**Pollock: *Pollachius virens***

*How big can these fish grow (Maximum length, also known as L\_inf)?*

-130 cm TL male/unsexed (Luna, n.d.)

*Where can they be found (within North USA waters)? Are they in Gulf of Maine, Georges Bank etc. Does the distribution (geographic), change through the year? See if you can find out where spawning occurs geographically (if known)*

-Hudson Strait (Canada) to North Carolina (rare on either extreme) (Luna, n.d.)

-mainly between Cape Cod and Strait of Canso (Neeson, 2006).

-Migrate for spawning (Luna, n.d.)

-spawn in batches (Luna, n.d.)

-Migrate long distances north-south (Luna, n.d.)

-found inshore and offshore waters (Luna, n.d.)

-coastal waters in spring (Luna, n.d.)

-deeper waters in winter (Luna, n.d.)

Spawning:

-Massachusetts Bay, Stellwagen Bank, Cape Ann to the Isle of Shoals, western GOM (Neeson, 2006).

-Occurs from September to April (Neeson, 2006).

-Peak: December to January (Neeson, 2006)

*How do these species fit into the food web? Determine predators and prey. Do these change over their life cycle?*

Prey: (Neeson, 2006)

-carnivore (piscivore, non-insect arthropods, molluscivore)

Small size (41-65cm)

-small crustaceans: copepods, amphipods, euphausiids

-smaller fish

-mollusks

Medium sized (66-95cm)

-fish, especially Atlantic herring (*Clupea harengus*)

Large sized (95cm +)

-mollusks, especially squid (*Loligo*)

Predators: (Neeson, 2006)

-seals, sea lions, toothed whales, dolphins, large bony fish

-Sea lampreys are parasites

**Red Hake: *Urophycis chuss***

*How big can these fish grow (Maximum length, also known as L\_inf)?*

-66 cm TL male/unsexed (Luna, n.d.)/ 63 cm (Steimle, Morse, Berrien, & Johnson, 1999)

-typical max length 50cm (NOAA.gov, n.d.)

*Where can they be found (within North USA waters)? Are they in Gulf of Maine, Georges Bank etc. Does the distribution (geographic), change through the year? See if you can find out where spawning occurs geographically (if known)*

North Carolina to Southern Nova Scotia (Luna, n.d.)

-most abundant from western GOM to southern New England (NOAA.gov, n.d.)

-migrate seasonally (Steimle, Morse, Berrien, & Johnson, 1999)

-in shore habitat in summer

-off shore habitat in winter

-Winter go to deeper offshore waters in the GOM, southern New England, and George’s Bank, to wrecks off of New Jersey (Wikipedia, can’t figure out where they got this info)

-Juveniles are coastal in 4-6m water (Luna, n.d.)

-Adults are in deeper waters (110-130m -> 550m+) (Luna, n.d.)

Spawning:

-occurs on the continental shelf and in coastal embayments (Steimle, Morse, Berrien, & Johnson, 1999)

-migrate to shallower waters for spawning which occurs from May to November (Steimle, Morse, Berrien, & Johnson, 1999)

-GOM: July to November (Steimle, Morse, Berrien, & Johnson, 1999)

-peak of spawning season is in the summer (Bigelow & Schroeder, 2002)

-spawns Gulf of Cape cod to Nova Scotia (Bigelow & Schroeder, 2002)

-spawning in Mid-Atlantic Bight produces majority of recruits (Steimle, Morse, Berrien, & Johnson, 1999)

*How do these species fit into the food web? Determine predators and prey. Do these change over their life cycle?*

Prey:

Juveniles: small crustaceans including larval and small decapod shrimp and crabs, mysids, euphausiids, and amphipods (Steimle, Morse, Berrien, & Johnson, 1999)

Adults: shrimp, amphipods, crustaceans (decapods, rock crabs), squid, herring, flatfish, mackerel, haddock, silver hake, sea robins, sea lance, smaller red hake, clams, brittle stars, snails, sand dollars (Luna, n.d.; NOAA.gov, n.d.; Steimle, Morse, Berrien, & Johnson, 1999)

Predators:

-spiny dogfish, goosefish, cod, silver hake, Striped Bass, Spiny Dogfish, other hake species, Sea Raven, harbor porpoise, and larger Red Hake (NOAA.gov, n.d.; Steimle, Morse, Berrien, & Johnson, 1999)

**White Hake: *Urophycis tenuis***

*How big can these fish grow (Maximum length, also known as L\_inf)?*

-133 cm TL male/unsexed (Luna, n.d.)

-135 cm TL female (Luna, n.d.)

*Where can they be found (within North USA waters)? Are they in Gulf of Maine, Georges Bank etc. Does the distribution (geographic), change through the year? See if you can find out where spawning occurs geographically (if known)*

*-*North Carolina to Newfoundland (NOAA.gov, n.d.)

-U.S. stock GOM and George’s Bank (NOAA.gov, n.d.)

-Adults migrate inshore in the northern Gulf of Maine in the summer (Luna, n.d.)

-disperse in autumn (Luna, n.d.)

-go to the deepest areas in winter (Luna, n.d.)

-Larvae:

-are pelagic and occur in offshore waters on the continental shelf off of southern George’s Bank and the mid-Atlantic (NOAA.gov, n.d.)

-Juveniles:

-occupy the shelf and estuaries (NOAA.gov, n.d.)

-Adults:

-estuaries to upper continental slope (NOAA.gov, n.d.)

-move inshore in warmer months on George’s Bank and the northern Gulf of Maine (Luna, n.d.; NOAA.gov, n.d.)

Spawning:

-Northern stock moves inshore to spawn in August and September (NOAA.gov, n.d.)

-Southern stock moves offshore to the continental slope to spawn in April and May (NOAA.gov, n.d.)

*How do these species fit into the food web? Determine predators and prey. Do these change over their life cycle?*

Prey:

-Juveniles: polychaetes, shrimp, and other crustaceans (NOAA.gov, n.d.)

-Adults: small crustaceans (shrimp), squids, young white hake (Luna, n.d.; NOAA.gov, n.d.)

Predators:

-Juveniles: Atlantic puffin, Arctic turn (NOAA.gov, n.d.)

-Adults: Sandbar Shark, larger White Hake, Atlantic Cod, Atlantic Puffin, arctic turn (NOAA.gov, n.d.), Grey seal (COSEWIC).

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