



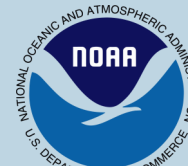
Whatcom Marine Resources Committee (MRC)

2023-2024 Wildcat Cove Eelgrass Final Report

Prepared by: Austin Rose and Dana Flerchinger, Whatcom MRC Staff

Whatcom County Public Works—Natural Resources

Reporting Period: January 2023-September 2024



Grant Number: OTGP-2023-WhCoPW-00011

This report was prepared by Whatcom County using Federal funds under award NA22NMF4690358 from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the authors and do not necessarily reflect the views of the National Oceanic and Atmospheric Administration or the U.S. Department of Commerce.

Abstract

Wildcat Cove, located in Larrabee State Park just south of Bellingham, WA includes a publicly accessible small craft boat launch that is heavily used, particularly during the summer crabbing season. Due to the shallow nature of the cove and ideal water access, it is common for recreators to utilize the launch at low tide to reach the water's edge, despite the presence of eelgrass meadows covering the tide flats. Eelgrass is a sensitive and important keystone species in the Salish Sea that provides habitat for important fishery species including salmon, herring, and Dungeness crab. As such, the Whatcom Marine Resources Committee (MRC) worked to provide awareness about the vulnerable nearshore ecosystem in Wildcat Cove. Three key components shaped the project including:

- Eelgrass surveys to demonstrate the extent of eelgrass and to document any potential damage caused by launch activities
- A social marketing campaign to inform signage and outreach materials encouraging launch behaviors likely to reduce damage to eelgrass beds
- Direct engagement with cove users to educate the public about eelgrass habitat functions and to encourage less impactful launching behaviors

The eelgrass surveys documented that boat launch activity during the summer negatively impacted the eelgrass beds in Wildcat Cove. Engagement with recreators demonstrated that a majority of folks were appreciative and receptive to messaging around eelgrass protection.

This project was conducted under the approval and cooperation with Washington State Parks. Staff with the Nooksack Indian Tribe, including the Water Resources Manager and the Tribal Historic Preservation Officer, were also informed of this work and were invited to engage and discuss opportunities for collaboration.

Project Goals

The goal of this project was to protect and preserve eelgrass meadows surrounding a popular boat launch in Wildcat Cove located within Larrabee State Park. This goal was achieved by documenting damage to eelgrass beds within Wildcat Cove, conducting a social marketing campaign to determine appropriate messaging for signage and education materials, and by directly engaging with cove users.

Project Engagement

The MRC worked with many partners on this project including Peak Sustainability Group (Peak), Shew Design, the Washington Department of Natural Resources (WA DNR), Western Washington University (WWU), the Northwest Straits Foundation (NWSF), Washington State Parks (State Parks), and the Northwest Straits Commission (NWSC). Peak and Shew Design conducted the social marketing campaign and created the marketing materials, WA DNR and WWU conducted the eelgrass surveys, the NWSF provided interns to assist with outreach and education efforts, State Parks worked with the MRC to facilitate outreach efforts, and the NWSC helped promote the marketing materials.



Eelgrass meadow in Wildcat Cove. Photo Credit: Alex Haase, NWSF Intern.

Partners/ Organizations

- **Washington State Department of Natural Resources (WA DNR):** Conducted a boat-based survey in Wildcat Cove to quantify eelgrass extent and to gather bathymetry data. This survey took place in August of 2023.
- **Western Washington University (WWU):** Professor David Wallin at WWU conducted a series of aerial drone surveys in Wildcat Cove during July and August of 2023 to demonstrate the extent of potential damage to eelgrass beds prior to and after the opening of crabbing season.
- **Peak Sustainability Group (Peak):** Provided social marketing services to inform targeted messaging to best protect eelgrass beds in Wildcat Cove.
- **Shew Design:** Worked with Peak to design and create all marketing materials used for education and outreach efforts including web design features, social media content, signage to be displayed near the boat launch, and rack cards to be handed out at kiosks within Larrabee State Park.
- **Northwest Straits Foundation (NWSF):** Provided 2 interns to assist the MRC with education and outreach efforts within Wildcat Cove from June-September of 2024.
- **Washington State Parks (State Parks):** Worked with the MRC to distribute marketing materials and to coordinate the NWSF interns at Wildcat Cove.
- **Northwest Straits Commission (NWSC):** Posted media generated by Shew Design onto the NWSC's social media platforms and to the MRC's website.

Project Methods

From January 2023 through September 2024, the MRC conducted various efforts within Wildcat Cove in attempt to better protect and preserve eelgrass beds within the cove. These efforts included a social marketing campaign conducted by Peak and Shew Design, eelgrass surveys conducted by WA DNR and WWU, and outreach and education efforts. Each project component and the key results are outlined on the following pages.

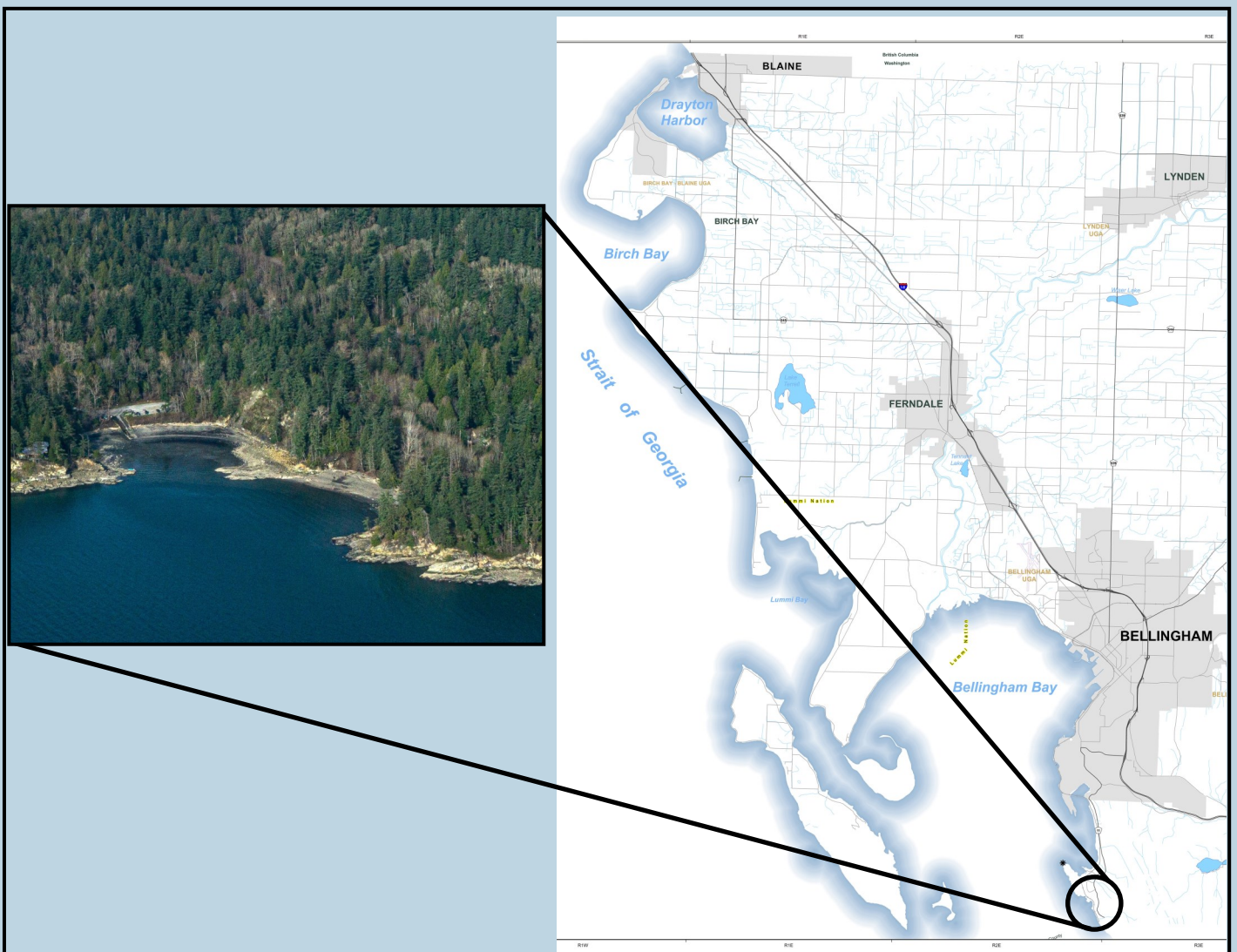


Figure 1: Map of Wildcat Cove located within Larrabee State Park in southern Whatcom County. Photo Credit: Dana Flerchinger, MRC staff.

Project Methods and Results: Social Marketing Campaign

During the summer of 2023, Peak conducted observations, interviews, and surveys with boaters in Wildcat Cove to determine messaging that would be utilized to inform the social marketing materials (See Appendix A). The key messages that were identified through this campaign were to encourage boaters to check tide charts, to limit vehicle use to a single lane, and to avoid dragging gear or trampling over the eelgrass beds to reduce damage.

Shew Design was subcontracted to create marketing materials including signage to display at the boat launch, rack cards to hand out at State Park kiosks, and social media content for the NWSC to post (See Appendix B).



Example of signage generated by Peak and Shew Design that was displayed at the informational kiosk at Wildcat Cove.

Project Methods and Results: Eelgrass Surveys

In August of 2023, WA DNR conducted a boat-based survey to quantify eelgrass extent and to gather bathymetry data in Wildcat Cove (See Appendix C).

The results of the survey suggest that boat launch activities during the summer negatively impact the eelgrass beds in Wildcat Cove. These impacts included significantly reduced bed coverage, canopy height, and percent cover within and adjacent to where boats are driven across the tide flat at low tide as compared to the rest of the cove.

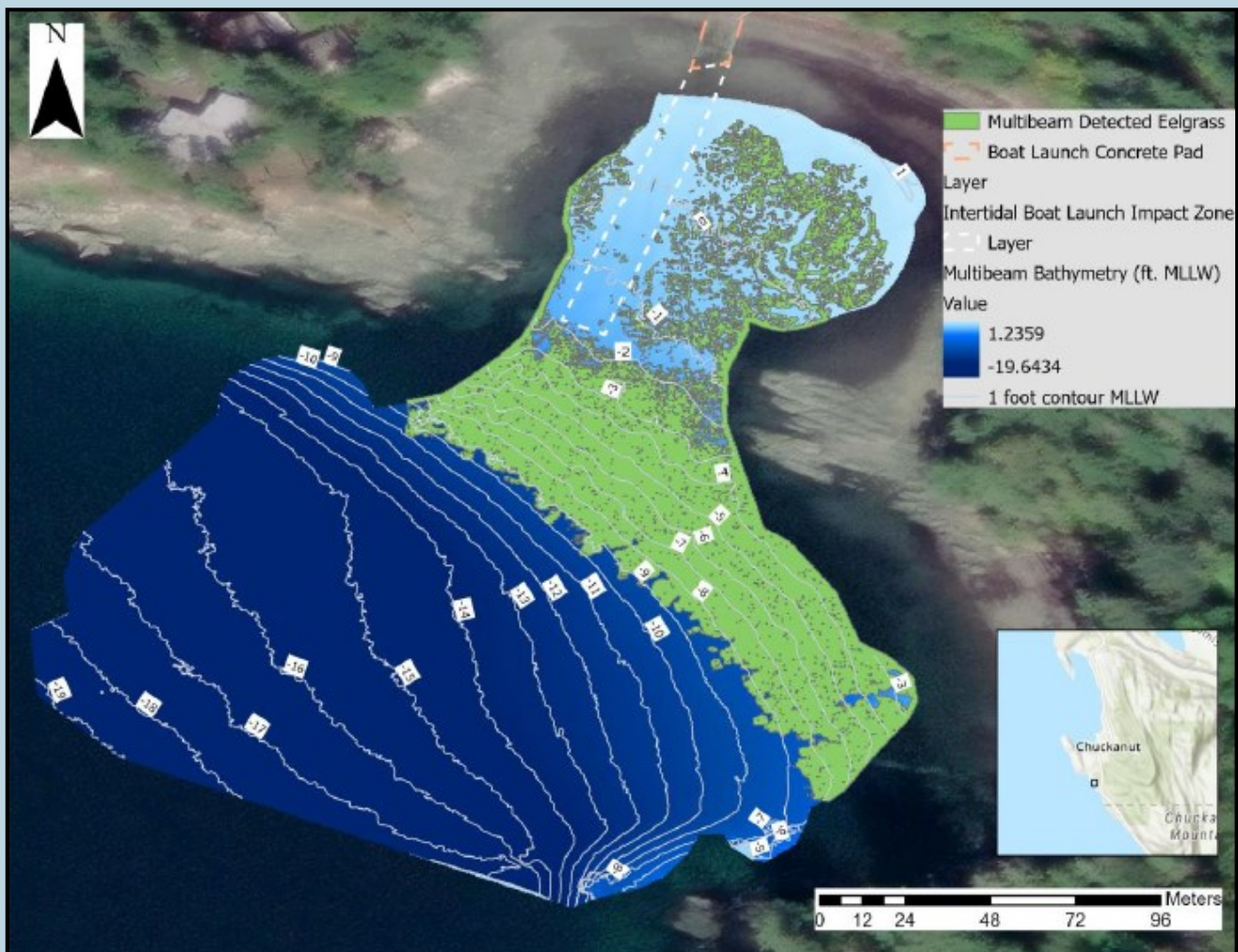


Figure 2: Figure taken from WA DNR's Wildcat Cove Mapping Report demonstrating eelgrass detected via multibeam sonar. The survey showed a clear reduction of eelgrass coverage in and around the boat launch as compared to the rest of the cove. The full report is included as Appendix C.

Project Methods and Results: Eelgrass Surveys

Professor David Wallin at WWU conducted 4 aerial drone surveys during July and August of 2023 to quantify and photo document changes to eelgrass beds at low tide before and after the opening of crabbing season (See Appendix D).

The aerial surveys documented the impacts of boat launching activities on eelgrass beds in Wildcat Cove, which included an increase in the launch track width, an increase in scouring marks across the tide flat, and a reduction in vegetative coverage.



Figure 3 (left) and 4 (right): Figures were taken from David Wallin's Wildcat Cove Drone Survey Final Report. Figure 3 was taken on July 14th, the day before the opening of the crabbing season, and Figure 4 was taken on July 17th, two days after the opening of crabbing season. Once the crabbing season opened, the surveys documented an increase in the launch track width, an increase in scouring marks across the tide flat, and a reduction in vegetative coverage. Surveys were conducted during July and August of 2023. The full report is included as Appendix D.

Project Methods and Results: Outreach and Education

In the summer of 2024, the NWSF secured funding to support 2 interns to help with a variety of projects, including the Wildcat Cove eelgrass preservation efforts (See Appendix E). The 2 interns, Dylan Trainer and Alex Haase, engaged with boaters and cove users during low tide events to encourage best practices to reduce impacts to the eelgrass beds within Wildcat Cove. These best practices included checking the tide charts, limiting impacts to a single track or lane, carrying gear (including kayaks, paddle boards, crabbing gear, etc) rather than dragging it, and avoiding trampling on the eelgrass when walking across the tide flats. In partnership with State Parks, the interns also set up cones to direct the launch traffic to a single lane.



NWSF interns directing launch use to a single lane in Wildcat Cove. Photo credit: Dana Flerchinger, MRC Staff.

Project Methods and Results: Outreach and Education

During the summer of 2024, the interns also collected data about boat launch usage to assess the effectiveness of the social marketing materials and to inform potential future work in Wildcat Cove.

Data from 215 observations over 16 low tide events showed:

- 99.5% of users did not drive over the eelgrass meadows
- 91.4% of users stuck to a single lane
- 83% of the vessels launched at the cove were non-motorized (kayaks and paddle boards)
- 78% of users checked the tide charts before coming to the cove
- 63.2% of users were familiar with eelgrass habitats



Wildcat Cove eelgrass meadow on an incoming tide. Photo credit: Alex Haase, NWSF intern.

Project Highlights—NWSF Interns

“Perhaps our most profound finding was the shift in culture and increase in community investment from local crabbers. Many recreators and their families expressed appreciation for our efforts and actively worked to spread the word. Dylan would hear recreators discussing the eelgrass meadow and its significance in the parking lot. There were instances when crabbers expressed frustration over tire tread marks from vehicles that drove over the meadow while the interns were not present. Some elderly folks expressed encouragement and hopefulness, knowing that proactive, community-based efforts were taking place at their local parks.

Experiencing the impact this program had on the locals was extremely rewarding. Providing information and conversation, without the pressure of enforcement, allowed us to intimately interact with the community, share a sense of pride and responsibility to the habitat’s wellbeing, and foster an appreciation of eelgrass and its role in the surrounding ecosystem.”

- NWSF Interns, Dylan Trainer and Alex Haase

Outcomes

The goal of this project was to protect and preserve eelgrass meadows surrounding a popular boat launch in Wildcat Cove. This goal was achieved by documenting damage to eelgrass beds within Wildcat Cove, by conducting a social marketing campaign to inform signage and marketing materials, and by implementing outreach and education efforts within Wildcat Cove. Additional outcomes from the outreach and education efforts were an increase in launch user awareness about the presence and fragility of eelgrass meadows and an increase in the number of folks launching at higher tides or keeping their vehicles to a single lane.



Wildcat Cove users limiting damage to eelgrass beds by sticking to a narrow lane set up by NWSF interns. Photo Credit: Dylan Trainer, NWSF intern.

Outputs

Over the course of this project:

- 1 boat-based survey was conducted to map eelgrass extent and bathymetry within Wildcat Cove
- 4 aerial drone surveys were conducted to document changes to the eelgrass beds in Wildcat Cove throughout the summer of 2023
- Signage and marketing materials were generated, distributed, and displayed to encourage best practices to protect eelgrass beds
- 215 observations were collected over 16 low tide events to document the effectiveness of the social marketing materials and to determine next steps for the project

Next Steps

Although the MRC currently does not have funding to continue efforts in Wildcat Cove during 2025, additional efforts that have been discussed among the MRC include:

- Conducting additional outreach and education efforts with volunteers to continue educating cove users about eelgrass habitats and encouraging best practices to minimize any potential damage
- Working with State Parks to create a more permanent system to direct launch traffic to a single lane
- Working with State Parks to create and implement permanent signage at the Wildcat Cove boat launch kiosk to continue educating boaters about the importance of these fragile habitats
- Conducting additional eelgrass surveys to document any improvements to the eelgrass beds since the MRC's efforts began

Appendices

- **Appendix A:** Wildcat Cove Social Marketing Analysis Report by Peak Sustainability Group
- **Appendix B:** Marketing Materials and Signage Created by Shew Design
- **Appendix C:** Wildcat Cove Mapping Report by WA DNR
- **Appendix D:** Wildcat Cove Drone Survey Final Report by WWU
- **Appendix E:** NWSF Intern Workplan, Final Report, and Raw Data