

University of Washington

Abstract

Evaluation of Near-shore Buffer Zones of the San Juan Islands National Wildlife Refuge
Relative to their Function as a Marine Protected Area Network

Cristen Nicole Don

Chair of the Supervisory Committee:
Assistant Professor Terrie Klinger
School of Marine Affairs

The San Juan Islands National Wildlife Refuge (the Refuge) consists of 83 small islands, rocks, and reefs scattered throughout the San Juan Archipelago region. The U.S. Fish and Wildlife Service (USFWS) recommends a 200 yard "no entry" marine buffer zone surrounding each refuge site to help minimize disturbances to birds, marine mammals, and endangered species that utilize the Refuge. Compliance with the existing guidelines provides protection to the intertidal and subtidal resources found within these near-shore buffer zones. Using the Refuge as a foundation may provide a politically feasible means for establishing a marine protected area (MPA) network within the region without requesting that the public set aside new areas from public use.

In this body of work, I evaluate near-shore buffer zones of the Refuge relative to their ability to function as a marine protected area network. I use existing data to analyze biological and physical characteristics of the near-shore buffer zones in order to quantify their potential contribution to marine protection in the region. I also provide a review of institutions and legal authorities that may foster management, monitoring, enforcement, and education/outreach to the marine component of the Refuge, thereby establishing a network of MPAs in the region.

My conclusion is that the Refuge *is* capable of contributing to regional marine resource protection and that some level of connectivity between refuge sites likely exists. I also conclude that current management and protection of the marine areas surrounding refuge sites is inadequate to constitute a *de facto* MPA network and that implementation and success of the MPA network will depend heavily upon the creation of partnerships with other existing agencies and institutions. In essence, I believe that the Refuge could serve as an MPA network in the San Juan Archipelago region.