Pearl oysters (*Pinctada*) of Midway Atoll, Northwestern Hawaiian Archipelago
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Pearl oysters (*Pinctada* spp.) may be an important component of coral reef ecosystems due to their community interactions, water filtering capacity, and potential for bioremediating nutrient and heavy metal pollution. Two species, *P. margaritifera* and the smaller *P. radiata*, have been reported previously from the Hawaiian Archipelago. Adult *P. margaritifera* are extremely rare at Midway Atoll, with only 13 located in 6 years of extensive bivalve surveys and other field work. Genetic analyses, using the nuclear ITS1 and mitochondrial COI markers, have identified most 2010 and 2011 *Pinctada* recruits on Midway Atoll as a third species, *P. maculata*, previously undocumented from the Hawaiian Archipelago. A population matrix model for the genus *Pinctada* has been developed and parameterized using field measurements of recruitment, survival, and growth of *P. maculata* on Midway Atoll, as well as survival and growth of adult *P. margaritifera* on Midway Atoll, and published data on distributions, abundances and size-distributions of *Pinctada* species from other locations. This model is used to project population sizes and dynamics of both *P. margaritifera* and *P. maculata* for several Hawaiian localities, and to explore the impacts of possible management options.

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