

DOGFISH SHARK CARE

PURPOSE: To describe methods of care for dogfish sharks.

POLICY: To provide optimum care for all animals.

RESPONSIBILITY: Collector and user of the animals. If these are not the same person, the user takes over responsibility of the animals as soon as the animals have arrived on station.

PROCEDURE: There is one species of dogfish shark used at BMSC.

Species: Spiny dogfish *Squalus acanthia*

Identification: Refer to Lamb and Edgell's book, "Coastal fishes of the Pacific Northwest" for in depth descriptions of individual specimens.

Squalus acanthias: These fish have two dorsal fins, each with one spine on the leading edge. There is no anal fin. Individuals can reach 160 cm in length.

Sites: Open ocean.

Methods: These fish can be caught by long line or by hook and line. They are also caught as bycatch in trawl nets.

Holding: Held in continually flowing seawater in large tanks. The BMSC cable tank is the best on site for dogfish. Lids are necessary.

Feeding: These fish feed on herring and other small fishes. They generally will not feed until they are comfortable in their new habitat. Loud noises and other disturbances cause them to not eat for long periods. They will not eat if their tank is too small for appropriate swimming and other behaviours. They feed heartily in large groups together in a large tank once they have had a few weeks to establish themselves.

Tank Cleaning: Fish should not be removed from tank for cleaning. Bottom of the tank should be cleaned weekly by siphoning/vacuuming and with a net to remove waste.

Anesthetic: Anesthetizing these animals is size, species, and density dependent; approximately 0.2mg/L of MS-222. Always wear gloves when using MS-222. Clove oil is most effective as an anesthetic at concentrations of 40-60 mg/L, and should be dissolved in ethanol (e.g., 1:9) before mixing into the water. Clove oil has a slightly faster induction time and a longer recovery time than similar concentrations of TMS (MS222). Clove oil has a wide margin of safety between effective and lethal doses, and fish do not show signs of distress when being anaesthetized.

Euthanasia: Euthanasia is size, species, and density dependent; inhalant anesthetic overdose of 0.4 - 2.0 g/L of MS-222.

Animal Return: Animals should be returned to the site of their collection. Be sure to have well oxygenated water in bucket that they are being returned in.

If any anesthetic chemical has been used on the fish during it's holding at BMSC, the animal must not be released before the drug withdrawal time. Withdrawal time should be on the label of an anesthetic in degree-days (degree-days are the accumulated thermal units for a given day. One day at 10C is 10 degree-days).

Note: MS-222 has a 5 -day withdrawal time for salmon above 10C.

DAILY ACTIVITIES:

1. Ensure water is flowing into the tank at a reasonable rate.
2. Ensure the standpipe is in place and not blocked.
3. Check for and remove and dead animals.
4. Check for and remove any uneaten prey organisms.
5. Check for and remove and foreign organisms.