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Salish Sea Ecosystem Conference

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## Citizen science in the aquatic reserves

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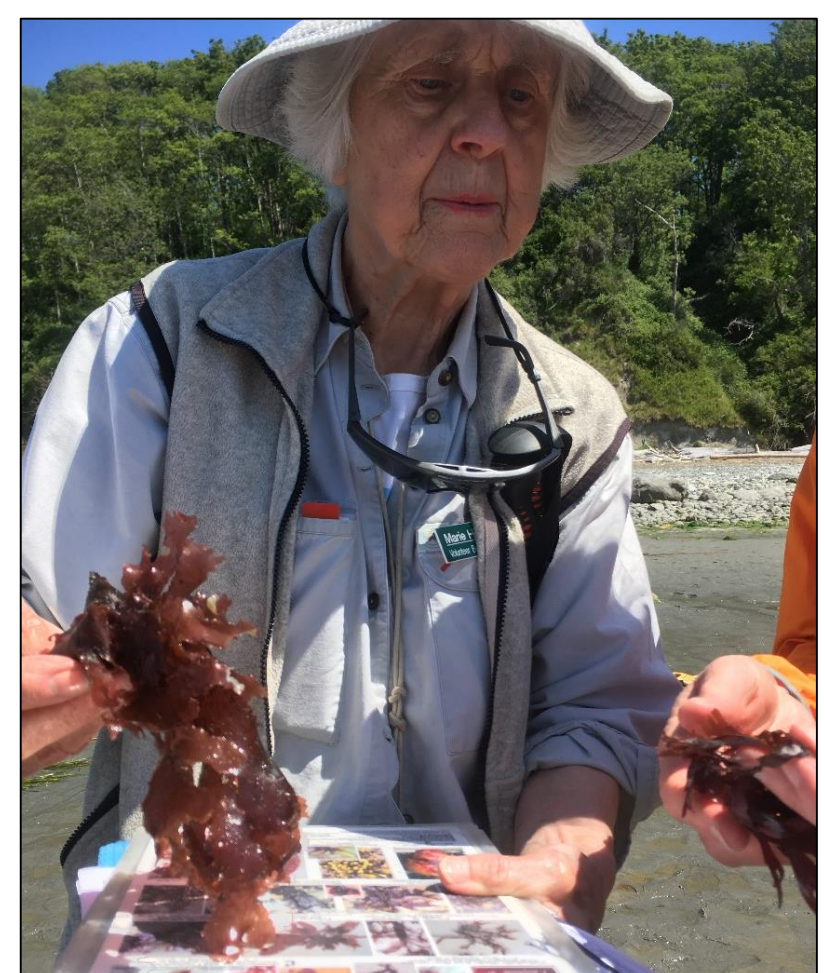
# Citizen Science in the Aquatic Reserves

## Department of Natural Resources Aquatic Reserves Program

E. Bleke

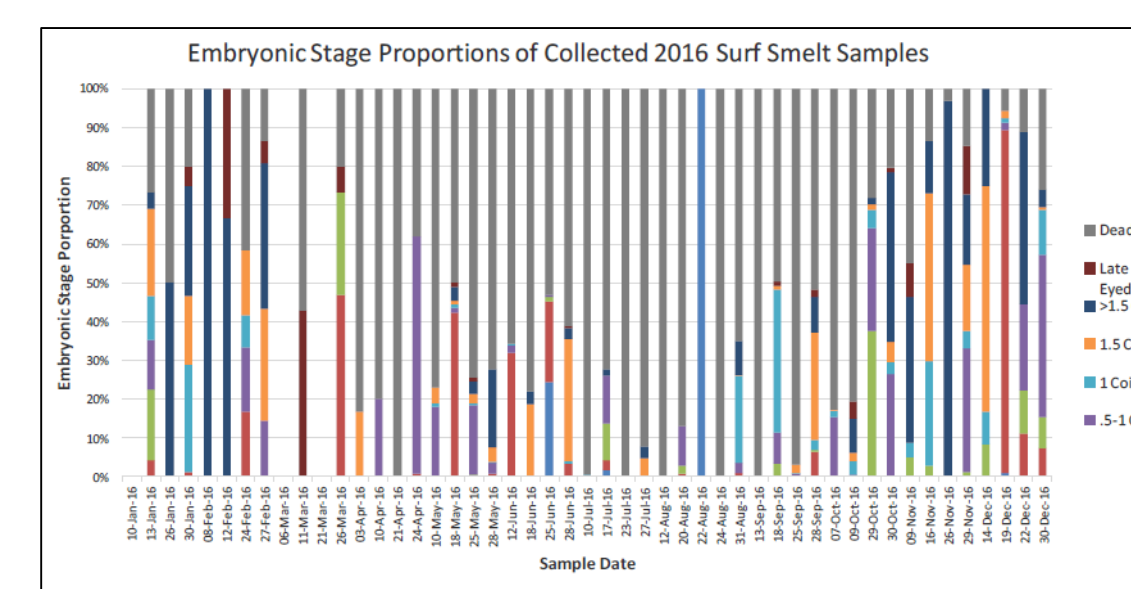
### The Aquatic Reserve Program

The Department of Natural Resources (DNR) has designated eight aquatic reserves in the state of Washington that encompass important native habitats on state-owned aquatic lands. Seven of the reserves are in the Salish Sea, and six are supported by Citizen Stewardship Committees (CSCs). These committees are made up of dedicated local volunteers who help DNR implement the management plan of their local reserve through outreach, education, and citizen science projects.



### Citizen Science Adds to Baseline Datasets

Volunteers conduct forage fish beach spawning surveys year-round and some have been trained to count and stage eggs in the lab.



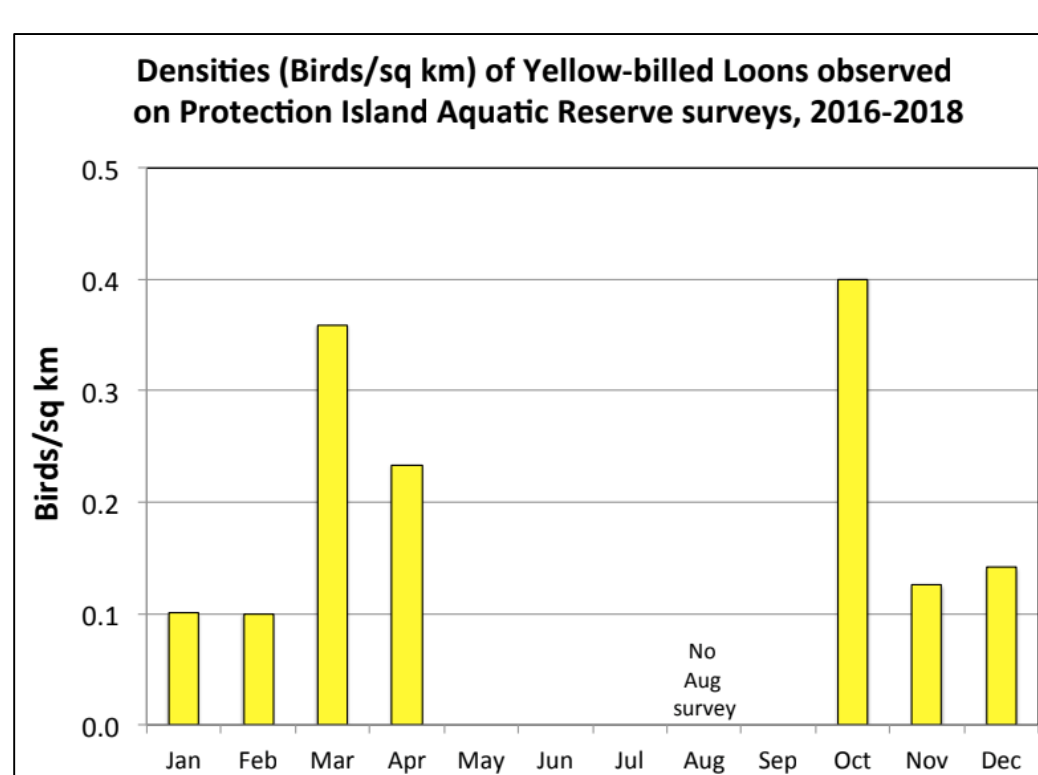
From 2016 Forage Fish Survey Report (P. Hasse, Fidalgo Bay Aquatic Reserve CSC member and Forage Fish Survey Coordinator).



### Citizen Science Provides New Data and Insights

Many CSCs conduct a bird survey. Some CSCs track one species, while others are focused on identifying and counting multiple species to document which species use the reserve and track long-term changes in their abundance and distribution.

The Yellow-billed Loon, a species seemingly in worldwide population decline, is best seen in Washington within the waters of Protection Island Aquatic Reserve. The Protection Island Aquatic Reserve CSC has just finished collecting their first year of data in a new boat-based bird and marine mammal survey, and are hoping to gain insights on this and other species that use the Reserve.

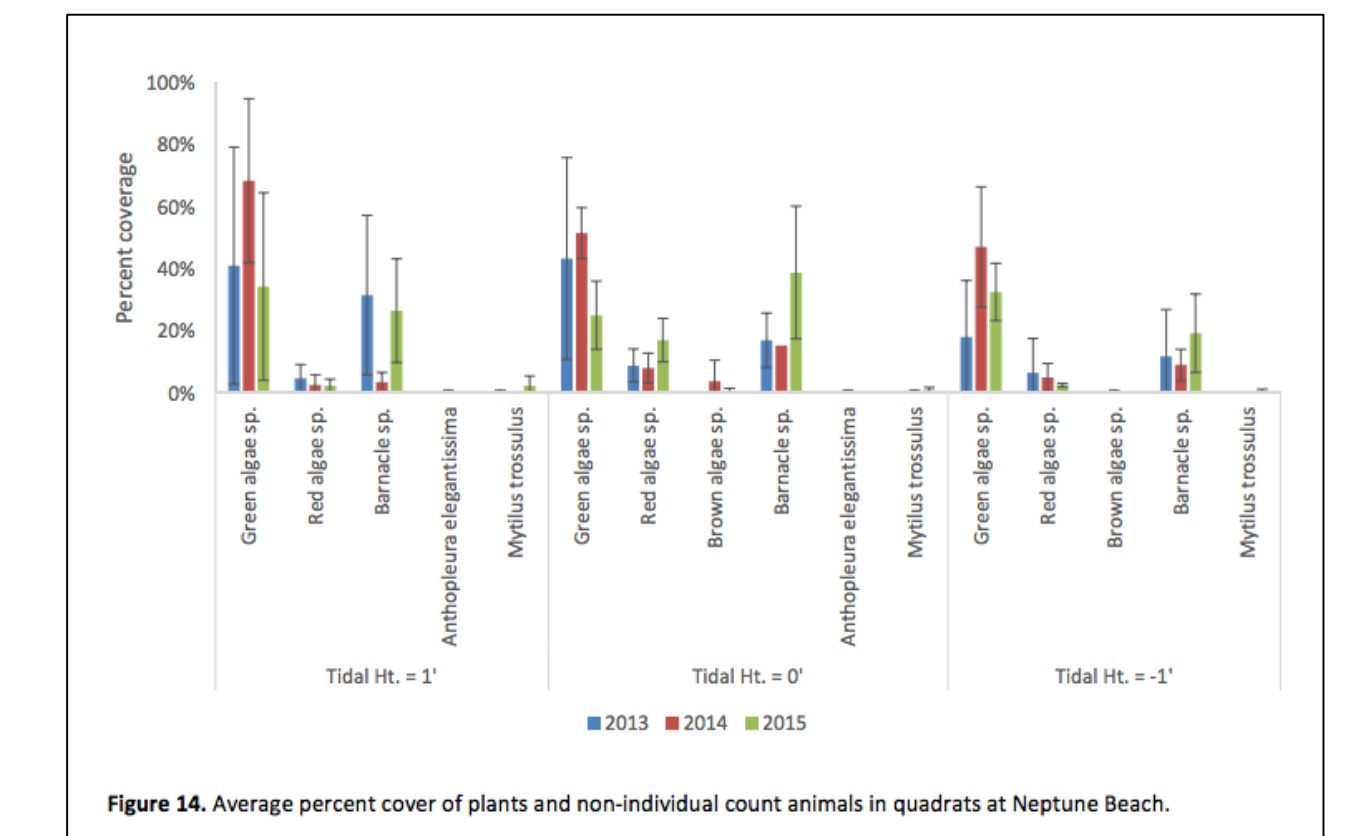


From a March 2018 presentation by Bob Boekelheide about insights gathered from the first year of Protection Island Aquatic Reserve CSC's bird survey.

### Citizen Science Addresses Sudden Needs

Every summer, citizen scientists conduct intertidal monitoring in multiple reserves. Species are identified and counted along transects and within sediment cores, depending on the type of beach. Information about sediment type and shoreline slope is collected.

When sea star wasting syndrome started causing die-offs in 2013, sea star surveys were added to data collected at the intertidal monitoring sites that had potential sea star habitat. This data is shared with the Multi-Agency Rocky Intertidal Network (MARINE).



From the 2013-2015 Cherry Point Aquatic Reserve Intertidal Biota Monitoring 2013-2015 Report (M. Kyte, W. Steffensen and E. Hines).



### Citizen Science is Powerful When Coordinated and Accessible

Having local, experienced volunteers intimately involved in their nearby reserve is invaluable when it comes to implementing management decisions and tracking changes. The Aquatic Reserves Program welcomes collaboration with organizations doing similar work.

### Citizen Science in the Aquatic Reserves

Each aquatic reserve has a set of conservation targets and management goals that citizen science helps to inform. The work conducted by volunteers is diverse and dependent upon the needs of the reserve, the interests of the volunteers, and the partner organizations involved.



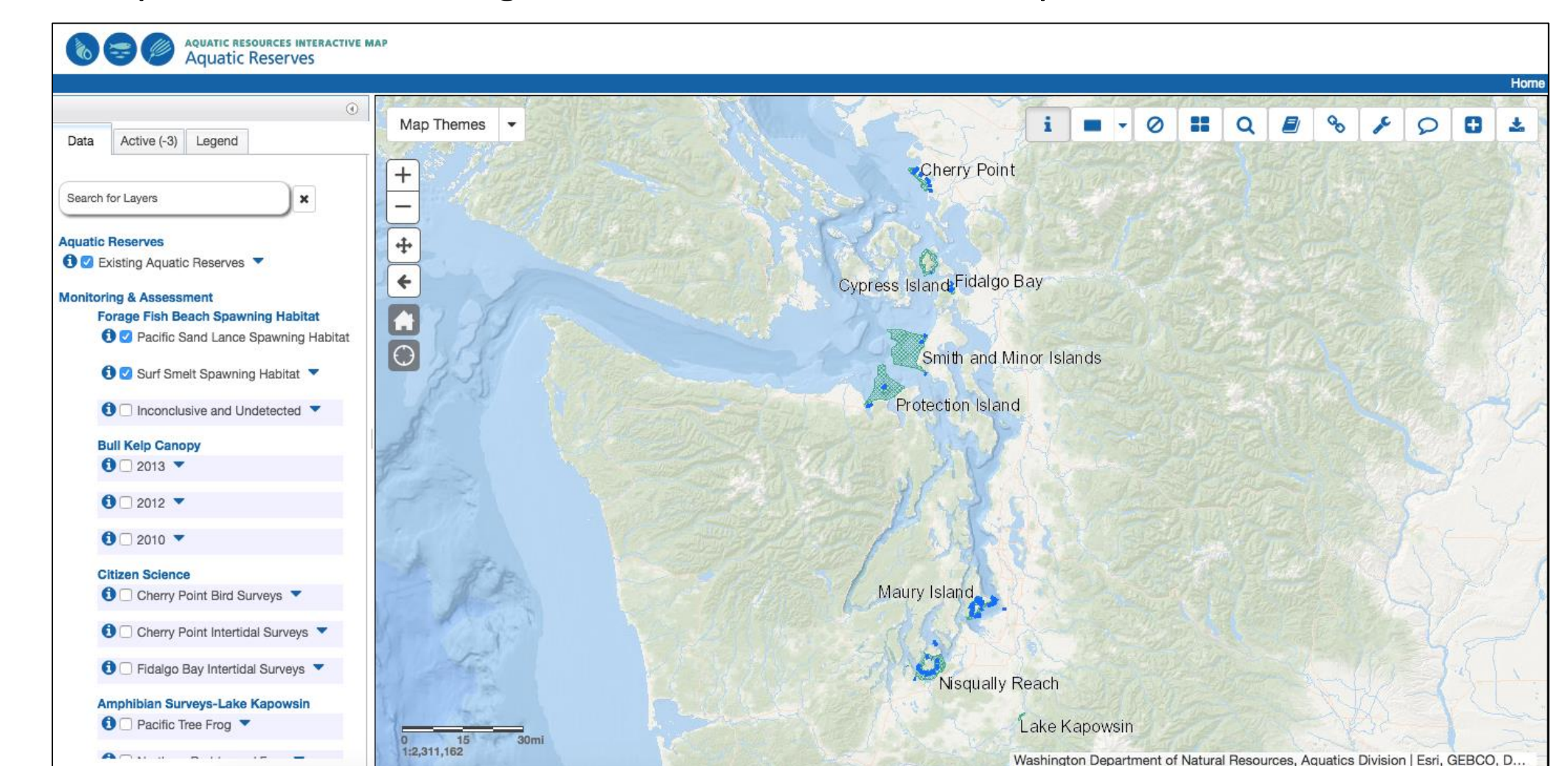
#### Citizen Science in the Aquatic Reserves:

- Adds** to baseline datasets:
  - Forage fish surveys
  - Intertidal monitoring
  - Bird and marine mammal surveys
  - Pigeon Guillemot monitoring
- Addresses** sudden needs:
  - Sea star wasting syndrome
  - European green crabs
- Provides** new data and insights:
  - Bulkhead removal monitoring



### The Aquatic Reserves Data Viewer

The new Aquatic Reserves Data Viewer is an interactive map that will provide access to monitoring data collected by the Aquatic Reserves Program and Citizen Stewardship Committees.



You can find the Data Viewer here: <https://aquarim.dnr.wa.gov/default.aspx>

Acknowledgements: Special thanks to CSC volunteers Pete Hasse and Bob Boekelheide, and lead naturalist Michael Kyte for the charts provided on this poster, and thanks to the volunteers who collect data and enjoy the Salish Sea with us.

For more information on citizen science in the aquatic reserves, please contact: [erica.bleke@dnr.wa.gov](mailto:erica.bleke@dnr.wa.gov)