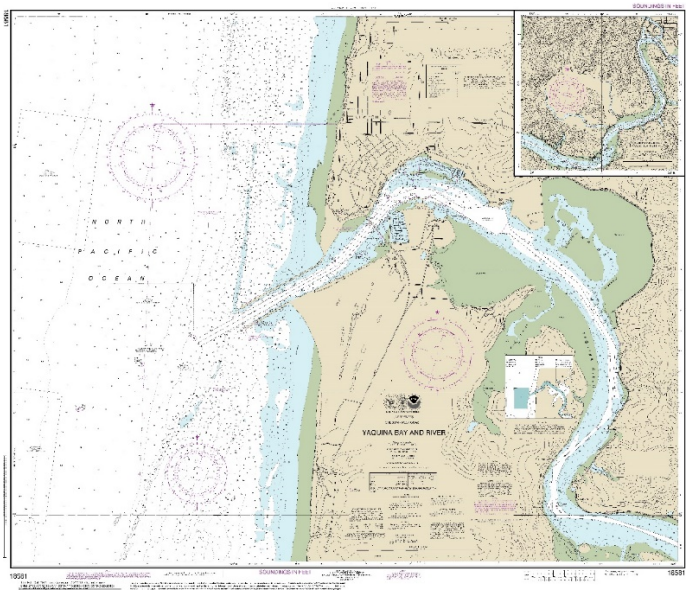
Thirteenth Coast Guard District

Waterways Analysis and Management System



Central Oregon Coast- 200100122219

Yaquina Bay, Yaquina River

Written by: MATHA.KATHERINE.ELIZABETH.1412081931 Digitally signed by MATHA.KATHERINE.ELIZABETH.1412081931 Date: 2021.07.28 07:55:02 -07'00'

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I. Purpose

1. The purpose of this Waterways Analysis Management System (WAMS) study is to serve as the primary tool for managing the Aids to Navigation (ATON) in our waterways in a systematic manner. As outlined in COMDTINST M16500.7 (series), WAMS reports ensure:
2. All aids are required as necessary elements of the ATON system;
3. Changes to augment and/or reduce aids are made when needed to meet changing needs in the waterway;
4. Aids conform to the system criteria in the Aids to Navigation Manual – Administration; and
5. Aids and the ATON system provide their required operational characteristics; waterways are examined for the effectiveness of traffic management mechanics to assist the Program Manager in fulfilling waterways management responsibilities.

II. Information Collection

This study encompasses the following bodies of water: Yaquina Bay and Yaquina River. All federal ATON were included in this study.

Public comments were solicited through Local Notice to Mariners, in person at the public meeting held at Englund Marine in Newport OR, email distribution and phone conversations. The announcement in the Local Notice to Mariners included a link to the Coast Guard D13 WAMS website where the questionnaire was located. A press release was also published by D13 Public Affairs.

Two user rides were conducted with STA Yaquina Bay on November 12th and 13th, 2019. The narrative can be found in enclosure (8).

Narrative Description:

Yaquina Bay is on the Oregon coast, 113 miles south of the Columbia River mouth. One of the Corps' oldest navigation projects on Oregon's coast, Yaquina includes two jetties, several channels, turning and boat basins, and a breakwater.Yaquina's north jetty was constructed from 1889 to 1896 to a length of 7,000 feet, extended in 1966 and repaired in 1978, 1988 and 2001. The 8,600 foot south jetty was completed in 1896 and extended 1,800 feet in 1972. Since its construction five groins have been added to the south jetty as well as an 800-foot spur jetty. A breakwater for a small-boat basin on the north shore (a timber structure 2,650 feet long) was authorized in 1946, to protect commercial fishing boats.

Congress last modified the project's authorization in 1958, allowing for extending the jetties: a 40-foot-deep, 400-foot-wide entrance channel; a 30-foot-deep, 300-foot-wide bay channel leading to a turning basin at Newport; an 18-foot-deep, 200-foot-wide, 4.5-mile-long channel from Newport to Yaquina; two small-boat basins at Newport; two small-boat turning basins at Newport; and a 1,300-foot-long breakwater to protect the Newport South Beach Marina. The Corps of Engineers does not maintain recreation facilities at this location. Stay off the jetties as they are hazardous and not intended for recreational use. Nearby recreational facilities fall under the jurisdiction of private, local or state agencies

Entrance:
North Jetty is 7,000 feet long.
South Jetty is 8,600 feet long.
Spur Jetty off South Jetty is 800 feet long.
Five groins extend out from the south jetty.
Entrance Channel is 4,280 feet long, 400 feet wide, and 40 feet deep.
Thence a channel to McLean Point is 2 miles long, 300 feet wide, and 30 feet deep.
Turning basin at McLean Point is 1,400 feet long, 900-1200 feet wide, and 30 feet deep.
Channel from River Mile 2.4 to Yaquina is 2 miles long, 200 feet wide, and 18 feet deep.

Newport Boat Basin:
Breakwater is 2,650 feet long.
Shore-wing is 400 feet long.

South Beach Boat Basin:
Two breakwaters are 1,800 and 700 feet long.
Access channel is 2,035 feet long, 100 feet wide, and 10 feet deep

North and South Jetties:
The overall condition of the north and south jetties are in very good condition and there are no current plans by the Army Corps to conduct any repairs. However, the Corps is seeking funding to look at repairing rock groins on the south side of the channel as well as the breakwaters at the South Beach Marina, as those are in fair to poor condition.

Geographic features

United States Coast Pilot 10 – Chapter 4 (2nd Edition)

Yaquina Bay entrance is 4 miles south of Yaquina Head Light. The bay is a tidal estuary, the harbor itself being merely the widening of Yaquina River just inside the entrance.

The north point of Yaquina Bay entrance is a sandy bluff, 120 feet high. A lighthouse and an approximately 60 foot tall Coast Guard lookout tower are on the high part of the point. When viewed from the northwest, the circular lighthouse tower on the roof of a two-story frame dwelling obscures the lower portion of the lookout tower. The south entrance point is a low sand beach backed by dunes rising to 150 feet.

The entrance to Yaquina Bay is protected by jetties 330 yards apart. The long north jetty, with the outer 100 yards submerged, extends out to Yaquina Reef. The south jetty is marked by a light about 200 yards inside the seaward end and a sound signal. A lighted whistle buoy is 1.5 miles southwest of the entrance. The channels are marked by lighted ranges, lights and buoys. Between the jetties, numerous submerged rocks lie along the outside of the charted entrance channel limits.

During the summer, when the swell is approximately parallel with the coast, the bar is comparatively smooth, being partially sheltered by Yaquina Head. In winter, however, the heavy west swell makes the bar very rough. A smooth bar and a favorable tide are necessary for large vessels leaving Yaquina Bay.

Facilities

There are two deep-draft wharves in Yaquina Bay. The wharf at McLean Point about 1 mile east of the highway bridge has two berths. Berth 1, just north of the turning basin, has 465 feet of berthing space, 30 to 32 feet reported alongside and a deck height of 21 feet. Berth 1 was reported under construction until June 2011. Berth 2 (barge dock), just northeast of the turning basin, has 250 feet of berthing space, 25 feet reported alongside and a deck height of 15 feet. A concrete Ro/Ro extension connected to Berth 2 has 140 feet of berthing space in line with Berth 1, 30 feet reported alongside, and a deck height of 14 feet. Logs, lumber, plywood, and paper are shipped from both berths. The wharf is owned and operated by the Port of Newport.

The Port of Newport operates a boat basin on the south side of the bay about 350 yards east of the bridge. The basin is protected to the north and west by jetties marked on the outer ends by a daybeacon and a light, respectively. A dredged entrance channel leads through the jetties, thence south along the west jetty turning east at the foot and terminating at a boat ramp at the head of the boat basin. In 2008, the controlling depth was 6 feet. Gasoline berths, diesel fuel, electricity, water, ice and a pumpout facility are available. Hull, engine and shaft repairs can be made. Facilities can be contacted on VHF-FM channel 12 by hailing the Port of Newport South. The Port of Newport Internet address is portofnewport.com.

The Port of Newport operates a commercial moorage on the north shore about 0.7 mile above the highway bridge; a marina is also in this area. The moorage area is protected from the main channel by a detached breakwater marked by a light at each end. Berths for about 206 vessels, gasoline, diesel fuel, electricity and water are available; marine supplies can be obtained in Newport. The marina can be contacted on VHF-FM channel 12 by hailing "Port of Newport North." A marine repair facility is just north of Oneatta Point 3.8 miles above the highway bridge at the entrance to the bay. The facility has two travel lifts, one 15-ton and one 70-ton, and two 60-ton cranes.

Yaquina is a small settlement 4.2 miles above the entrance. A power cable across Yaquina River, 0.5 mile above Yaquina, has a clearance of 77 feet. At Yaquina, there is moorage and a 6,000 pound hoist. Fuel and supplies can be purchased. Several small marinas are along the river between Newport and Toledo

Toledo about 11.5 miles above the entrance, has large lumber mills and a paper mill. The least depths alongside the wharves are 10 feet. Toledo also has a moorage capability for about 20 boats 65 feet or less. There is access to a 40-ton travel lift and a 300-ton marine dry dock. The fixed highway bridge, 0.5 mile above Toledo, has a clearance of 34 feet. An overhead pipeline with a clearance of 54 feet crosses Depot Slough just above the mouth. Overhead pipelines 0.3 mile above the mouth of the slough have a clearance of 18 feet.

Regulated Navigation Areas (RNA)

§165.1325 Regulated Navigation Areas; Bars Along the Coasts of Oregon and Washington. Yaquina Bay Bar, Oreg.: From a point on the shoreline at 44°38′11″ N., 124°03′47″ W. thence westward to 44°38′11″ N., 124°05′55″ W. thence southward to 44°35′15″ N., 124°06′05″ W. thence eastward to a point on the shoreline at 44°35′15″ N., 124°04′02″ W. thence northward along the shoreline and eastward along the south bank of the entrance channel to the highway bridge thence northward to the north bank of the entrance channel at the bridge thence westward along the north bank of the entrance channel and northward along the seaway shoreline to the beginning.

The Coast Guard has established Yaquina Bay Entrance Regulated Navigation Area Warning Sign (44°37'29"N., 124°03'27"W.) at the Coast Guard station on the north side of the river at Newport. The sign is 22 feet above the water and diamond-shaped and painted white with an international orange border, with the words ROUGH BAR. The sign is equipped with four quick flashing lights that will be activated by USCG Station Yaquina Bay personnel when hazardous conditions exist and the bar is restricted to recreational and uninspected passenger vessels. Vessel operators are cautioned, however, that if the lights are not flashing, it is no guarantee that sea conditions are favorable.

A heavy weather flag, a square RED flag with a square BLACK center, will be displayed on a pole that is located on the western corner of the Coast Guard station and is visible to mariners from both directions to indicate that winds 48 knots and above are forecast for the area. Display of flags is required from one hour before sunrise to one hour after sunset. Weather flags are flown at select Coast Guard stations to supplement other weather notification sources. Light signals corresponding to these flags are not displayed at night. (See illustration, Chapter 1.) In all cases mariners should rely upon National Weather Service broadcasts as their primary source of government-provided weather information.

USCG Station Yaquina Bay maintains the operation of the RNA. For the most current weather and bar crossing information mariners are encouraged to tune in 1610 AM, monitor VHF channel 16 or call Station Yaquina Bay at (541) 265-5381 for further information and assistance

Anchorages

There are no designated anchorages

Environmental Factors

Oregon Coast Weather:

Chetco River to Columbia River- Fog and rain are the major weather headaches to the mariner along the Oregon coast. Summer and early fall bring light winds, mild temperatures, clear or partly cloudy skies and frequent fog. While fog is a problem all along the coast, its frequency increases as you head south. Around Astoria, visibilities drop below 0.5 mile (0.9 km) on 4 to 6 days per month from August through October.

At North Bend, this happens on 6 to 13 days per month from July through December. August is usually the worst month. Fog is thickest at night and in the morning. Conditions often improve by midafternoon, when skies clear or become partly cloudy. Temperatures climb into the mid-sixties (16.7° to 19.4°C) in summer and low sixties (16.1° to 17.2°C) in fall. At night, they drop into the low fifties (10.6° to 11.7°C) in summer and mid-forties (6.1° to 8.3°C) in autumn. Winds are generally light in summer and early fall. Northwesterlies and southwesterlies through southerlies are frequent, the latter becoming increasingly so in fall.

Winds at North Bend on Coos Bay are an exception and strongest in June, July and August. They blow at 17 knots or more 15 to 20 percent of the time and at 28 knots or more 1 to 2 percent of the time. Rain (0.1 inch or more) falls on less than 10 days per month from May through September. It becomes more frequent in October and reaches a peak in January, when 15 to 20 rainy days occur on the average. Snow is uncommon, since temperatures are usually mild. Winter temperatures reach the low fifties (10.6° to 11.7°C) during the day and fall into the upper thirties (3° to 4°C) at night; extremes have dipped into the low teens (-11.7° to -10.6°C). Fog can occur in winter with fronts or under rare clear skies; it is more likely in early winter. Winter and spring winds are moderately strong, particularly south of Newport.

From North Bend southward, winds reach 17 knots or more about 5 to 15 percent of the time and 28 knots or more about 1 to 3 percent of the time. Extreme wind speeds usually occur in either winter or early spring and have climbed to around 50 knots. They are most common from a south direction. Winter winds along the entire coast are generally out of the southeast through south. Northwesterlies are also common. It is not until May that these directions switch roles and northwesterlies become more or as frequent. Spring warming is also a slow process. By April, temperatures are about 4° to 7° above January levels.

Currents: The current velocity is about 2.4 knots on the flood and 2.3 knots on the ebb in Yaquina Bay entrance. Near Newport docks the velocity is about 0.5 knot. Off Yaquina, and 1 mile south of Toledo, the velocity is about 1.4 knots.

Marine Events

There are no recurring permitted marine events in Yaquina Bay.

Waterway Users

Pilotage

Pilotage is compulsory for all foreign vessels and U.S. vessels under register. Pilotage is optional for U.S. vessels in the coastwise trade that have onboard a pilot licensed by the federal government for these waters. Pilotage for Yaquina Bay is available from Coos Bay Pilots Association. See Pilotage, Coos Bay, indexed as such, earlier this chapter for details. (265) Pilots usually board vessels about 0.5 mile west of Yaquina Bay Approach Lighted Whistle Buoy Y (44°35'52"N., 124°06'47"W.).

Vessels

The Port of Newport and Yaquina Bay is home to one of the largest commercial fishing fleets on the west coast, NOAA's Marine Operations Center Pacific Group consisting of five ships, and a variety of fishing charters, recreational and sailing vessels. The North Commercial Marina can accommodate 200 vessels, the Newport International Terminal has two berths at 860 linear feet, to accommodate large commercial fishing vessels, cargo ships and research vessels and the Recreational Marina offers more than 500 slips.

Transit Frequencies

This waterway is used year round by the commercial fishing industry with crabbing lasting from December through August, while the majority of fishermen use the waterway primarily from March through October. The waterway is routinely transited by the local Coast Guard station, ANT Coos Bay and CGC ELM in service of the waterway's ATON.

Commodities Carried

The primary commodities carried on this waterway are passengers and seafood. Newport's commercial fishery harvested more than 124 million pounds of fish, crab and shrimp in 2018, valued at more than $62 million.

Casualty History:

Since the last WAMS conducted in 1996, there have been 08 groundings reported and 07 incidents involving vessel capsize, a total loss of vessel, and/or loss of life. Of these incidents five people were declared deceased.

1. 08DEC1999- CFV BLUE HEATHER- 2 deceased, 2 survivors, vessel was a total loss
2. 10MAR2012- CFV CHEVELLE- Struck the north jetty and sank. 04 POB hoisted by Rescue 6524, vessel was a total loss
3. 22JUL2012- F/V TWO MIKES- Vessel grounded on the north outside jetty damaging hull, partially sank. Unable to salvage due to hazardous conditions. 02 POB survived.
4. 14DEC2013- CFV NAT- Vessel missed entrance of Newport Jetty and grounded just south of the south jetty at South Beach State Park. 03 POB survived, vessel was total loss due to salvage operations damage.
5. 10JUL2015- CFV SEA PUP- Struck the North Jetty, vessel broke up in surf and was total loss. Crew survived.
6. 13JUL2017- 18' P/C- Vessel capsized north of the north jetty, 03 POB swam to shore all survived.
7. 08JAN2019- CFV MARY B II- Vessel struck by wave on approach, capsized and broken up by large surf just north of the north jetty, 03 deceased, 0 survivors, vessel was a total loss

Charts and Surveys:

The primary chart used for this WAMS is 18581. Army Corps of Engineers (USACE) conducts various surveys of Yaquina Bay. The last surveys USACE performed were on the following dates:

1. Approaches: 08/16/2017
2. North Site: 08/10/2019
3. South Site: 08/12/2019
4. Entrance: 03/09/2020
5. Bay and Harbor: 05/12/2020
6. Mud Flats: 03/31/2020
7. Weiser Point to Johnson Slough: 11/12/2019
8. Flesher Slough to Nutes Slough: 10/29/2019
9. Amundson Slough to Toledo: 10/29/2019
10. Depot Slough: 10/28/2019
11. Yaquina Bay South Beach Marina: 10/21/2019

Aids to Navigation

USCGC ELM is primary servicing unit for:

1. Yaquina Bay Approach Lighted Whistle Buoy Y (LLNR 9575)
2. Yaquina Bay Entrance Lighted Gong Buoy 1 (LLNR 9590)
3. Yaquina Bay Entrance Lighted Buoy 3 (LLNR 9600)
4. Yaquina Bay Channel Lighted Buoy 7 (LLNR 9610)

ANT Coos Bay is primary servicing unit for the remaining aids of the waterway.

Yaquina Bay and Yaquina River:

Yaquina Bay and Yaquina River are marked with 41 Federal Aids. Two of which are Virtual AIS marking the approach outside the jetty tips, 07 private aids inside the bay and 01 Entrance Regulated Navigation Warning Area Sign on a skeleton tower located on the north bank of the river in-between the USCG Yaquina Bay Boat Station and the Yaquina Bay Bridge. Of the four floating aids serviced by USCGC ELM, Entrance Lighted Buoy 3 (LLNR 9600) is seasonally established being maintained from May 1 to October 1 due to heavy wave action in the winter months and aid unable to reliably maintain station. A continuous sounding signal is also seasonally established on the south jetty, being maintained from May 20th through October 1st.

Vessels equipped with AIS capabilities will be able to receive a total of six different AIS fixes assisting with the approach to Yaquina Bay. There are two different types of AIS aids in this area called synthetic and virtual AIS. The synthetic AIS is a signal that is broadcast over the position of an existing aid to navigation, while a virtual AIS is a signal broadcast over a position without a physical aid. In 2016, the first two synthetic AIS signals were established in positions overlaying Yaquina Bay Approach Lighted Whistle Buoy Y and Yaquina Bay South Jetty Light 4. In June of 2019, two additional synthetic AIS signals were overlaid onto Yaquina Bay Entrance Lighted Gong Buoy 1 and Yaquina Bay Entrance Lighted Buoy 3. Two virtual AIS aids were also established in June 2019, V-AIS 5 and V-AIS 2. Yaquina Bay North Jetty V-AIS 5 was established on the North Jetty creating an electronic gated pair with Yaquina Bay South Jetty Light 4 marking near the jetty tips. Yaquina Bay Entrance V-AIS 2 was established, creating an electronic gated pair in conjunction with Yaquina Bay Entrance Lighted Gong Buoy

AIS ATON has been installed at Yaquina Bay as the following aids:

1. Approach Lighted Whistle Buoy Y (LLNR 9575): AIS-MMSI 993696002 (2016)
2. South Jetty Light 4 (LLNR 9605): AIS-MMSI 993696006 (2016)
3. Entrance Lighted Gong Buoy 1 (LLNR 9590): AIS- MMSI 993696003 (25JUN19)
4. Yaquina Bay Entrance V-AIS 2 (LLNR 9595): AIS- MMSI 993696004 (25JUN19)
5. Entrance Lighted Buoy 3 (LLNR 9600): AIS- MMSI 993696005 (25JUN19)
6. Yaquina Bay North Jetty V-AIS 5 (LLNR 9608): AIS- MMSI 993696007 (25JUN19)

Pending Projects:

1. There is currently an approved and awarded ATON construction project for Yaquina Bay (PSN 10026009). This project includes the following aids to navigaton:
2. Rebuild Yaquina Bay Inner Range Front Light (LLNR 9620)
3. Rebuild Yaquina Bay Inner Range Rear Light (LLNR 9625
4. Rebuild Yaquina Bay River Light 20 (LLNR 9690)
5. Rebuild Yaquina River Daybeacon 21 (LLNR 9695)
6. Relocate Yaquina River Light 25 (LLNR 9710) from the highway, into the water as a single pile steel structure
7. Change Yaquina River Buoy 26 (LLNR 9715) to Yaquina River Daybeacon 26
8. Rebuild Yaquina River Daybeacon 28 (LLNR 9720)
9. Change Yaquina River Buoy 30 (LLNR 9730) to Yaquina River Daybeacon
10. Rebuild Yaquina River Daybeacon 31 (LLNR 9735)
11. Rebuild Yaquina River Light 32 (LLNR 9740)
12. Change Yaquina River Buoy 34 (LLNR 9742) to Yaquina River Daybeacon
13. Rebuild Yaquina River Light 38 (LLNR 9750)
14. Rebuild and relocate Yaquina River Daybeacon 43 (LLNR 9760) to mark the center of the dog leg channel
15. Change Yaquina River Buoy 45 (LLNR 9770) to Yaquina River Daybeacon 45
16. USACE Dredging: The entrance channel to Yaquina Bay is dredged annually, typically during the summer to fall months. The Corps also maintains the boat basin access channel into the South Beach Marina. That access channel was last dredged in the winter of 2017-2018. It typically is dredged every 8-10 years by a contract dredge. The south beach marina boat basin and commercial basin are not part of the Federal project and are maintained by the Port of Newport.
17. USACE Jetty Repair: The North and South jetties are in good condition, and there are no plans to repair them at this time. However, the Corps is seeking funding to look at repairing the rock groins on the south side of the channel as well as the breakwaters at the South Beach Marina, as those are in fair to poor condition.

III. Criticality Determination

Yaquina Bay is classified as a Navigationally Critical Waterway. By definition, a navigationally critical waterway is a waterway where degradation of the aids to navigation system would result in an unacceptable level of risk of a marine accident, due to the physical characteristics of a waterway, difficult navigation conditions, aid establishment difficulties or high aid discrepancy rates.

IV. Previous WAMS Action Items:

There were no recommended changes for ATON to be added or removed from the previous Yaquina Bay WAMS dated 02JAN1996.

V. Comments and Suggestions

The comments found in this section are a paraphrased collection of all of the comments received from the surveys, public meeting, LNM and research. There were 16 surveys returned via email and or mail. A copy of all returned surveys can be found in enclosure (7).

Yaquina Bay

1. General consensus that the bar crossing is inherently dangerous during inclement weather
2. Of the 16 surveys returned, none mentioned that the bridge lights interfered with the range lights, and it did not affect safe navigation or create confusion
3. Request for North Jetty to be lighted.
4. Entrance Range lights are hard to see at dusk and dawn. Request to make a 24 hour light, or an additional hour illumination prior to dusk and dawn solar illumination.
5. Request for reader boards indicating bar conditions
6. Crab pots and gear create navigational hazard. Some crab pots and lines are marked with AIS that picks up on radar, creating a very busy radar picture.Jetties need to be longer
7. Bar is often closed to recreational programs, negatively impacts local business and youth training program.
8. Inappropriate wake generation by larger vessels in no wake zones
9. Buoy 3 missing, want more physical ATON on approach.
10. Request to chart the red stack located at Rogue Brewery, sometimes causes confusion as a navigational aid.
11. Request for USCG PAN-PAN radio transmissions to include a geographic location in conjunction with GPS coordinates. While a mariner operates and is engaged with fishing they don't always have time or ability to plot coordinates. A "in vicinity of" geographic location would be helpful.

Yaquina River

1. Multiple dead head pilings on sides of river on approach to Toledo, possible hazard. There are 100 ft vessels drafting 10-15 ft, that transit the narrow river to Port of Toledo Shipyard and haul out facility, not much ATON to navigate with at night or in low visibility upriver of Light 47.

VI. Analysis

The overall satisfaction of the ATON serving this waterway as received from the public was very high. Two user rides were conducted with STA Yaquina Bay, during the night time and during daylight hours, and a public meeting was held on November 13th, 2019 at Englund Marine to collect feedback from commercial and recreational boaters alike. Seven members of the community including reps from the Port of Newport, NOAA, Fisherman's Wives, Seafarers Brokerage, and fisherman attended the public meeting to provide feedback.

Regarding the approach to Yaquina Bay, the overall consensus is that it is well marked, charted and dredged, however a couple of comments were made requesting a light be placed on the north jetty and that buoy 3 be made year-round and not seasonal. A comment was also received during the MARY B II investigation of possible concern that the Yaquina Bay bridge lights interfere or could be confused with the Entrance Range Front and Rear Lights. The following comments address these concerns:

1. **North Jetty Light request**: In the past, the USCG did mark the North Jetty with a light, however in 1979 there was a storm that significantly contributed to the deterioration of the north jetty and destroyed the aid and its foundation pad. The north jetty is susceptible to increased exposure to high surf and weather conditions which ultimately led to its destruction. On Dec 1, 1980 an ATON order disestablished the Yaquina Bay North Jetty Light 5 & Fog Signal and established the Yaquina Bay South Jetty Light 4 & Fog Signal. The location for this aid to be placed on the South Jetty has increased its reliability given the harsh weather environment it is exposed to throughout the year. The south jetty sound signal remains seasonal. This survey found that given the history and weather exposure of the North Jetty, it would be difficult to maintain a physical aid in this location, so as an alternative to a physical aid, in June of 2019, Yaquina Bay North Jetty V-AIS 5 (LLNR 9608): AIS- MMSI 993696007 was established to provide an electronic reference to the north jetty. The South Jetty Light had a synthetic aid established in 2016 over its position. Vessels equipped with an AIS receiver, can now see an electronic gated pair.

2. **Entrance Lighted Buoy 3**: The request to make Entrance Lighted Buoy 3 year round was discussed with the primary servicing unit CGC ELM and the consensus to keep it seasonal will remain. The location of Buoy 3 is susceptible to heavy weather and increased swell size during the winter months making it difficult to maintain station. It also puts the crew of CGC ELM in a dangerous situation for when the buoy would go off station and would have to attempt to find a weather window to be able to service and relocate it. This could also create a very unsafe condition for local vessel traffic if the buoy went off station towards the channel in high surf, creating a collision hazard, and CGC ELM would not be able to assist in an appropriate timeline. Given this scenario, an alternative to maintaining this aid year round was made in June of 2019, by establishing a synthetic AIS over the location of Yaquina Bay Entrance Lighted Buoy 3 (LLNR 9600): AIS- MMSI 993696005. For vessels equipped with AIS, they will be able to electronically see the assigned location of buoy 3 year round. There was also investigation into whether or not there is a better buoy hull suited for this location and the dynamic weather environment it faces, however there is not currently a design in inventory that meets the need for this strong current, heavy surf environment.

3. **Bridge Lights and Entrance Range Lights**: A specific question was entered into the Yaquina Bay Survey asking waterway users “When steering on the Yaquina Bay Entrance ranges, do the bridge lights interfere with safe navigation?” Of the 16 surveys that were returned, covering perspectives from USCG STA Yaquina Bay, NOAA, the Port of Newport, commercial and recreational operators, there were no responses indicating that this was a problem. During the nighttime user ride, a closer look was taken at this lighting configuration while the on-scene conditions were foggy. Upon approach while passing buoy 3, the hint of red lights from the range and the bridge was varying due to the thickness of the fog. For a first time waterway user, transiting during the fog and limited visibility can be disorienting as there are many lights and background lights in the area that could potentially cause confusion. However the U.S. ATON system is designed to assist the prudent mariner in the process of navigation. Utilizing charts, and understanding the flashing light characteristics, colors and intensity of ATON that is available on the charts and in the Light List, a prudent mariner should be able to distinguish the difference between the Front and Rear Range lights from the bridge lighting system. There is also a CAUTION on Chart 18581 that warns mariners "The entrance channel to Yaquina Bay is subject to change. Strangers should not attempt to enter without a pilot." This CAUTION indicates to the user that this is a dangerous environment and local knowledge is necessary to assist in safe passage. Yaquina Bay is a large coastal town and port with many lighted ATON and other background lights in the vicinity that any waterway user should familiarize themselves with if considering transiting in and out of the bay, especially during hours of darkness. If there was a determination that there was confusion with the bridge lights and the range lights causing a hazardous navigational situation, the range lights color could be reconfigured to a white light, however there are also other white background lights that could create new confusion. In enclosure 09, a picture including Entrance Lighted Buoy 3, the Entrance Front and Rear Ranges and the bridge can be seen. At this time there are no recommendations for the Front or Rear Range Light color characteristics to be changed due to the feedback received during this survey. This study did find that there were comments made to the effect that the range lights are difficult to see within an hour of dusk and dawn, and during daytime foggy, low visibility conditions. There are different LED lanterns that are now available with optical sensor controls that can be used to operate the range lights during day and nighttime. Recommend installing new Entrance Front and Rear Range Lights for 24 hour operation.
4. Located on the south side of the waterway behind the Entrance Rear Range is a large red cylindrical tower on the Rogue Brewery premises. It was noted in a comment that this red cylinder can possibly be mistaken as an aid and it should be charted. Recommend requesting to NOAA to make note of this landmark on the chart to alleviate any potential confusion.

5. Continuing in to the bay passing under the bridge, the Rough Bar Lights (RNA sign) is posted on the North Bank of the waterway in between the bridge and the USCG station. There was a request for reader boards to be installed discussing current bar conditions and restrictions, however since the RNA and associated equipment is an operational tool and not an aid to navigation to navigate by, this recommendation will be forwarded to the USCG District Thirteen Boating Safety Office for consideration.
6. The rest of the bay navigating towards Yaquina River was well lighted and all observed ATON was readily navigable and watching properly. While underway in Yaquina River, observed Yaquina River Light 25 as a roadside structure. This aid has a history of being vandalized and given the easy roadside access to the aid, it is recommended that this aid be rebuilt in the water to mark the shoal and deter vandalism.
7. Previous input from D13 DPW and ANT Coos Bay have also identified Yaquina River buoys 26, 30, 34 and 45 benefiting from a recommended conversion from buoy to single steel pile day beacons to reduce maintenance, time off-station and unit operating expense.
8. Additional changes from the current wood pile structures to new steel pile structures should be applied to the following existing ATON to provide continued longevity of service (see enclosure 10 for specific ATON construction recommendations):

    1. Yaquina Bay Inner Range Front Light (LLNR 9620)
    2. Yaquina Bay Inner range Rear Light (LLNR 9625)
    3. Yaquina Bay River Light 20 (LLNR 9690)
    4. Yaquina River Daybeacon 21 (LLNR 9695)
    5. Yaquina River Daybeacon 28 (LLNR 9720)
    6. Yaquina River Daybeacon 31 (LLNR 9735)
    7. Yaquina River Light 32 (LLNR 9740)
    8. Yaquina River Light 38 (LLNR 9750)
    9. Yaquina River Daybeacon 43 (LLNR 9760)

9. Once past Yaquina River Light 47, there are no other Federal Aids to Navigation as you continue to transit towards Toledo, which maintains a vessel haul out facility. It was noted that vessels as long as 100 feet drafting up to 10-15 feet make the transit to Toledo for dry-dock repair and maintenance. Along the narrow sections of Yaquina River, there are old timber storage areas with multiple unmarked pilings lining the channel edge. These log storage areas are noted on Chart 18581, however further engagement with the Port of Toledo Shipyard and the Port of Newport is recommended to identify potential Federal or Private ATON be established. A low cost solution could include highly reflective signage, similar to oyster farming stakes be installed in vicinity of the log storage pilings to assist nighttime transits using vessel halogens along this unmarked section of the river.

10. There was great discussion and mostly approving opinions at the public meeting regarding all of the new AIS aids that were recently established on the Yaquina approach. It was identified that continued discussions will be encouraged and needed by local USCG outreach and that of the Port of Newport to assist the boating community, both commercial and recreational to take advantage of this technology by upgrading their own chart plotters and radars with AIS receivers. While more physical ATON is always requested, the discussion and reality of maintaining additional year round buoys for the approach is not feasible by our USCG assets due to the seasonal hazardous coastal conditions. Recognition of virtual and synthetic aids as an alternative was well received by commercial operators, but more timidly by small recreational boaters who voiced an opinion that based on their smaller size are not required to carry that equipment nor do they have the financial means to upgrade. Additional input was provided regarding crab fisherman placing AIS transponders on their fishing gear, creating a very busy radar/chart plotter picture. This comment will be forwarded on to USCG District Thirteen Response and Law Enforcement division for review.

11. There were additional comments regarding requests for the USCG to make earlier bar reports so fisherman can plan accordingly for their early morning departures. This comment has been passed to USCG Station Yaquina Bay who makes the bar reports and will be assessed and acted upon as operationally appropriate.

The overall condition of ATON in this waterway is considered to be in good condition, and by making the following recommended upgrades will provide more accurate navigation, longevity of aids and reduce operational costs to ANT Coos Bay. The recent AIS additions and implementing the following recommendations should adequately address the current waterway needs at this point in time.

VII. Action Item Summary

Approved	*Not Approved*	
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:00:16 -07'00'		1. Replace existing Tideland LED Lantern with Vega VRL-74 on Yaquina Bay Entrance Range Front Light (LLNR 9580) as a continuous 24 hour light.
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:00:29 -07'00'		2. Replace existing Tideland LED Lantern with Vega VRL-74 on Yaquina Bay Entrance Range Rear Light (LLNR 9585) as a continuous 24 hour light.
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:00:52 -07'00'		3. Establish lighted fixed aids (PATON or Federal), or highly reflective signage, north of Light 47 (LLNR 9775) to mark log storage and unlighted piles along east bank of river towards Toledo vessel haul out facility.
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:01:08 -07'00'		4. Update NOAA chart to include the Rogue Brewery large red cylindrical structure located behind the Yaquina Bay Entrance Range Rear Light (LLNR 9585)
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:01:23 -07'00'		5. Rebuild Yaquina Bay Inner Range Front Light (LLNR 9620) with three pile steel structure (see enclosure 10)
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:01:41 -07'00'		6. Rebuild Yaquina Bay Inner Range Rear Light (LLNR 9625) with four pile steel structure (see enclosure 10)
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:03:12 -07'00'		7. Rebuild Yaquina Bay River Light 20 (LLNR 9690) with a single pile steel structure (see enclosure 10)
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:03:43 -07'00'		8. Rebuild Yaquina River Daybeacon 21 (LLNR 9695) with a single pile steel structure (see enclosure 10)
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:04:12 -07'00'		9. Relocate Yaquina River Light 25 (LLNR 9710) from the highway, into the water as a single pile steel structure (see enclosure 10)
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:04:35 -07'00'		10. Change Yaquina River Buoy 26 (LLNR 9715) to Yaquina River Daybeacon 26 as a single pile steel structure (see enclosure 10)
HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:05:34 -07'00'		11. Rebuild Yaquina River Daybeacon 28 (LLNR 9720) as a single pile steel structure (see enclosure 10)

HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:06:47 -07'00'

HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:07:15 -07'00'

HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:07:41 -07'00'

HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:08:40 -07'00'

HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:09:15 -07'00'

HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:11:08 -07'00'

HARRIS.BRENDAN.J.1013137303 Digitally signed by HARRIS.BRENDAN.J.1013137303 Date: 2021.07.28 11:12:01 -07'00'

12. Change Yaquina River Buoy 30 (LLNR 9730) to Yaquina River Daybeacon 30 as a single pile steel structure (see enclosure 10)

13. Rebuild Yaquina River Daybeacon 31 (LLNR 9735) as a single pile steel structure (see enclosure 10)

14. Rebuild Yaquina River Light 32 (LLNR 9740) as a three pile steel structure (see enclosure 10)

15. Change Yaquina River Buoy 34 (LLNR 9742) to Yaquina River Daybeacon 34 as a single pile steel structure (see enclosure 10)

16. Rebuild Yaquina River Light 38 (LLNR 9750) as a three pile steel structure (see enclosure 10)

17. Rebuild and relocate Yaquina River Daybeacon 43 (LLNR 9760) as a single pile steel structure to mark the center of the dog leg channel (see enclosure 10)

18. Change Yaquina River Buoy 45 (LLNR 9770) to Yaquina River Daybeacon 45 as a single pile steel structure (see enclosure 10)