The Life of a Pink Shrimp

### Pink Shrimp (Pandalus borealis)

- **Pandalid shrimp** have a long rostrum, and an overlapping 2nd pleuron.

- Pink shrimp are also known as "ocean shrimp" or "smooth pink shrimp" the "smooth" refers to the lack of a dorsal median spine, when compared to the similar shrimp, *Pandalus borealis*, which is the target of North Atlantic fisheries.

  - **Lacks dorsal median spine**
  - **Rostrum**
  - **2nd pleuron overlaps 1st and 3rd**

### About Pink Shrimp

#### A Brief Summary:

- Pink shrimp live short lives (3 years or less), and populations vary depending on environmental conditions. They are found offshore in depths of 50-110 fathoms, on soft bottom habitats (mud and sand). Reproduction in shrimp is adapted to their short life history. Shrimp begin their lives as males, then transition to females depending on the sex ratio of the population. In some cases, shrimp will mature first as females to compensate for a lack of older, larger female shrimp.

- Pink shrimp recruitment is "environmentally forced" meaning that ocean conditions are the primary driver of annual recruitment. In many biological populations, spawners (the number of parents) primarily predict recruitment and predators limit populations. However, pink shrimp are different given the dynamic environment of the Northeast Pacific and their short, flexible life history. Pink shrimp depend on environmental conditions during the larval period (early spring transition, optimal summer winds/currents) and are at the whim of environmental conditions of spring. Good conditions during the larval period (early spring transition, optimal summer winds/currents) determine the fate of these larvae.

- Pink shrimp grow quickly in their first year, becoming of legal size (<160 count/lb) soon after their first year of life. Shrimp tend to grow faster in warmer waters (via raised metabolism) and in lower densities (via lower food competition).

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### Becoming a Pink Shrimp

- **Eggs are released into the water column in early spring.** They transform into "zoa," a microscopic baby shrimp. They eat plankton and grow quickly while being moved around by ocean currents.

- **Larvae molt 11 - 13 times in their first year.** They are transported by currents and tend to stay in upper areas of the water column.

- **Age 0** shrimp are first caught in the fishery in the fall. Since they grow faster in warm water, southern areas typically see them first.

### The Life of a Pink Shrimp

#### Summer

- **Age 1** shrimp grow quickly, nearly doubling in size in 8 months.

#### Spring

- **Small shrimp or "pinheads" are avoided by the fleet.**

#### Fall

- **Depending on the sex ratio of the population, some shrimp may become female in their first year of life.**

- **Age 1 female** are less common, but are critical in some years.

- **Age 2** shrimp are the primary target of spring fishing.

- **Remaining male shrimp transition to female and carry eggs.**

#### Winter

- **Age 3** females are large, but few shrimp live to this age, either harvested or expiring of old age.

#### Fall

- **Age 2 shrimp** are the primary target of spring fishing.