp to grow larger. In most years, the fishing season begins slowly and does not become fully operational until May 1-15 (Figure 5). Issues associated with shrimp size (and count per pound) have been prevalent at the beginning of the season when the fleet makes the transition from harvest of hold-over (age-two and age-three) shrimp to fishing primarily on the age-one shrimp, which are not legal (on their own) until July.

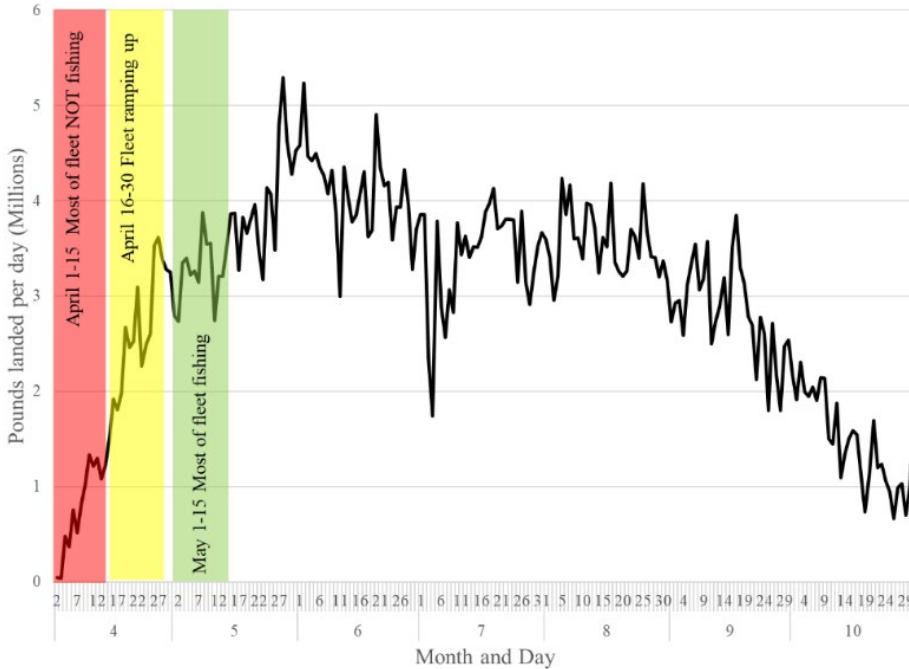


Figure 5: Catch of pink shrimp, delivered to Oregon ports, by month and day (2000-2019). Note that the fishery tends to start slowly, often awaiting egg shedding and price negotiations.

Finally, the pink shrimp fishery has proven that it does not need seven months to catch the surplus of shrimp stock in nearly any year. Catch per unit effort (CPUE) for pink shrimp typically declines over the Apr-Oct season (Figure 6). In addition, shortening the season reduces fishery pressure concerns (e.g. overfishing, bycatch, etc.), (Figure 6).

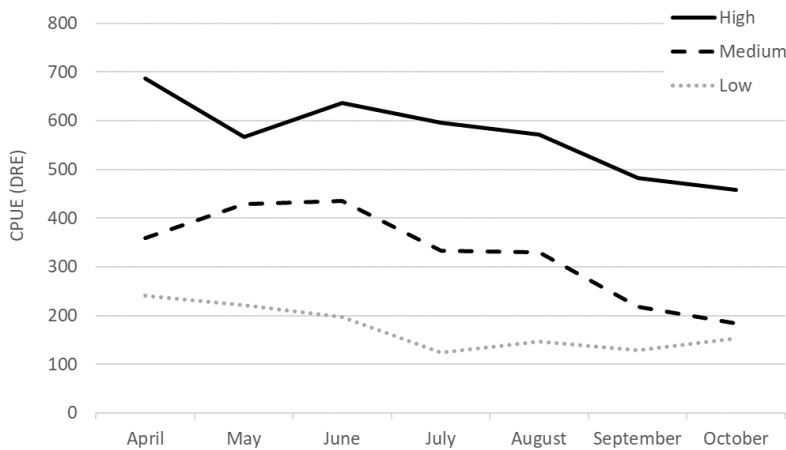


Figure 6: Catch per unit effort (CPUE) rates, expressed in double rig equivalent by month, by season with High (>35 million pounds), Medium (between 20 and 35 million pounds), and Low (<20 million pounds) from Oregon landings (1980-2019). Note that in most scenarios, CPUE is substantially reduced by August, indicating stock have been fished down.

**Summary:**

1. We expect a later start date for the pink shrimp season will improve the sustainability of the fishery, providing protection of egg-bearing shrimp, particularly in southern areas.
2. We expect that a later start date will increase the value of the fishery.
3. We expect that a later start date will contribute to a more orderly beginning of the seasonal fishery.

**Other considerations:**

1. The later the season start date, the less we expect dumping or grading shrimp to be necessary to deliver legal shrimp.
2. Some businesses, particularly those which expect to work the full seven-month season, will have less fishing time, albeit at a more valuable (e.g. higher prices/CPUE) level.
3. Shortening seasons may enhance “derby” conditions.
4. Bio-economic modeling efforts are incomplete. Past models have shown that later season starts are more valuable, especially as fleet efficiency increases.

**How to respond to this survey (only one method may be used, submit by 08/31/2020):**

1. Fill in the survey (on the back of this page) and mail back to Charleston, ODFW in provided stamped envelope.
2. Fill in the survey and drop off at an ODFW office in Astoria, Newport, Charleston or Brookings.
3. E-mail a response to the survey questions to [Scott.D.Groth@state.or.us](mailto:Scott.D.Groth@state.or.us). Must be from addressed recipient.

**What happens next?**

We will look at permit holders response to this survey and evaluate if a OFWC agenda item should be developed. If so, expect this to occur sometime in the winter of 2020/2021.

Thanks for your input,



Scott Groth  
Pink Shrimp Project Leader  
ODFW, Marine Resources Program  
PO Box 5003  
Charleston, OR 97420  
[Scott.D.Groth@state.or.us](mailto:Scott.D.Groth@state.or.us)

*Questions:*

1) Do you support a pink shrimp season start date later than April 1?

Yes                       No

2) If you prefer a later season start date, which do you prefer?

April 15    May 1    May 15    Other \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Vessel name (required): \_\_\_\_\_

Your name (required): \_\_\_\_\_