# Citizen Science and Outreach: Smith and Minor Islands Aquatic Reserve



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# A Network of Support





# Thank you Island County MRC!



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KELP RESEARCH OUTPOST

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# **Evolving Kiosk Content**



Harlequin Duck

Rushing streams and pounding waves are the twin habitats for these dapper little ducks.

Named after the multi-hued costumed characters of French pantomime, the males sport a plumage of slate blue with white markings and chestnut sides. Females are dusky, with three spots on the rounded head.

Harlequins dive underwater, using their stubby bills to catch snails, crabs, and other invertebrates just off our rocky shorelines.

These hardy ducks are present in the Reserve until late April, when most migrate inland to the streams and rivers of the North Cascade and Olympic mountain ranges. Here the female lays 6-8 eggs in a hollow under a shrub, 60 to 90 feet from the river's edge. Males return to saltwater by early July. Females and young arrive here in September.

The local population of Harlequins has risen after a steep decline. Smith and Minor Island Aquatic Reserve is an important wintering area for this intriguing species.





## Welcome Sign: Coming Soon!



ARTHERS

IT'S AND MINOR ISLANDS AQUATIC RESERVE CITIZEN STEWARDSHIP COMMITTEE ED STEWARD COUNTY MARINE RESOURCES COMMITTEE

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### Smith and Minor Islands Aquatic Reserve

#### VAST SEAWEED FOREST SUPPORTS A WIDE ARRAY OF MARINE SPECIES CRITICAL TO THE HEALTH OF PUGET SOUND



The waters west of Smith Island are home to the largest persistent bull kelp bed in Washington State. Bull kelp is an annual plant hat can grow over 100 feet in a single season creating layered habitat resembling an underwater forest. Creatures, including tiny shrimp and oung rocklish, use these areas for shelter, nursery habitat and feeding. Bull kelp anchors itself with a root-like structure onto rocks and other hard surfaces. Each year, stormy winter weather rips up kelp and tosses it ashore where it decomposes and provides food and shelter for heach dwelling creatures like beach hoppers and kelp flies. The following spring, a new generation of bull kelp grows.

Bull kelp also provides various "ecosystem services," or benefits provided to humans by nature. As the tides ebb and flow through the Strait of Juan de Fuca, they sometimes hammer the shores of Whidbey sland with intense wind generated waves. The presence of bull kelp bods helps slow these currents and reduce wave action, creating calmer areas in the kelp forest and along the shoreline, which diminishes shoreline exosion. Kelp is also being studied for the amount of carbon it can "fix," or store in its tissues, which may reduce the amount of carbon dioxide in the air and water and help lessen the acidification of local waters.

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 Bull keip grows and thrives in rough and tumble coastal waters and forms unsive beds along much of the roline of the Agastic Reserve LOW TIDE-Rafts of kelp help reduce beach enation by comaning the force o to against the

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Washington State's Aquatic Reserve Program protects important and unique freshwater and manne habitats. Reserves are managed to: . Conserve and enhance native habitats · Protect and restore functions and natural processes of the shoreline and intertidal zones + Promote stewardship of aquatic habitats

**RESERVES PROGRAM** 

THE AQUATIC

and species through education and outreach in collaboration with resource managors, stakeholders and citizon scientists

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# Conservation Targets for Smith and Minor Islands Aquatic Reserve

- Unique Ecosystem
  Characteristics
- Aquatic Vegetation and Habitat
- Bird Populations
- Marine Mammal Populations
- Fish Populations





## Management Goals and Objectives for Smith and Minor Islands Aquatic Reserve

- Preserve, restore, and enhance nearshore and subtidal ecosystems
- Monitor sensitive habitats, species, and processes
- Provide opportunities for education and interpretation
- Ensure connectivity
  across Aquatic Reserves





# Citizen Science & Monitoring



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### **Current or Future Citizen Science Possibilities**

- Current projects that would easily extend into Smith and Minor Islands Aquatic Reserves?
- Future possibilities that could be a good fit?





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