MARINE MAMMAL WATER QUALITY	The water contained in primary enclosures housing marine mammals must be clean, uncontaminated and appropriate for the species of marine mammal housed therein. [3.106]
Criteria	The research facility is responsible for testing and for maintaining water quality. Factors for evaluating water in primary enclosures include, but are not limited to: • coliform count • pH • chemical additives • filtration and water flow • salinity for salt water marine mammals *Coliform Count* [3.106(b)] **Weekly** water tests must be conducted for coliform counts. [3.106(b)(3)] The coliform bacterial count of the primary enclosure pool must **not exceed** 1,000 MPN (most probable number) per 100 ml. of water. [3.106(b)(1)] If the coliform count exceeds 1,000 MPN per 100ml., then: [3.106(b)(1)] • the pool may be drained, refilled and tested, or • the pool may be treated with a sterilizing agent, such as chlorine, bromine or ozone, and retested, or • the following procedure may be conducted: ▸ two subsequent bacterial counts must be taken at 48-hour intervals ▸ the results of these two counts are averaged with the first count ▸ if the averaged count does not fall below 1,000 MPN per 100ml., then the pool must be emptied or treated

Two tests are generally accepted for testing for coliforms and are roughly equivalent:

- the multiple tube fermentation test
- the membrane filter test

Non-acceptable tests for coliform counts are:

- dip stick type tests
- tests giving only "fecal coliforms"

Water samples should be taken:

- at least 2-3 feet below the surface of the water near the middle of the pool or the drain
- at the same place and same time of the day
- just prior to emptying the pool rather than just after filling the pool

A recommended technique for collecting water is:

- use a sterile sample bottle
- open the bottle just before inserting it into the water
- submerge the bottle rapidly into the water with a forward sweeping motion

Water samples should be:

- refrigerated if not tested within one hour of collection
- processed within 30 hours of collection
- maintained at 50°F

pH [3.106(b)(3)]
Daily water tests must be conducted for pH.

NOTE: Research facilities using natural seawater are exempt from pH testing.

Chemical Additives [3.106(b)]
Daily water tests must be conducted for concentrations of chemical additives. [3.106(b)(3)]

Any chemical added to the pool water must not cause harm or discomfort to the marine mammal. [3.106(b)(2)]

NOTE: Research facilities using natural seawater are exempt from testing for chemical additive concentrations UNLESS chemicals are added to maintain water quality. [3.106(b)(3)]

Salinity [3.106(c)]
Primary enclosure pools must be salinized for cetaceans and other marine mammals requiring salinized water.

The salinity of the water must be maintained within a range of 15-36 parts per thousand.

Filtration and Water Flow [3.106(d)]
A filtration system may be used to maintain water quality.

Records [3.106(b)(3)]
Records of coliform counts, pH and chemical additive concentrations must:

- be kept
- document the time when all samples were taken
- record the results of the sampling
- be held for a 1-yr period
- be available for inspection upon request

Inspection Procedures

The inspector must review the records carefully to verify the validity of the records.

Indicators of questionable validity of the records include, but are not limited to:

- all recordings in the same ink or handwriting
- no change in readings
- results posted on the same date and time

If the facility appears to have a problem with water quality, questions to ask include, but are not limited to:

- where are samples taken
- how deep are samples taken
- what time of day are samples taken

	• where is testing done, i.e., in house, sent to lab • if samples sent out, is lab qualified to test samples • how soon after collection are samples tested • what is the storage method of the samples If the testing methods, sampling techniques or test results do not appear to be valid or representative of the water conditions, you (the inspector) should check with your SACS about having samples run to check the accuracy of the facility's tests.