



Protection Island Aquatic Reserve

July 2017

Bringing together partners to inspire science-based stewardship of Washington's exceptional Aquatic Reserves.



Hello Aquatic Reserve Partners,

You are receiving this update because you are currently active, have participated previously, or expressed interest in being a part of the Protection Island Aquatic Reserve Implementation Committee or the Citizen Stewardship Committee (CSC) for the Protection Island Aquatic Reserve (PIAR). It's been eight months since our last Implementation Committee Meeting and rather than

bringing us together at a time so close to when we are having a PIAR CSC meeting, we thought an update newsletter would be more appropriate.

"We hope you can use the unscheduled meeting opportunity to get out and enjoy some of this glorious summer weather."

All the best,

The Aquatic Reserves Program

During previous meetings of the Protection Island Aquatic Reserve Implementation Committee, key actions were to prioritize potential citizen driven projects that addressed goals or special attributes of the PIAR highlighted in the management plan. The priority project that emerged with the greatest interest, support and expertise was carrying-out repeatable boat-based bird surveys in the aquatic reserve area. The PIAR CSC designed and implemented the surveys with volunteers, organized by Betsy Carlson, the lead for this CSC through the Port Townsend Marine Science Center.

The participants are listed below:

- Bob Boekelheide – driving force and chief Birdman
- Ross Anderson – Owner/Skipper of the mighty SeaHardy and other driver/boat operator extraordinaire
- Volunteers: Wendy Feltham (PTMSC), Bob Steelquist, John Comstock, Penny Jensen, Paul Happel, Ken Wilson and Megan Black.
- Betsy Carlson – data recorder and volunteer coordinator
- Betty Bookheim and Erica Bleke from the Aquatic Reserves Program participate as data recorders and secret spies.

PIAR Boat-based Bird and Mammal Surveys

Seven surveys have been conducted between November 17, 2016 – June 30, 2017.



In November 2016, PIAR Citizen Stewardship Committee began conducting monthly surveys of birds and marine mammals observed in the PI Aquatic Reserve. The skill set and resources available from within the committee made this project an ideal fit. Specifically, Ross Anderson aptly captaining his vessel the Sea Hardy, whose flying bridge provides a perfect survey platform, and Bob Boekelheide's keen eyes, shipboard survey experience and regional bird ID expertise. The purpose is to learn more about seasonal populations, distribution, and behavior of seabirds in the reserve area throughout the year.

Methods:

Shipboard surveys in PIAR follow strip-transect methods which are often used in similar seabird and marine mammal boat surveys around the globe. The PIAR surveys count birds on one side of the boat and forward (forward $\frac{1}{4}$ quadrant), and marine mammals wherever they occur. The crew uses 200-meter-wide transect strips split into 100 meter zones: Zone 1 from 0 to 100 m, and Zone 2 from 100 to 200 m. A pre-survey track was designed to encompass as much of the open-water reserve area as possible with the same 6 legs surveyed each trip. Prior to each survey, observers meet onshore and "calibrate" 100 m and 200 m distances, along with comparing distances once onboard, so they are as accurate as possible when counting birds. The PIAR surveys initially began using 300 m strips, but for the sake of accuracy we decided to limit observations to 200 m. Surveys are scheduled monthly, weather and tides permitting.

On a typical survey, observers continually scan the transect area with both eyes and binoculars, calling out birds and mammals to the data recorder, who records the data on pre-printed data sheets. Observations include species, numbers, zone where first observed, and behavior. When possible, observations also include ages and sexes. The data recorders also record depths and boat speed (usually between 6 and 7 knots) obtained from the bridge, along with the latitude and longitude obtained from “GPS Tour”, a cell phone app. Such methods obviously require that observers must be familiar with all species likely encountered on the surveys.

After each survey, the data are entered in an excel spreadsheet, compiled to show a list of species observed, numbers of each species observed, and species densities within each transect leg and for the entire survey. The transect area is determined by multiplying the distance traveled, by the width of the survey transect. Densities are then calculated by dividing the number of each species by the calculated transect area, giving the units "birds per square kilometer," which can be used to make comparisons between different surveys.



**Observations:**

PIAR Citizen Stewards conducted seven surveys between November 17, 2016 and June 19, 2017. Species richness was greatest during winter, when birds such as scoters, Long-tailed Ducks, Common Murres, and Ancient Murrelets reached their highest densities. During the nesting season, most of these species nest elsewhere in North America, while the species that nest on Protection Island, such as Rhinoceros Auklet and Glaucous-winged/Olympic Gulls, were far and away the most numerous. The January survey observed 22 bird species, the highest to date, while the lowest number of species, 10, occurred in June. Bird densities ranged from 110.2 birds per square kilometer in December, to 41.4 birds/ sq km in April.

Depending on the season, each of the following species made it into the top five most abundant bird species observed on a particular survey: Pigeon Guillemot, White-winged Scoter, Marbled Murrelet, Rhinoceros Auklet, Surf Scoter, Glaucous-winged/Olympic Gull, Brant, Long-tailed Duck, Ancient Murrelet, Common Murre and Barn Swallow. Unusual birds included Cassin's Auklet, multiple sightings of Yellow-billed Loon, and Red Phalarope. Marine mammals included harbor porpoise, harbor seal, Steller's sealion, minke and humpback whale.

The Protection Island Bald Eagle Count



[The Protection Island Bald Eagle Count](#) was started in collaboration with Dr. James Hayward, who has been studying Glaucous-winged Gulls on Protection Island for over 30 years. The survey was designed to be completed by citizen science volunteers from boats maintaining the mandatory 200 yard offset from the island. Adult and immature eagles are counted to learn more about population fluctuations throughout the year. Location and predatory behavior is also recorded to help understand the relationship of eagle presence and prey abundance. On July 15 of this year, 60 eagles were recorded by PTMSC volunteers as part of the wildlife cruises with Puget Sound Express. In addition to counting Bald Eagle, Tufted Puffin and harbor seal numbers are also recorded.

Outreach and Education



Signage Tour of the Miller Peninsula for PIAR - 5/23/17

This tour was a walking tour of the beaches, trails, and roads that overlook PIAR. The intrepid explorers were Birdie and Erica from the DNR's ARP, Betsy from PTMSC, and two community members who are well-versed in the local community and interpretive sign creation. The main objective was to scout possible placement for Welcome Signs and Site ID/Map signage. Two boat ramps, the end of a trail, as well as some roadside pull-outs were scouted with varying degrees of accessibility and visual sight of PIAR. After the tour, a meeting was had to discuss placement, and signage content. An email conversation was also started on these topics and Erica will continue to pursue the creation of a Welcome sign as well as installation of Site ID/Map signage for PIAR.



A fine example of the template for the Welcome Signs.

Betsy Carlson arranged a variety of Outreach actions highlighting the PIAR.

An outreach event was held at the Cape George Community Center with the Cape George Marina Environmental Club – This effort was initiated by Betsy with organizational help from Ross Anderson to inform the Cape George Marina Environmental Club about the PIAR CSC and encourage involvement in citizen science, stewardship, or outreach opportunities for community members. Erica B, outreach specialist with the reserve program, gave a presentation highlighting examples of what is being done by other CSCs in Aquatic Reserves around WA. Betsy followed-up with a presentation that showed more specifically how PIAR CSC is building up these opportunities. Afterwards, a question and answer period that involved quite a bit of two-way communication/conversation was valuable for all involved and spurred Betsy towards some new ideas to pursue.

Birdie Davenport was interviewed by Nan Evans for East Jefferson County's local radio station KPTZ. Nan produces Nature Now. Her interview with Birdie about the Aquatic Reserves was recorded at the PTMSC and broadcast three times. A podcast of the interview, Episode #319, is available at <https://kptz.org/podcasts/nature-now/>

Bravo Betsy and the PTMSC!

PTMSC was awarded a two year ALEA grant from WDFW. The project entitled “Communicating the Ecological and Economic Importance of Four Marine Habitats.” The grant is an education and corresponding citizen science project designed to address the need for increasing public awareness about the importance of certain nearshore habitats. The selection of habitats to be displayed and interpreted in the PTMSC Marine Exhibit will focus on habitat types found in the PI Aquatic Reserve including kelp forest, seagrass, rocky subtidal areas and oyster beds.



The PTMSC hosted the Spring CSC All Hands Meeting - Erica Bleke planned and organized a fabulous meeting with the help of Betsy

Puget SoundCorps

Meantime, the feet hitting the ground on the beaches carrying-out our more routine surveys and sampling in the Reserves are primarily the DNR Aquatic Reserve 6-person Puget Sound Corps.

Members of the PSC regularly visit the PIAR to monitor:

- a. PSC surf smelt surveys
- b. Eelgrass surveys
- c. Marine debris shoreline Clean-up



Some days you get snow, some days you get beautiful sunsets. The Puget SoundCorps is in the field enough to get a healthy dose of both. On the left, Matthew, Emily, and Jaime brave a March snowstorm to survey amphibians in the newly established Lake Kapowsin Aquatic Reserve. On this trip they found a chilly, dormant bullfrog and two northern red-legged frog egg masses. On the right, Galen gazes into a Salish Sea sunset from Neptune Beach on the southern shoreline of Cherry Point Aquatic Reserve.

Protection Island Aquatic Reserve Implementation Committee Meeting - July 27th

Protection Island: [Port Townsend Marine Science Center](#)

It is time for the next **Protection Island Aquatic Reserve Implementation Committee Meeting**, scheduled for July 27th from 2 - 4 pm. The meeting will be held in the **Dunbar Room on the second floor of the Fort Worden Administration building** (# 200 houses Ft Worden gift shop and park, PDA and PTMSC administrative offices).

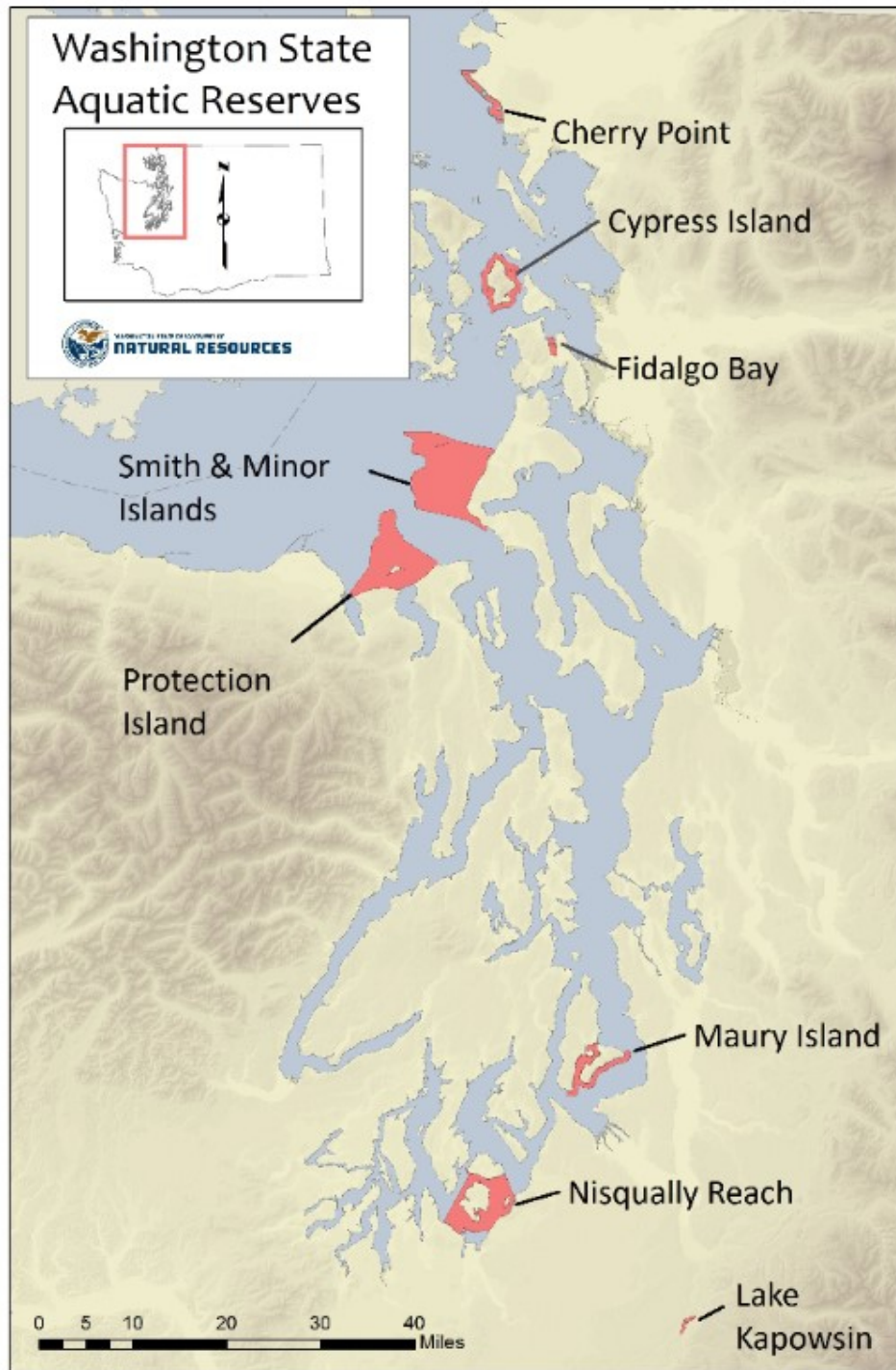
Agenda

2:00 – 3:30

1. Role of the Citizen Stewardship Committee and recent accomplishments, future role and participation. Betsy Carlson, PTMSC
2. Update on bird and mammal boat-based survey, Bob Boekelheide, volunteer








3. Update on Protection Island Wildlife Refuge, Lorenz Sollman, USFWS
4. Outreach ideas and events and future citizen science projects: What do we want to do and what would we need to do it? Erica Bleke, DNR and Betsy Carlson, PTMSC
5. Signage in Cape George and Diamond Point - content, location and installation (working group identified to follow up) Erica Bleke

3:30 – 4:00 signage working group if time allows



Eight areas have been designated as Aquatic Reserves and Citizen Stewardship Committees support six of these Reserves. Check out the information below for more information on how to become involved in a Reserve near you.



-  Aquatic Reserves
-  Cherry Point Aquatic Reserve
-  Cherry Point Aquatic Reserve
-  Nisqually Reach Aquatic Reserve
-  DNR Aquatic Lands
-  DNR Aquatic Reserves
-  Roberta Davenport, Aquatic Reserves Program Manager

Washington Department of Natural Resources, Aquatics Reserves Program

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