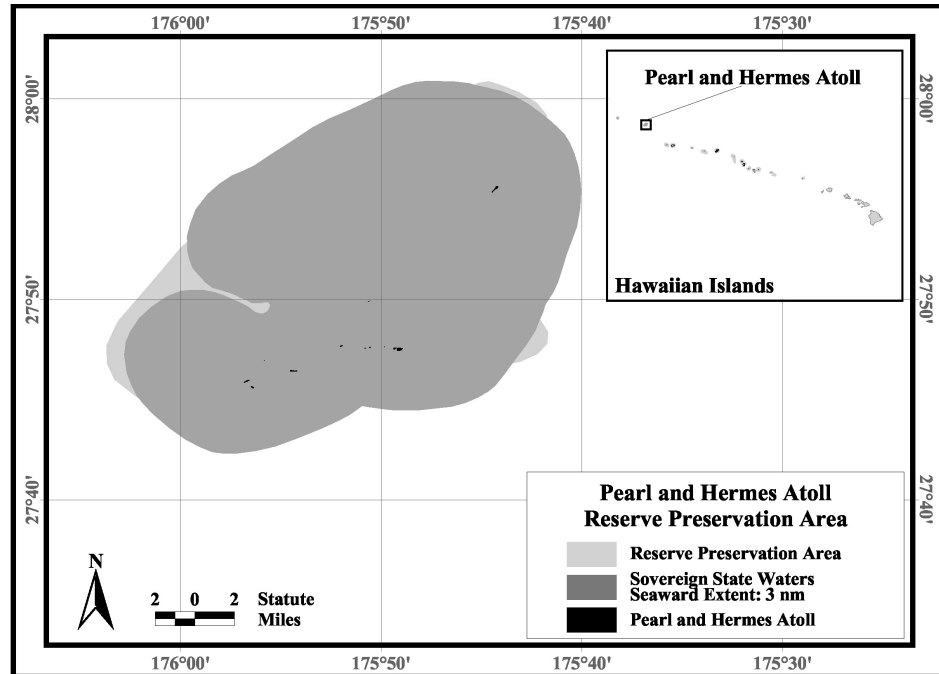


## Pearl & Hermes Atoll Reserve Preservation Area

### MAP



This reserve preservation area is approximated using fathoms (fm), but shall be represented in future maps by the Secretary using straight-line boundaries in longitude and latitude coordinates to clearly encompass the reserve preservation area and to provide clarity and ease of identification.

### RESERVE PRESERVATION AREA

The Reserve Preservation Area for Pearl and Hermes Atoll includes the waters and submerged lands from the seaward boundary of Hawaii state waters out to a mean depth of 100 fathoms.

### ENVIRONMENT

Pearl and Hermes Atoll is a large, low atoll with several small islets forming about 80 acres of land and almost 200,000 acres of coral reef habitat. It is approximately 2,090 km northwest of Honolulu and 140 km east-southeast of Midway Atoll. The fringing reef is roughly 69 km in circumference and open to the west. The islets are periodically washed over when winter storms pass through.

The lagoon of the atoll is large and it is difficult to draw generalizations regarding the abundance and distribution of corals and reefs. Many areas of the shallow lagoon reef holes appear to be dominated by sediments while water circulation and exchange rates may be a factor in dictating coral development.

Where circulation is sluggish, water temperatures rise during sunlit hours and may be unfavorable to corals. In contrast, where there is good mixing within pockets of the lagoon, either from tidal exchange or wave set up along the windward reefs, there are more favorable conditions for corals. Pinnacle reefs are exposed to the best of two worlds: better access to ocean water exchange and protection from the damaging effects of storms and large waves. At Pearl and Hermes, the pinnacle reefs show both high coral cover and diversity.

Healthy spur-and-groove development along more exposed reefs is evidence that the atoll is growing. The spur and groove habitat of the north and northwest outer barrier reefs is unique among NWHI atolls in that it contains extremely deep and narrow canyons. Some semi-protected southern-facing reefs of the atoll did not display spur and-grooves and may be growing at slower rates or not at all. The outer reef slopes of the south shore contain numerous large holes and caves, which contribute to spectacular abundance and diversity of fish at the atoll.

Pearl and Hermes has a moderately diverse assemblage of coral species, although not as high as reported for the other large atoll, French Frigate Shoals. This may be attributed to the lack of table coral (*Acropora*) at Pearl and Hermes and up to six or more species being present at French Frigate Shoals.

Pearl and Hermes support a breeding population of endangered monk seals. Derelict fishing gear and other types of marine debris are, however, having a major impact on the reefs and associated fauna of the atoll. Over the past three years, efforts have been undertaken to lessen the threat of this growing problem.

The Hawaiian Islands National Wildlife Refuge is currently administered out to 10 fathoms at Pearl and Hermes Atoll.