**Life History of ‘Opakapaka**

**HAWAI‘I PINK SNIPPER**

**HABITAT**

Juveniles are found in soft, sandy sediment flats below 200 meters (660 feet) where they remain for less than a year before moving to waters below 150 to 190 meters (490 to 620 feet) deep. Larger juveniles are found over rugged volcanic substrate. Adults are found on the steep slopes and deep-water banks, aggregating near areas of high bottom relief and on the up-current side of reefs. During the day, they inhabit areas over high relief at 100 to 400 meters (330 to 1,300 feet) deep. At night, they migrate into shallower flat shelf areas at 50 to 80 meters (160 to 270 feet) deep.

**DIET**

‘Opakapaka feed primarily below 100 meters (330 feet) and stay within several meters to mid-water off the bottom. They forage above 100 meters (330 feet) at night over sediment flats. They eat small crusshaceans (crabs, shrimps and stomatopods), other juvenile fish, mollusks (octopods, squids and gastropods), gelatinous plankton (salps and heteropods) and echinoids (e.g., sea urchins). They have no strong preference for a particular prey type. They show a seasonal and diel variation in diet, feeding on broilsmen salps at night.

**AGE AND GROWTH**

Aging pink snapper is challenging because the otoliths (ear bones) lack well-developed annual growth zones. Maximum age was previously thought to be 15 years, but radiocarbon dating shows it to be closer to 40 years with the maximum age at 43 years.

‘Opakapaka have a maximum length of 22 inches and a maximum weight of 19 pounds.

**NATURAL MORTALITY**

About 15 to 30 percent of the stock dies to natural causes (such as predation or disease) on an annual basis. Only about 1.5 percent of the population reaches the maximum age.

**REPRODUCTION**

‘Opakapaka are sexually mature at 3.5 years. They spawn over a period of 5 to 7 month summer months during all lunar phases and up to 25 times in a single month, releasing more than 3 million fertilized eggs per spawn.

**REFERENCES**


**Using Life History to Improve Stock Assessments**

**HOW ARE STOCK ASSESSMENTS IMPORTANT TO FISHERIES?**

Stock assessments provide fishery managers with information they need to determine annual catch limits.

**WHAT IS A STOCK?**

A stock is a group of fish that lives, reproduces and dies (naturally or caught) together.

**WHAT IS A STOCK ASSESSMENT?**

A stock assessment is a scientific analysis of the Abundance of the stock, the Biology of the fish through time (i.e., life history) and the Catch.

**STOCK ASSESSMENT COMPUTER MODEL**

ABUNDANCE

- Fishery data
- Catch per unit effort
- Non-fishery data

BIOLOGY

- Produce Juveniles
- Growth

CATCH

- Pound caught
- Number caught
- Sizes caught

**STOCK ASSESSMENT**

**ABUNDANCE**

**BIOLOGY**

**CATCH**

**ABUNDANCE**

**BIOLOGY**

**CATCH**

**FOUNDS OF FISH NEXT YEAR**

**FOUNDS OF FISH THIS YEAR**

**AVARAGES**

**GROWTH**

**DETH**

**FOUNDS OF FISH**

**LIQUID**

**CEAT**

**HOW CAN FISHERMEN GET INVOLVED?**

Provide researchers with fish at the needed sizes so they can better understand the life history of the fish. Once the otoliths (ear bones) lack well-developed annual growth zones. Maximum age was previously thought to be 15 years, but radiocarbon dating shows it to be closer to 40 years with the maximum age at 43 years.

**How many fish can we catch next year, based on the biology of the fish?**

**LIFE HISTORY OF ‘OPAKAPAKA**

**HAWAI‘I PINK SNIPPER**

**HABITAT**

Oceanic and coastal from about 61° N to 50° S. Temperatures of 5° to 27° C (41° to 80° F) with 18° to 22°C (64° to 72° F) preferred. At times aggregate by sea, with females more common in cooler waters.

**CONCENTRATE IN PRODUCTION AREAS**

Some time shared with seabirds, squid and sea turtles.

**FISHING PREFERENCE ZONES**

Warm currents meet cool nutrient-rich waters.

**MIGRATE SEASONALLY**

Typically in deep waters during the day.

**FISHING PREFERENCE ZONES**

Prefer banks where warm currents meet cool nutrient-rich waters.

**MIGRATE SEASONALLY**

Typically in deep waters during the day.

**FISHING PREFERENCE ZONES**

Prefer banks where warm currents meet cool nutrient-rich waters. Migrate seasonally.

**GLOBAL DISTRIBUTION**

**Swordfish**


**REFERENCES**
