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DELIVERABLES FOR **TASK NO: 4 – Eelgrass/No Anchor Zones**

**T4.4 Voluntary No Anchor Zones Summary report**

PROGRESS REPORT: [ ☐ ]

FINAL REPORT [ ☒ ]

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## DELIVERABLES FOR TASK NO: 4 – Eelgrass/No Anchor Zones

### **T4.4 Voluntary No Anchor Zones Summary Report**

This summary report includes a buoy maintenance update, report of presentations, copy of the no-anchor zone ad in the Wooden Boat Festival (WBF) program, photos of boats anchoring outside buoys during WBF and a compliance summary.

The Jefferson County Marine Resources Committee has three buoy fields that protect eelgrass and shellfish beds. The buoys encourage boaters to anchor outside specific zones to prevent anchor and chain damage to eelgrass resulting from chains swinging around the bottom and scraping eelgrass. Two of these voluntary no-anchor zones also protect shellfish harvest areas.

The ten buoys off Port Townsend, primarily intended for eelgrass protection, were installed in 2005 with seven buoys initially and four more added in 2015. The seven buoys in Mystery Bay (Marrowstone Island) were installed in 2010 to help limit the number of boats anchored near commercial and tribal shellfish beds – five buoys to mark the voluntary shellfish protection area and two more to mark the seaward limits of the Mystery Bay State Park water area where boats can anchor. The four buoys in Port Hadlock were installed in 2014 to keep boats from anchoring too close to active shellfish beds there.

#### **Buoy Maintenance**

Our MRC project lead checks the buoy fields about every two or three months to make sure all the buoys are there. Dale Moses stepped down as buoy project lead in June 2018. The Jefferson County MRC Buoy Committee is now led by Troy McKelvey. The Committee members are Steve Tucker, Gordon King, Troy McKelvey, Andy Palmer, Emily Bishop, and Nam Siu. The Port of Port Townsend donates use of their workboat for our buoy work, with Steve as skipper. Gordon, Emily and Nam have helped as volunteer diver when we need to observe what might be causing a “sunken” buoy. Gordon has approved liability coverage through his employer to do light maintenance work while diving.

The weather conditions in Mystery Bay and Port Hadlock are relatively benign and we leave the buoys in place all year with periodic checks. The Port Townsend buoy field gets significantly more waves and wind action particularly in the winter months, so we pull the large (66 pound) buoys out in the fall and replace them for the winter months with much smaller buoys (yellow net buoys with markings) that can ride the waves better and do not exert as much pull on the auger anchors and anchor rode (ropes) during the winter. The larger buoys are usually put back in place in late spring before the summer boating season gets underway.

This year we also purchased an inexpensive GPS that is dedicated to this project, so it will be easier to locate “sunken” buoys and helix anchors. In the past, volunteers’ GPS units have not been accurate enough for locating buoys.

Port Townsend field. The Port Townsend winter buoys were put out in early November 2017 and traded back out for the larger navigational buoys on April 20, 2018. They were checked periodically and held up with no problems all summer. They will be pulled in October or November 2018 for the winter.

Port Hadlock field. We finally fixed all the problems we had with these buoys last year. We searched for the two missing lines several times in late fall 2017 and again in early spring, then installed two new auger anchors and new rigging on June 2, 2018. We have had no other problems and all four buoys are functioning well.

Mystery Bay field. The seven buoys continue to serve their purpose in the Bay. In August 2017, we noticed one buoy gone. On 9/16/17 we located it on the shore and held it over for the winter, then reattached it in late May 2018 with new rigging. As we discovered in the other two fields, our open-jawed shackles were failing after 4-5 years, thus causing buoy losses. We will also be replacing that hardware as needed.

## **Outreach Summary**

The Eelgrass and Shellfish No Anchor Zones are only effective if boaters understand and respect the no anchor zones.

In Port Townsend, interpretive signs are posted and maintained on docks along the waterfront and at the Boat Haven fuel dock, as well as near three of the small pocket beaches with views of the buoys. Brochures describing the eelgrass protection zones are resupplied at the Point Hudson marina offices and Boat Haven fuel dock. In Port Hadlock, a large interpretive sign is posted near the public boat dock & boat ramp. Brochures are supplied to the Port Hadlock marina office. In Mystery Bay, information is provided at the local general store and an interpretive sign is posted at Mystery Bay State Park, near the boat ramp. We also have standing entries in Active Captain, an on-line navigation app for boaters that as a tag and description for all three no anchor zones.

This year we made a presentation about MRC projects (including the voluntary no anchor zones) to a WSU Extension Beach Naturalist class of 24 students in spring 2018 and Dale gave a presentation to the Port Townsend Yacht Club in November 2017. Our booth at the 2018 Wooden Boat Festival (which brings hundreds of boats and thousands of visitors to Port Townsend every year) featured a “What’s wrong with this anchor” display to call attention to why anchors can damage eelgrass.

We did not submit any articles for publication this year. We did place an ad in the Wooden Boat Festival Program guide, which was distributed to all festival goers (usually estimated at 30,000). A copy of the ad is attached.

### **Interpretive Sign at Port Townsend public dock**



## Compliance Summary

The MRC monitors boater compliance only along the Port Townsend waterfront during the Wooden Boat Festival. During this weekend, hundreds of boats come to the festival from all over the region and many boats anchor just offshore. Compliance is monitored by photos from the ferry dock and other vantage points. See photos below. We found only 2 small boats anchored inside the Voluntary No Anchors Zone during random checks along the waterfront on all three days of the festival. Those boats had moved by the following day.



Two small boats anchored inside buoy markers.



Boats anchored outside buoys (imaginary line between buoy and far dock).





Boats anchored outside buoys (seen on left).

**Eelgrass/Shellfish Buoy Project Lessons Learned** (Summary from Outgoing Project Lead Dale Moses, memo dated 5/30/2018)

Over the last decade of working on this buoy project, the MRC has made many hardware and method changes. Most have worked out for the better, but not all. We learn as we go. The marine and weather conditions in all three areas are certainly challenging and it behooves us to pay close attention to the buoys in place as well as determining what has caused hardware failures when they happen.

1. The ten Port Townsend winter buoys go out in October and the regular buoys get returned in May. We have learned that the PT winters are too rough for the larger summer buoys and they can get torn off and lost in the winter storms. Of course, we have also lost several of the small winter buoys as well in these rough conditions.
2. We have not been removing the seven buoys annually at Mystery Bay or the four at Port Hadlock and this method seems to be OK. Although we lost four buoys in 2017, the causes appear to be wear not weather. We did not lose any buoys in 2018.
3. We stopped using the longer/larger spar buoys. They “lean over” when floating, are heavier than the smaller ones to manhandle, and we discovered recently their attachment eyes are bolted, not molded into the bottom of the buoys compared to the newer, shorter buoys. We have lost at least two of the larger buoys because of the eyes coming off.
4. We have stopped painting the lower section of the buoys for several years now. Painting takes time, it is messy, the paint doesn’t adhere very well and flakes off, and finally it doesn’t seem to help much in later cleaning off the marine growth.
5. The following gear is needed for buoy work:
  - Port’s utility boat
  - Washdown facility for pressure washing after summer buoy change-outs
  - Pliers (to twist open corroded shackle pins)
  - Pliers on a cord tether for divers to use on the bottom hardware and not drop them.

- 8" zip ties We don't need them that long usually, but the shorter ones are made of lighter-weight nylon. We use a lot of these! I think we are on our 4<sup>th</sup> package!
  - Stainless steel wire (general use – we now use zip ties to secure shackle pins)
  - Wire cutters to cut and trim off zip ties and wire
  - Serrated knife to cut rope and kelp or barnacles (serrated edge is better than smooth)
  - Electrical tape to seal rope ends and fittings as needed
  - Cigarette lighter to melt rope ends after cutting
  - 7/16" braided nylon rope.
  - 7/16" shackles (1/2" don't always fit through the buoy eyes)
  - ½" stainless steel thimbles. The nylon ones wear too fast and the galvanized ones corrode too quickly. The ½" ones seem to contain the 7/16" rope better than 7/16" thimbles.
  - Boot hook to grab lines and kelp (Port's boat usually has one of these)
  - Broom to clean boat after job is complete
  - Dustpan to scoop up crap in boat after sweeping
  - Hose and water from the pier to clean boat after sweeping.
  - Hand-held GPS with buoy locations embedded. Bring extra batteries.
  - A list of the buoy GPS lat-long positions
  - Short rope to hold the buoys to the boat while they get worked on
  - An extra styrofoam float or two for temporary holding up a rope.
  - Spike and line to drop on an exact location to help divers find a missing buoy
  - Tide tables
  - Tarpaulin to put down in car for hauling messy buoys to the washing facility
  - Band aids for slight finger wounds!
6. We have stopped using swivels everywhere. They don't seem to be needed now that we are using braided nylon rope that doesn't twist as much as the poly did.
  7. We also discovered that "U" ended swivels aren't good because their pins work loose with use and enlarge the pin's hole so we lose buoys because the pins fall out (four or five examples of this).
  8. We stopped using yellow 3/8" stranded polypro line because it floats, it can chafe more easily than nylon rope, and it has memory from twisting and won't stay untwisted. When we did use it, we were able to make connections by using short splices.
  9. Now that we are using 7/16" braided nylon line, we debated doing braided splices but they are far more difficult to do compared to splicing stranded line. Instead, we are using a simple bowline knot around the thimble but passing the bitter end back under the knot's loop (called a "Yosemite Finish") so the bitter end won't affect the thimble. Then we put two zip ties around the bitter end and standing line to keep the knot from coming undone.
  10. We also put two zip ties around the rope at the throat of the thimble and four to six zip ties around the thimble and rope to keep the rope from coming out of the thimble. We cut off all the extra zip tie lengths to minimize it getting caught on the rig.
  11. It is best to do buoy change-outs at low tide. It allows us to get the buoy into the boat more easily.
  12. Three or four people in the boat seems about right to work the project.
  13. People working should wear PFDs, waterproof boots, and waterproof coveralls. We get dirty and wet. Rubber work gloves are optional.
  14. People need to wear ear protection for the high pressure buoy washing job.
  15. At Port Townsend, we believe some of the lower lines were wrapping themselves around the screw anchors causing them to be shorter and drag the buoys underwater. So we started putting black float buoys (Gordon donates these from Taylor Shellfish) about three feet up from the bottom anchor. They are held at that level with a simple overhand knot in the rope.

16. We used to install small weights on the lines near the top to ensure the rope wouldn't float and snare a boat propeller coming near the buoys. We have discovered that these weights just cause twisting and wrapping on the rope so we've stopped using weights.
17. We have discovered that we don't need to be much concerned with rope floating near the buoys at low tide. In fact, we have started using several small float buoys with the first 18" below the buoy then the second another 18" further down. These seem to keep the rope from wrapping/twisting on itself since the nylon braided rope tends to sink (unlike the poly that would float). The small float buoys are the plastic kind used in swimming pools but seem to work fine for us. In a few instances, we've used simple styrofoam cut from larger buoys.
18. The buoy team has an ongoing discussion on whether we should use top quality shackles or cheap versions. Gordon seems to feel that poorer quality ones will corrode less. Right now (May 2018) we still have all good quality shackles in stock. These cost about five dollars more.
19. Routine maintenance is sometimes needed on winter buoys after we pull them out in the spring.
20. The bottom hardware needs inspection every several years. We plan to change out all the bottom hardware in the next year or two.
21. Recently we re-worked two riggings in Mystery Bay and the galvanized thimbles were badly worn through, leaving just rope taking the strain and chafe. Several years ago, we tried white nylon thimbles but they didn't even last as long as the galvanized ones. The new stainless thimbles should last longer.
22. Several years ago we tried using white rubber inflatable fenders for winter buoys. We put decals on them for the "Don't anchor..." message. The decals mostly fell off. Several of the fenders lost pressure and took on water including the one where a small boat tied off to the top of the fender! In the winter of 2017 we changed to the tough yellow styrofoam net buoys (bought at Dunlap's in Everett). We didn't want to use a white or red buoy that would be confused with a shrimp or crab pot buoy.
23. Dale used a soldering gun to make a groove, then used a Permanent Sharpie marking pen to mark the yellow winter float buoys. The lettering seems to be holding up fairly well. We used the extra 3/8" yellow polypro line reeved through the buoy because there is very little pull on the line and not enough to twist. That too has worked out pretty well without going to the more expensive nylon braid for these light weight winter buoys.
24. We continue to have discussions about whether or not to use commercial diver services. Clearly, we need to use divers frequently and on an on-going basis. Initially the thinking was that we could use volunteer divers for observation work. This year Gordon had liability coverage through his employer when he volunteers with us, but we need more than one diver for the work. On the other hand, when we use commercial diving services, it becomes very expensive quickly (up to several thousand dollars a session). We continue to think about this issue with no clear resolution.
25. Labeling all the buoys in Mystery Bay with "If lost..." telephone number stickers will help with retrieval of any lost buoys.
26. Continue monitoring the signage. It has been suggested that the sign posted at the Mystery Bay public toilets be moved to the pier for better visibility.

**Attached:**

- Buoy GPS Positions
- Copy of ad from Wooden Boat Festival
- WBF anchor display

<b>Positions of MRC Buoys</b> (in degrees and minutes)
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Port Townsend

PT#1 N48 06.722 W122 45.446  
PT#2 N48 06.786 W122 45.391  
PT #3 N48 06.818 W122 45.303  
PT#4 N48 06.833 W122 45.262  
PT#5 N48 06.868 W122 45.176  
PT#6 N48 06.901 W122 45.117  
PT #7 N48 06.934 W122 45.041 (not used)  
PT #8 N48 06.536 W122 45.910  
PT#9 N48 06.490 W122 46.003  
PT#10 N48 06.238 W122 46.677  
PT#11 N48 06.197 W122 46.764

Port Hadlock

PH#1 N48 01.999 W122 45.061  
PH#2 N48 01.949 W122 45.009  
PH#3 N48 01.910 W122 44.959  
PH#4 N48 01.872 W122 44.910

Mystery Bay

MB#1 N48 03.283 W122 41.549  
MB#2 N48 03.375 W122 41.671  
MB#3 N48 03.330 W122 41.704  
MB#4 N48 03.348 W122 41.999  
MB#5 N48 03.407 W122 41.998  
(SP = State Park buoys)  
SP#1 N48 03.405 W122 41.799  
SP#2 N48 03.393 W122 41.717



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**Protect Eelgrass and Shellfish**

Help protect eelgrass  
habitats from anchor  
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**Respect Voluntary  
No-anchor Zones in  
Port Townsend, Port  
Hadlock & Mystery Bay.**

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**Vito Dumas 1933**  
Built as Irupu near Buenos Aires,  
Vito Dumas spent the first half of  
her life in the Rio de la Plata.



**Whisper 1957**  
A Sparkman and Stevens "Pilot"  
series sloop, Whisper is mahog-  
any planked over oak frames.  
With a 52' mast, she is very  
capable of sailing the Salish Sea  
and Puget Sound.



**Whitney  
2018**  
Whitney is a  
CLC Expedition  
Wherry with  
deck overlay  
of western red  
cedar from Mt.  
Whitney Lumber Company.



**Wilbur Larch 2014**  
Wilbur Larch is a Harrier design  
by Antonio Dias, built by the  
owner. The design is meant  
for rowing, sailing, and general  
messing about.



**Willets Brothers Canoe  
1956**  
Willets Brothers Canoe was pur-  
chased brand new by the current  
owner's father. She is all original,  
never restored, and has almost  
every original accessory – with  
some never used, still in Willets  
handmade bags. She is a stun-  
ning boat that gathers crowds.

WBF 2018 Program Ad



WBF anchor display (anchor is below photo, sitting in the eelgrass)