**Pollock**

Ecopath

Juveniles: <20 cm

Adults: >= 20 cm

Stock assessment

Summer age 1: 5-16 cm

Summer age 2: 17-24 cm

Summer age 3: 25-34 cm

Summer age 4: 35-41 cm

Ecosystem considerations section of stock assessment report

Juveniles: <30 cm

Adults: >= 30 cm

"To better judge natural mortality, consumption was calculated for two size groups of pollock, divided at 30cm fork length. This size break, which differs from the break in the ECOPATH analysis, is based on finding minima between modes of pollock in predator diets (Fig. 1.41). This break is different from the conversion matrices used in the stock assessment; perhaps due to differences in size selection between predators and surveys. For this analysis, it is assumed that pollock <30cm are ages 0-2 while pollock ≥30 cm are age 3+ fish"

**Pacific cod**

Ecopath

Juveniles: <20 cm

Adults: >= 20 cm

Stock assessment

“Juveniles occur mostly over the inner continental shelf at depths of 60 to 150 m. Adults occur in depths from the shoreline to 500 m, although occurrence in depths greater than 300 m is fairly rare. Preferred substrate is soft sediment, from mud and clay to sand. Average depth of occurrence tends to vary directly with age for at least the first few years of life. However, in the GOA trawl survey, the percentage of fish residing in waters less than 100 m tends to increase with length beyond about 90 cm. The GOA trawl survey also indicates that fish occupying depths of 200-300 m are typically in the 40-90 cm size range.”

“At least one study (Ueda et al. 2006) indicates that age 2 Pacific cod may congregate more, relative to age 1 Pacific cod, in areas where trawling efficiency is reduced (e.g., areas of rough substrate), causing their selectivity to decrease.”

“For the last few assessments, the size composition data from the trawl surveys of the GOA conducted by the Alaska Fisheries Science Center have been partitioned into two length categories: fish smaller than 27 cm (the “sub-27” survey) and fish 27 cm and larger (the “27-plus” survey). The relative size compositions from 1984-2013 are shown for the sub-27 and the 27-plus survey in Table 2.10, using the same 1-cm length bins defined above for the fishery catch size compositions. Columns in this table sum to the actual number of fish measured in each year.

Table 2.11 – Mean size-at-age (in cm) observed by the sub-27 and 27-plus GOA bottom trawl survey,1987-2011.

Table 2.16 – Schedules of estimated population length (cm) and weight (kg) by season and age. Season 1=Jan-Feb, Season 2=Mar-Apr, Season 3=May-Aug, Season 4=Sep-Oct, Season 5=Nov=Dec. Lengths and weights correspond to season mid-points.

**Arrowtooth flounder**

Ecopath

Juveniles: <20 cm

Adults: >= 20 cm

Stock assessment

Mean length (cm) at age for male arrowtooth flounder: Table 9 in SA

Mean length (cm) at age for female arrowtooth flounder: Table 10 in SA

Ecosystems consideration section in stock assessment

Juveniles: <20 cm

Adults: >= 20 cm

**Sablefish**

Ecopath

Juveniles: <20 cm

Adults: >= 20 cm

Stock assessment

Juvenile sablefish (< 60 cm)

“Adult sablefish occur along the continental slope, shelf gullies, and in deep fjords, generally at depths greater than 200 m. Sablefish observed from a manned submersible were found on or within 1 m of the bottom (Krieger 1997). In contrast to the adult distribution, juvenile sablefish spend their first two to three years on the continental shelf of the GOA.”

“Near the end of the first summer, pelagic juveniles less than 20 cm move inshore and spend the winter and following summer in inshore waters, reaching 30-40 cm by the end of their second summer (Rutecki and Varosi 1997). After their second summer, they begin moving offshore to deeper water, typically reaching their adult habitat, the upper continental slope at 4 to 5 years. This corresponds to the age range when sablefish start becoming reproductively viable (Mason et al. 1983)”

“Juvenile sablefish rear in nearshore and continental shelf waters, moving to the upper continental slope as adults. Fish first appear on the upper continental slope, where the longline survey and longline fishery occur, at age 2, and a fork length of about 45 cm.”

**Pacific ocean perch**

Ecopath

Juveniles: <20 cm

Adults: >= 20 cm

Stock assessment

“Adults are found primarily offshore on the outer continental shelf and the upper continental slope in depths of 150-420 m. Seasonal differences in depth distribution have been noted by many investigators. In the summer, adults inhabit shallower depths, especially those between 150 and 300 m. In the fall, the fish apparently migrate farther off shore to depths of ~300-420 m. They reside in these deeper depths until about May, when they return to their shallower summer distribution (Love et al. 2002).”

“Post-larval and early young-of-the-year Pacific ocean perch have been positively identified in offshore, surface waters of the GOA (Gharrett et al. 2002), which suggests this may be the preferred habitat of this life stage.

Transformation to a demersal existence may take place within the first year

(Carlson and Haight 1976). Small juveniles probably reside inshore in very rocky, high relief areas, and by age 3 begin to migrate to deeper offshore waters of the continental shelf (Carlson and Straty 1981). As they grow, they continue to migrate deeper, eventually reaching the continental slope where they attain adulthood.”

**Halibut**

Ecopath

Juveniles: <20 cm

Adults: >= 20 cm

IPHC RARA

“Halibut become vulnerable to the NMFS groundfish shelf trawl surveys when they are 15-20 cm fork length or 1-2 years old”.

“Young fish: <82 cm”