

## ATTEMPTED PREDATION OF A HARBOR SEAL PUP (*PHOCA VITULINA*) BY AN AMERICAN MINK (*NEOVISON VISON*) IN THE SALISH SEA

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**ABSTRACT**—A single incident of attempted predation of a Harbor Seal (*Phoca vitulina*) pup by an American Mink (*Neovision vison*) was observed on Blakely Island, Washington in 2015. San Juan County Marine Mammal Stranding Network members responded, investigated the event, and performed a necropsy on the seal. Predation is the most parsimonious explanation for the attack due to the American Mink's opportunistic predatory tendencies and the vulnerability of the moribund Harbor Seal. With both the American Mink and Harbor Seal populations documented as abundant or at carrying capacity, respectively, mink predation on vulnerable Harbor Seal pups could increase or influence Harbor Seal haul-out behavior.

**Key words:** American Mink, Harbor Seal, *Neovision vison*, *Phoca vitulina*, predation, Salish Sea

American Mink (*Neovision vison*) are generalist and opportunistic carnivores. Major mink prey include small mammals, fish, insects, amphibians, birds, mollusks, and crustaceans (Dunstone and Birks 1987; Shier and Boyce 2009). Mink will also scavenge larger prey such as deer (*Odocoileus* spp.; Shier and Boyce 2009). Compared to riverine mink, coastal mink in the Pacific Northwest consume fewer mammals and more intertidal fish, crustaceans, and mollusks (Hatler 1976; Ben-David and others 1997). Diet will vary based on seasonal and diurnal fluctuations in prey availability (Ben-David and others 1997) and on tidal elevation, with low tide presenting larger areas of shallow rock-pools for foraging (Ben-David and others 1996). On average, adult males weigh between 0.7 to 2.3 kg (Nowak 1999), and although size may limit their choice of prey, there are multiple instances of mink preying on larger mammals and birds (see Dunstone and others 1987; Zalewski and Bartoszewicz 2012).

Here, we report one instance of an American Mink attempting to predate a live Harbor Seal pup (*Phoca vitulina*). On 15 July 2015, we received a report through the San Juan County

Marine Mammal Stranding Network hotline of a mink attacking a Harbor Seal pup on Blakely Island, Washington (UTM: Zone 10U, 515560E, 5376439N, WGS84), adjacent to Pointer Island, a known haul-out site for Harbor Seals (Jeffries and others 2000). A resident on the island heard vocalizations coming from a rocky beach to the west of his property at 15:30 when the tide was at 1.3 m. Upon investigation, he saw a mink biting a seal pup on the nose. The pup was mostly submerged in a tidal pool with only its head visible. As the resident approached, the mink retreated. The mink returned at approximately 16:30 and 20:00 when the tide was at 1.6 m and 2.2 m, respectively, but was chased off each time by the resident. After the 3rd encounter at 20:00, the resident noted facial lacerations on the pup that were bleeding enough to color the surrounding water red. The resident was vigilant in his observation of the seal until it was time to retire for the night.

The following morning, the same resident found the pup dead and surrounded by Turkey Vultures (*Cathartes aura*) actively scavenging the carcass <20 m southeast and slightly further inland from its previous location. We retrieved the carcass and froze it for 4 d until a necropsy could be performed. The head had been scavenged with most of the maxilla and the surrounding tissue missing, including the nose, tongue, and eyes, making it difficult to assess for any wounds or lacerations that might have resulted from the mink attack. The emaciated pup weighed 9.5 kg, measured 78 cm straight from the nose to the tip of the tail, had a 46-cm axillary girth, and a sternal blubber layer of 0.4 cm. On average, Harbor Seal pups are born weighing 11 kg, measure 78 cm in length, 54 cm in girth (Cottrell and others 2002), and have 1.4 cm of sternal blubber (Huggins and others 2013). Gross necropsy results of the Harbor Seal suggested pneumonia and 1 focus of trauma, a 1- to 2-cm subcutaneous hemorrhage over the frontal bones of the skull. The hemorrhage must

have occurred ante-mortem and could have been caused by the mink or by a vulture beginning to scavenge the pup before it died. Gross evidence of pneumonia and emaciation suggest the seal pup was likely moribund prior to being attacked by the mink.

The main predators of Harbor Seals in the Salish Sea are marine mammal-eating transient Killer Whales (*Orcinus orca*) (Scheffer and Slipp 1944; Heimlich-Boran 1988; Ford and others 1998). Outside of the Salish Sea, sharks (Scheffer and Slipp 1944; Lucas and Stobo 2000; Taggart and others 2005; Anderson and others 2008) and Steller Sea Lions (*Eumetopias jubatus*) (Mathews and Adkison 2010) have been identified as significant predators. While hauled out, Harbor Seals in the Salish Sea are vulnerable to terrestrial predators including Coyotes (*Canis latrans*) (Steiger and others 1989), Grey Wolves (*Canis lupus*), bears (*Ursus* spp.), and Domestic Dogs (*Canis lupus familiaris*) (London and others 2012). Some scavengers, such as the Bald Eagle (*Haliaeetus leucocephalus*) target Harbor Seal pups that are ill or weak (Hayward 2009). This present case suggests that mink may fall into the same category as Bald Eagles of being opportunistic seal predators, especially when the prey is vulnerable. Although this could have been a territorial and aggressive action by the mink against the seal pup, such behaviors are not supported by peer-reviewed literature. Given that the mink diet is largely determined by size, abundance, and vulnerability of the prey (Hatler 1976), we believe opportunistic predation of an incapacitated individual is the most likely explanation of the observed behavior.

An additional report of an American Mink preying on a Harbor Seal in the Salish Sea was reported in the Vancouver Sun (Pynn 2014) on 10 April 2014, though the actual event took place some years prior. The reporter witnessed a mink repeatedly attacking the head of a Harbor Seal pup. After about 10 min the mink dragged the injured or dead seal pup up the rocks, presumably to consume it.

The American Mink population is considered generally abundant throughout its distribution (Larivière 1999). In the Salish Sea, the Harbor Seal population is at carrying capacity (Jeffries and others 2003). American Mink predation of Harbor Seal pups could continue to be a rare occurrence, or it could become more common during the Harbor Seal pupping season consid-

ering the spatial overlap of high densities of both foraging mink and newly born and vulnerable seal pups. If interactions increase, mink could influence seal behavior by reducing haul-out prevalence at locations with increased risks of terrestrial predators (Nordstrom 2002).

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