GROWING AREA WS

Towns of
Waldoboro

2021
Sanitary Survey Report
Final

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2022

Sanitary Survey Officer signature: _____ Date:_____10/11/22_____

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Executive Summary

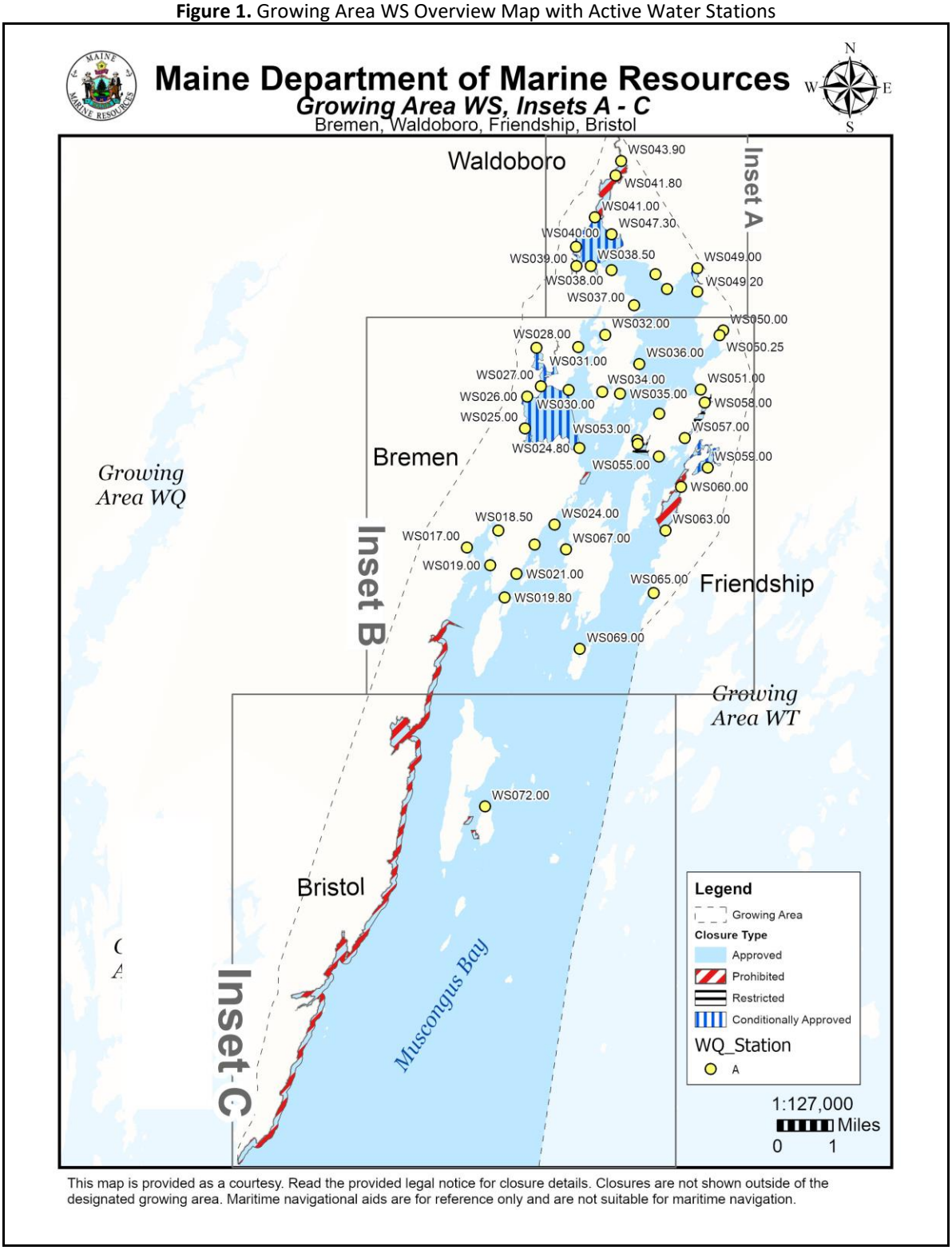
This is a Sanitary Survey report for Growing Area WS in Lincoln and Knox Counties written in compliance with the requirements of the 2019 Model Ordinance and National Shellfish Sanitation Program. Three pollution areas are being reviewed for possible upgrade in 2022: CA4 Broad Cove (Bremen, Waldoboro), R2 Back River Cove (Waldoboro) and P3 Wharton Island Cove (Friendship). One investigative station (WS050.25) reached a sample count of 30 and was activated with a classification of Approved. Two investigative monitoring stations that had been placed in freshwater above the head-of-tide (WS045.50 and WS046.00) were converted to stream sampling stations. There were 653 properties visited during shoreline survey operations during the review period. There were ten new actual or potential pollution sources found resulting in the filing of problem forms. Six are considered remediated or it was determined no action was needed after a revisit. There are still four problems that are considered outstanding. Access was not denied at any properties. Water quality has generally improved over the course of the review period with several upgrades to pollution areas taking place. The next Sanitary Survey is due in 2033 and the next Triennial is due in 2024.

Description of Growing Area

Growing WS area encompasses approximately 71 square miles and lies between Pemaquid Point, Bristol and Martin Point, Friendship. The area is comprised of the Medomak River and Muscongus Bay. The towns that fall within the boundary of this growing area include Bristol (pop. 2834), Bremen (pop. 823), Waldoboro (pop. 5154), and Friendship (pop. 1142). There is one municipal treatment facility in this growing area, located in the town of Waldoboro. This facility is a lagoon system with no discharge points into the Medomak River. Additional potential pollution sources in area WS include 52 licensed overboard discharge systems (OBDs) and numerous private in-ground systems. No OBDs were removed during the review year of 2021. There are also several outhouses, chemical toilets, or composting toilets at seasonal properties. Area WS has only one small marina; however, there are several piers and docks which provide support for local fishing and recreational activities. These are predominantly located in the Prohibited areas of New Harbor, Round Pond and Muscongus Harbor. A detailed boundary description for growing area WS is located in DMR central files.

There are 19 shellfish aquaculture leases, and three limited purpose aquaculture permits (LPAs) in Growing Area WS.

Figure 1. Growing Area WS Overview Map with Active Water Stations



History of Growing Area Classification

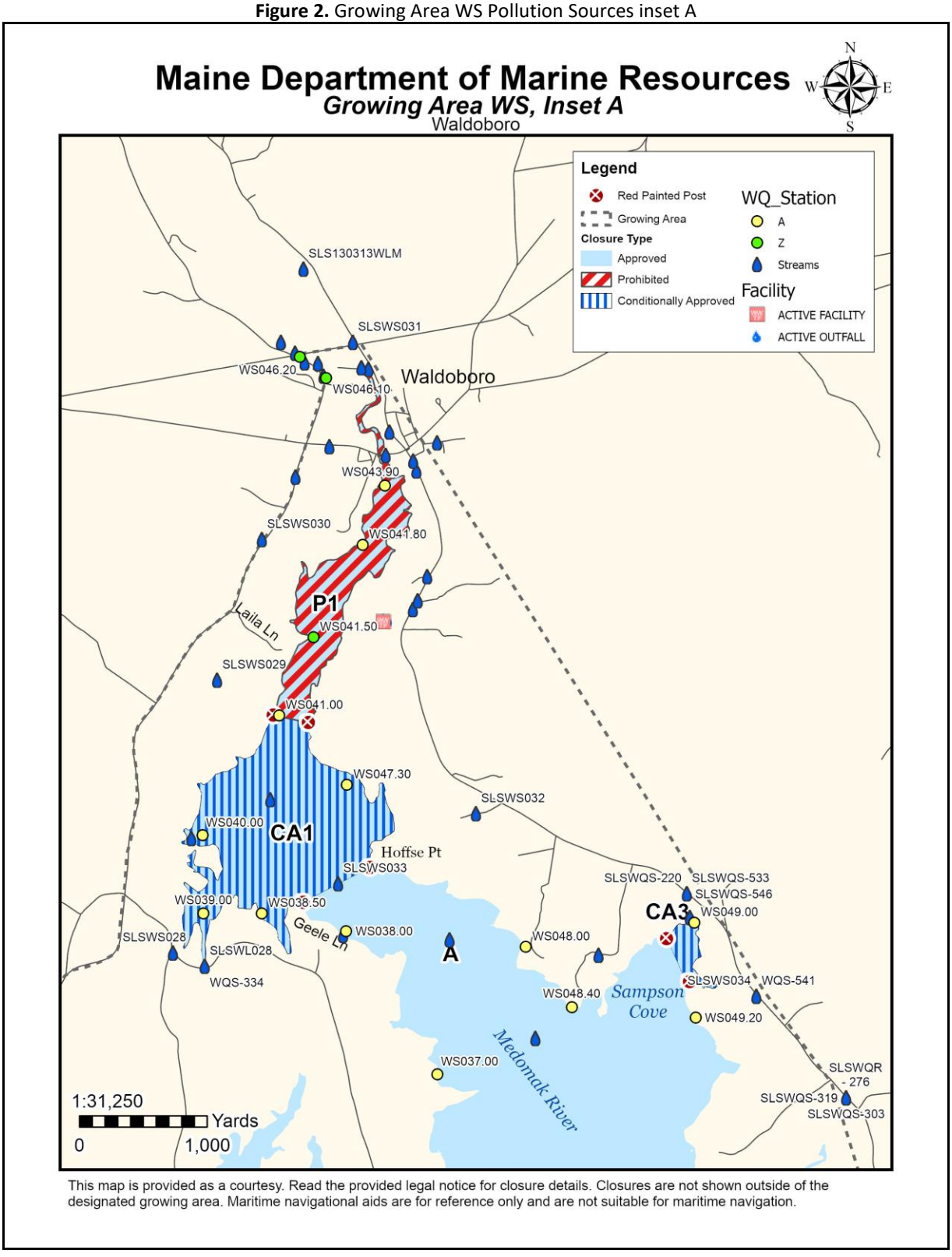
Reclassification addendums to the sanitary survey report are in the DMR central files.

Pollution Sources Survey

Summary of Sources and Location

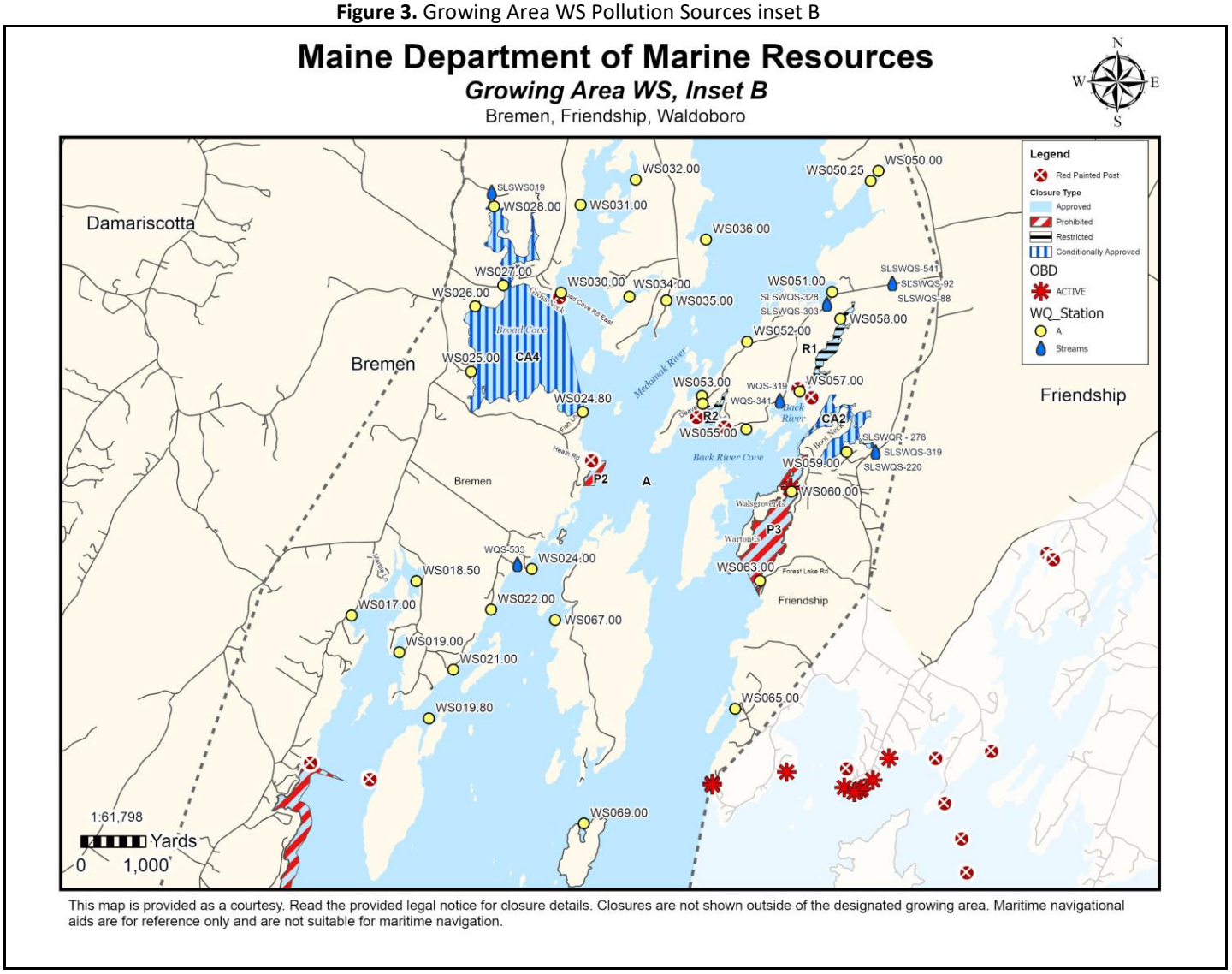
The growing area shoreline is divided into two-mile segments that are identified using unique Growing Area Shoreline Survey Identification (GASSID) numbers. All properties and potential pollution sources within 250 feet of the shoreline are identified and inspected. The inspection includes a property description, physical address, location of the septic system and any other relevant potential or actual pollution sources. A GPS point to identify the source location(s) and the data are entered electronically in the field and stored in DMR central files.

Figure 2. Growing Area WS Pollution Sources inset A



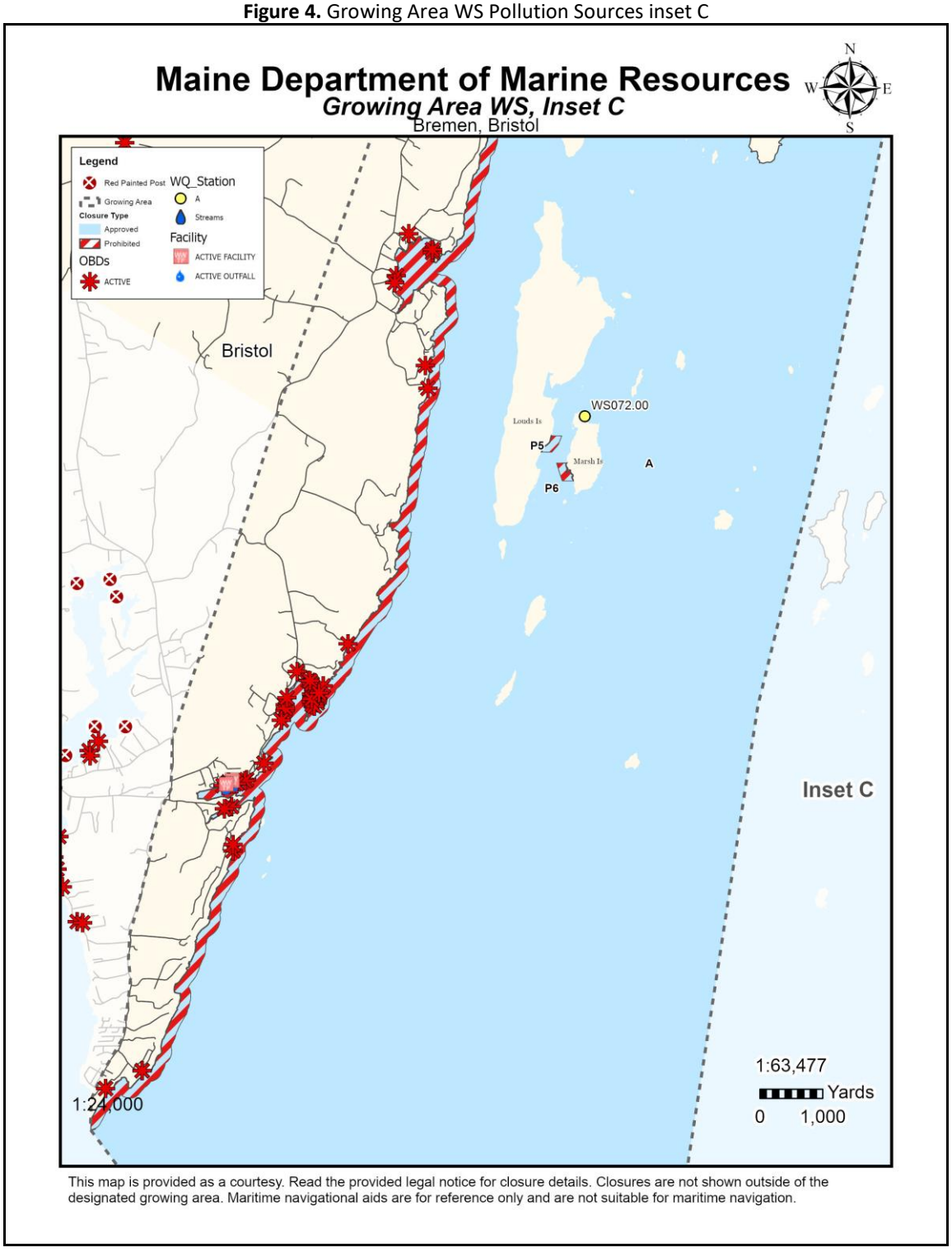
This map is provided as a courtesy. Read the provided legal notice for closure details. Closures are not shown outside of the designated growing area. Maritime navigational aids are for reference only and are not suitable for maritime navigation.

Figure 3. Growing Area WS Pollution Sources inset B



This map is provided as a courtesy. Read the provided legal notice for closure details. Closures are not shown outside of the designated growing area. Maritime navigational aids are for reference only and are not suitable for maritime navigation.

Figure 4. Growing Area WS Pollution Sources inset C



State and Federal Licensed Waste Discharge Permits

Overboard Discharges (OBDs)

There are a total of 52 active OBDs that discharge into the waters of Growing Area WS. No OBDs were removed in 2021. A total of 37 OBDs were removed during the review period.

An overboard discharge (OBD) is the discharge of wastewater from residential, commercial, and publicly owned facilities to Maine's streams, rivers lakes, and the ocean. Commercial and residential discharges of sanitary waste have been regulated since the mid-1970's when most direct discharges of untreated waste were banned. Between 1974 and 1987 most of the "straight pipes" were connected to publicly owned treatment works or replaced with standard septic systems. Overboard discharge treatment systems were installed for those facilities that were unable to connect to publicly owned treatment works or unable to install a septic system because of poor soil conditions or small lot sizes.

All overboard discharge systems include a process to clarify the wastewater and disinfect it prior to discharge. There are two general types of treatment systems: mechanical package plants and sand filters. Sand filter systems consist of a septic tank and a sand filter. In such systems, the wastewater is first directed to a holding tank where the wastewater solids are settled out and undergo partial microbial digestion. The partially treated wastewater then flows from the tank into a sand filter, consisting of distribution pipes, layers of stone and filter sand, and collection pipes within a plastic liner. The wastewater is biologically treated as it filters down through the sand and is then collected and discharged to a disinfection unit. Mechanical package plants consist of a tank, where waste is mechanically broken up, mixed and aerated; mechanical systems require electric power, and must have an operating alarm on a separate electrical circuit that will activate if the treatment unit malfunctions due to a power failure. The aerated treated wastewater is held in a calm condition for a time, allowing for solids to settle and for the waste to be partially digested by naturally occurring bacteria. The clarified water from the tank is then pumped off the top into a disinfection unit. There are two types of disinfection units, UV, and chlorinators (most common). In a chlorinator, the treated water contacts chlorine tablets and remains in a tank for at least 20 minutes where bacteria and other pathogens are killed. The treated and disinfected water is discharged from the disinfection unit to below the low water mark of the receiving waterbody (the ocean, a river, or a stream) via an outfall pipe.

OBDs are licensed and inspected by the Maine Department of Environmental Protection. At each inspection, DEP looks for tags on each treatment unit identifying the service contractor and the last date of service. If an OBD is not properly maintained, or if the OBD malfunctions, it has the potential to directly discharge untreated wastewater to the shore; therefore, preventative closures are implemented surrounding every OBD located in growing area WS. The size of each closure is determined based on a dilution, using the permitted flow rate of the OBD (in gallons per day, GPD), and the depth of the receiving water that each OBD discharges to; the fecal concentration used for this dilution calculation is $1.4X10^5$ FC /100 ml. Single OBD systems associated with more than one residence will have multiple permit IDs. All current closures are of adequate size to protect public health.

Table 1. Overboard Discharges (OBDs)

Growing Area Section	OBD ID #	Location	Flow (gpd)	Receiving Waterbody	Required Closure (Acres)	Actual Closure (Acres)
P4	2732	New Harbor	360	Muscongus Bay	0.4	
P4	2232	New Harbor	300	Muscongus Bay	0.3	
P4	2792	New Harbor	300	Muscongus Bay	0.3	**229**
P4	7125	New Harbor	300	Muscongus Bay	0.3	
P4	9169	New Harbor	300	Muscongus Bay	0.3	
		Total Acres Required Closed			**1.6**	
P4	3027	New Harbor	300	New Harbor	1.2	
P4	1600	New Harbor	300	New Harbor	1.2	
P4	3800	New Harbor	500	New Harbor	1.9	
P4	2559	New Harbor	3000	New Harbor	8.4	
P4	3065	New Harbor	350	New Harbor	1.0	
P4	2074	New Harbor	300	New Harbor	0.8	**81**
P4	2213	New Harbor	3000	New Harbor	8.4	
P4	4822	New Harbor	360	New Harbor	1.0	
P4	8089	New Harbor	300	New Harbor	0.8	
P4	4144	New Harbor	360	New Harbor	1.0	
P4	2986	New Harbor	400	New Harbor	1.1	
P4	5505	New Harbor	200	New Harbor	0.3	
		Total Acres Required Closed			**27.0**	
P4	2405	Bristol	450	Muscongus Bay	0.3	
P4	1757	Bristol	300	Muscongus Bay	0.2	**62**
P4	1521	Bristol	300	Muscongus Bay	0.2	
		Total Acres Required Closed			**0.7**	
P4	6805	Bristol	300	Long Cove	0.2	
P4	1761	Bristol	40	Long Cove	0.1	
P4	2198	Bristol	300	Long Cove	0.5	
P4	6869	Bristol	300	Long Cove	0.5	**43**
P4	2302	Bristol	300	Long Cove	0.2	
P4	1899	Bristol	450	Long Cove	0.3	
P4	1898	Bristol	500	Long Cove	0.3	

Growing Area Section	OBD ID #	Location	Flow (gpd)	Receiving Waterbody	Required Closure (Acres)	Actual Closure (Acres)
P4	1802	Bristol	300	Long Cove	0.2	
P4	3121	Bristol	450	Long Cove	0.3	
P4	2742	Bristol	300	Long Cove	0.2	
P4	1805	Bristol	500	Long Cove	0.3	
P4	1808	Bristol	300	Long Cove	0.2	
P4	2741	Bristol	360	Long Cove	0.2	
P4	9167	Bristol	300	Long Cove	0.2	
		Total Acres Required Closed			**3.8**	
P4	1670	Bristol	300	Long Cove	0.2	
P4	2740	Bristol	360	Long Cove	0.2	
P4	1763	Bristol	300	Long Cove	0.2	
P4	1647	Bristol	450	Muscongus Bay	0.3	
P4	3311	Bristol	300	Muscongus Bay	0.2	**282**
P4	1685	Bristol	500	Muscongus Bay	0.3	
P4	3718	Bristol	300	Muscongus Bay	0.2	
P4	6830	Bristol	300	Muscongus Bay	0.2	
		Total Acres Required Closed			**1.8**	
P4	6285	Bristol	300	Round Pond	1.3	
P4	4668	Bristol	300	Round Pond	1.3	
P4	3130	Bristol	300	Round Pond	1.3	**110**
P4	2115	Bristol	300	Round Pond	1.3	
P4	1812	Bristol	360	Round Pond	1.6	
		Total Acres Required Closed			**6.8**	
P3	6075	Friendship	300	Medomak River	1.2	
P3	9165	Friendship	300	Medomak River	1.2	**26**
		Total Acres Required Closed			**2.4**	
WT P2	1046	Friendship	300	Medomak River	0.5	
WT P2	4047	Friendship	400	Medomak River	0.7	**47**
		Total Acres Required Closed			**1.2**	

National Pollutant Discharge Elimination System (NPDES)

Table 2. NPDES Permitted Discharges

Growing Area Section	Permit ID	Type	Facility	Receiving Waterbody
P4	ME0001481	POTW-Minor	Shaw's Wharf	Muscongus Bay / New Harbor
P4	ME0037061	POTW-Minor	Gosnold Arms	Muscongus Bay / New Harbor
P1	ME0002381	Ground Water -Minor	Ledvance LLC	Medomak River
NA	MEU508114	POTW-Major	Waldoboro Utility District	Land

There is only one wastewater treatment plant in Growing Area WS, the Waldoboro Utility District. It discharges onto land and is not capable of discharging directly into the Medomak River. There are two commercial OBDs that require a MEPDES permit. Shaw's Wharf is a waterfront restaurant and Gosnold Arms is an inn. Both of these facilities discharge into New Harbor in Muscongus Bay.

Waldoboro Utility District, (#MEU508114) serves a population of approximately 2100 people; this plant has a spray irrigation system and does not discharge into the Medomak River. There are five pump stations with the nearest one 1.4 miles north of harvestable mudflats. None of the pumping stations have bypass or overflow capabilities. The Waldoboro Utility District (WUD) wastewater treatment facility is located on a 350-acre parcel of land northeast of Waldoboro village. Wastewater flows received at the facility are screened through a mechanical bar screen at the main pump station near the center of Waldoboro. The WUD provides secondary treatment of wastewater through two 2.77 million-gallon aerated lagoons. The two lagoons have a total volume of 5.5 million gallons and provide aeration, biological oxidation, and settling. There is a projected average daily flow rate of 150,000 gallons per day and the lagoon system provides for a detention time of 35 days. Following lagoon treatment, wastewater flows are passed through a flow structure to a 57 million gallon holding lagoon that can store up to seven months of wastewater and precipitation. From April 1 to November 30, treated wastewater is spray irrigated. From December 1 to May 31, wastewater is stored in the storage lagoon. There are five spray irrigation fields totaling approximately 60 acres in size with a design treatment capacity of 0.15 million (150,000) gallons per day. The WUD site contains two background groundwater monitoring wells and four downgradient monitoring wells that are monitored to determine if there are any wastewater discharge related groundwater problems. The Waldoboro Utility District municipal facility is located over 3 miles away from the shore of the Medomak River when measured as a straight

line to the closest point on the shore. Due to other pollution sources, the shoreline along the area serviced by this facility is within a 133 acre Prohibited area.

Shaw's Wharf (#ME0001481) is a restaurant located in New Harbor, Bristol. The facility is permitted to seasonally discharge a maximum of 3,000 gallons per day of secondary treated wastewater to New Harbor between the months of May 1-October 31. The discharge requires an 8.4 acre Prohibited area based on an 11' receiving depth. Due to the existence of other pollution sources the current Prohibited area is over 900 acres. This closure size is sufficient to dilute the pollution from this facility.

Gosnold Arms (#ME0037061) is an inn located in New Harbor, Bristol. The facility is permitted to discharge a year-round average monthly discharge of 3,000 gallons per day. Although the inn is permitted to discharge year-round it is currently only in operation from June- October. The discharge requires an 8.5 acre Prohibited area based on an 11 foot receiving depth. Due to the existence of other pollution sources the current Prohibited area is over 900 acres. This closure size is sufficient to dilute the pollution from this facility.

Table 3. Growing Area WS NPDES Permit Discharge Dilution Calculations

Facility	Shaw's Wharf	Gosnold Arms
FC/100ml	140,000	140,000
Discharge Rate gallons/day	4800	2000
Receiving Depth	11	11
Acres	8.4	8.4

Residential

All residential pollution sources are reported to the local plumbing inspector (LPI). Once the system has been documented as being fixed, staff members from DMR can re-assess the water quality data and shoreline survey information to determine if the area is safe for shellfish harvest. Table 4 shows all new and pre-existing pollution sources in area WS that are considered discharges into the Growing Area and effect water quality.

Table 4. Growing Area WS Residential Pollution Sources

Growing Area Section	Town	Location ID	Date Surveyed	Direct/Indirect	Problem	DESCRIPTION
P5	Bristol/ Louds Island	WS049-214	11/14/2017	Indirect	Yes	OH on wooden slats with milk crate for containment, old poop and TP. Over 100 ft. from shore.
P6	Bristol/ Marsh Island	WS049-11	11/9/2017	Indirect	Yes	Portapotty 10-20 feet from shore. Tree fallen on it. Doesn't appear to be a hole or containment
P1	Waldoboro	WS030-2	6/23/2014	Indirect	Yes	There is a small wet area and a little odor at the bottom corner of the leach field
P1	Waldoboro	WS030-112	6/27/2014	Indirect	Yes	Probable septic tank overflow. Found a black, septic area adjacent to a cast iron pipe.

Industrial Pollution

There are no active major industrial pollution sites in Growing Area WS such as chemical plants, steel mills, shipyards, or refineries. Both shores of the Medomak are very rural. Several small businesses are located in the town center of Waldoboro. None of the businesses were identified as pollution sources during routine shoreline survey. There is one MEPDES permit for the site of a shuttered factory to discharge treated groundwater. The shores of this portion of the growing area are classified as Prohibited.

Ledvance LLC (#ME0002381), located in Waldoboro, has a permit to discharge a monthly average flow of up to 10,000 gallons per day of treated ground water to the Medomak River in Waldoboro. This facility has a permit on file but is no longer in operation and the facility and buildings have been demolished. The facility does not discharge waste, so a Prohibited area is not required but the shores of this part of the Growing Area are already classified as Prohibited. The town of Waldoboro acquired ownership of the property in 2021.

Marinas and Mooring Fields

The marina community in Maine only operates for a portion of the year due to adverse winter weather conditions. The management of marinas in Maine allows for shellfish growing areas to be available to harvesters, for at least a portion of the year, to direct market harvest by utilizing conditional area management plans. There are no conditional marina areas in the Growing Area.
There is only one actual marina in Growing Area WS, located in Muscongus Harbor, and it is a small facility with less than 30 moorings. Dockage is limited primarily to a dinghy dock and a small, short term dock. The harbors of New Harbor, Round Pond, Muscongus Harbor, Keene Narrows, and Hockomock

Channel contain mooring areas and short-term dockage for commercial and recreational boats. Round Pond is the largest of the harbors at approximately 110 acres. Keene Narrows and Hockomock Channel are the only areas that are currently open for shellfish harvest. Both areas contain very small mooring fields and have less than 10 recreational boats with heads. Other marine facilities and mooring fields in the Growing Area are in large Prohibited areas that are adequate in size to protect public health.

Stormwater

Storm water runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground. As the runoff flows over the land or impervious surfaces (paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality if the runoff is discharged untreated (US EPA 2009). Thus, storm water pollution is caused by the daily activities of people within the watershed. Currently, polluted storm water is the largest source of water quality problems in the United States.

The primary method to control storm water discharges is the use of best management practices (BMPs). In addition, most major storm water discharges are considered point sources and require coverage under a NPDES permit. In 1990, under authority of the Clean Water Act, the U.S. EPA promulgated Phase I of its storm water management program, requiring permitting through the National Pollution Discharge Elimination System (NPDES). The Phase I program covered three categories of discharges: (1) "medium" and "large" Municipal Separate Storm Sewer Systems (MS4s) generally serving populations over 100,000, (2) construction activity disturbing five acres of land or greater, and (3) ten categories of industrial activity. In 1999, US EPA issued Phase II of the storm water management program, expanding the Phase I program to include all urbanized areas and smaller construction sites.

Although it is a federal program, EPA has delegated its authority to the Maine DEP to administer the Phase II Small MS4 General Permit. Under the Small MS4 GP, each municipality must implement the following six Minimum Control Measures: (1) Public education and outreach, (2) Public participation, (3) Illicit discharge detection and elimination, (4) Construction site storm water runoff control, (5) Post-construction storm water management, and (6) Pollution prevention/good housekeeping. The permit requires each city or town to develop a draft Storm Water Management Plan that establishes measurable goals for each of the Minimum Control Measures. The City or Town must document the implementation of the Plan, and provide annual reports to the Maine DEP. Currently the discharge of storm water from 30 Maine municipalities is regulated under the Phase II Small MS4 General Permit however, no municipalities located within the boundaries of growing area WS fall under these regulations. Additionally, the Maine Storm Water Management Law provides storm water standards for projects located in organized areas that include one acre of more of disturbed area (Maine DEP 2009).

Stormwater enters the upper Medomak River by way of stormwater drains along the Waldoboro waterfront. Runoff from the town of Waldoboro eventually makes its way to the shore through many of these storm water lines. The stormwater lines in the center of Waldoboro, that were at one time associated with the Waldoboro Utility District and the Department of Transportation, have been mapped however discussions with town officials revealed that the mapping may be incomplete. All of

the lines that are mapped are in the upper portion of the river in areas currently classified as prohibited for shellfish harvest.

Non-Point Pollution Sources

Non-point source (NPS) pollution is water pollution affecting a water body from diffuse sources, such as polluted runoff from agricultural areas draining into a river, significant rainfall, high river flows or astronomical high tides. Nonpoint source pollution can be contrasted with point source pollution, where discharges occur to a body of water at a sole location, such as discharges from a chemical factory, urban runoff from a roadway storm drain or from ships at sea. NPS may derive from various sources with no specific solution to rectify the problem, making it difficult to regulate. Freshwater streams, drainage from rainstorm runoff and tidal creeks are the major source of non-point discharge into Growing Area WS. A total of 669 valid samples were taken from freshwater streams during the 2009-2021 review period. DMR participated in a pollution "task-force" for several years during this time and additional stream samples were often taken to help try to identify pollution sources.

Table 5. Stream Samples in Growing Area WS 2009-2021; Scores > 163 cfu/100ml are highlighted in red.

Location ID	Type	Sample Date	Score
WS030-104	Stream	10/19/2021	16
WS030-106	Stream	10/19/2021	38
WS031-10	Stream	10/19/2021	54
WS034-59	Stream	10/19/2021	2
WS035-60	Stream	10/19/2021	12
WS040-62	Stream	10/19/2021	32
WS042-63	Stream	10/19/2021	42
WS044-37	Stream	10/19/2021	34
WS057-24	Stream	10/19/2021	35
WS030-104	Stream	9/15/2021	106
WS030-106	Stream	9/15/2021	82
WS031-10	Stream	9/15/2021	56
WS034-59	Stream	9/15/2021	48
WS035-60	Stream	9/15/2021	12
WS040-62	Stream	9/15/2021	52
WS042-63	Stream	9/15/2021	70
WS044-37	Stream	9/15/2021	4
WS057-24	Stream	9/15/2021	44
WS030-104	Stream	5/4/2021	34
WS030-106	Stream	5/4/2021	1.9
WS031-10	Stream	5/4/2021	4
WS034-59	Stream	5/4/2021	42

Location ID	Type	Sample Date	Score
WS035-60	Stream	5/4/2021	44
WS040-62	Stream	5/4/2021	56
WS042-63	Stream	5/4/2021	33
WS044-37	Stream	5/4/2021	1.9
WS057-24	Stream	5/4/2021	4
WS030-104	Stream	4/7/2021	8
WS030-106	Stream	4/7/2021	900
WS031-10	Stream	4/7/2021	2
WS034-59	Stream	4/7/2021	11
WS035-60	Stream	4/7/2021	1.9
WS040-62	Stream	4/7/2021	4
WS042-63	Stream	4/7/2021	14
WS044-37	Stream	4/7/2021	2
WS057-24	Stream	4/7/2021	2
WS030-104	Stream	11/18/2020	6
WS030-106	Stream	11/18/2020	21.8
WS031-10	Stream	11/18/2020	40
WS031-12	Stream	11/18/2020	96
WS034-59	Stream	11/18/2020	36
WS035-60	Stream	11/18/2020	8
WS040-62	Stream	11/18/2020	34
WS042-63	Stream	11/18/2020	40
WS044-37	Stream	11/18/2020	1.9
WS057-24	Stream	11/18/2020	1.9
WS005-1	Stream	11/17/2020	7.3
WS010-1	Stream	11/17/2020	3.6
WS028-23	Stream	11/17/2020	64
WS030-104	Stream	10/28/2020	28
WS030-106	Stream	10/28/2020	32
WS031-10	Stream	10/28/2020	340
WS031-12	Stream	10/28/2020	52
WS034-59	Stream	10/28/2020	14
WS035-60	Stream	10/28/2020	4
WS040-62	Stream	10/28/2020	122
WS042-63	Stream	10/28/2020	22
WS044-37	Stream	10/28/2020	4
WS057-24	Stream	10/28/2020	13

Location ID	Type	Sample Date	Score
WS005-1	Stream	10/6/2020	36
WS008-1	Stream	10/6/2020	43.6
WS008-2	Stream	10/6/2020	18.2
WS010-1	Stream	10/6/2020	120
WS030-106	Stream	9/23/2020	>1600
WS034-59	Stream	9/23/2020	70
WS040-62	Stream	9/23/2020	2
WS042-63	Stream	9/23/2020	38
WS044-37	Stream	9/23/2020	1.9
WS005-1	Stream	9/8/2020	31
WS008-1	Stream	9/8/2020	120
WS008-2	Stream	9/8/2020	138
WS010-1	Stream	9/8/2020	340
WS017-2	Stream	9/8/2020	16
WS005-1	Stream	8/25/2020	152
WS008-1	Stream	8/25/2020	420
WS008-2	Stream	8/25/2020	360
WS010-1	Stream	8/25/2020	106
WS017-2	Stream	8/25/2020	13
WS030-104	Stream	8/18/2020	>1600
WS030-106	Stream	8/18/2020	>1600
WS031-1	Stream	8/18/2020	>1600
WS031-12	Stream	8/18/2020	420
WS031-12	Stream	8/18/2020	>1600
WS034-59	Stream	8/18/2020	>1600
WS035-60	Stream	8/18/2020	>1600
WS040-62	Stream	8/18/2020	820
WS042-63	Stream	8/18/2020	620
WS044-37	Stream	8/18/2020	240
WS057-24	Stream	8/18/2020	>1600
WS017-2	Stream	8/13/2020	2
WS005-1	Stream	8/12/2020	56
WS008-1	Stream	8/12/2020	3.6
WS008-2	Stream	8/12/2020	104
WS010-1	Stream	8/12/2020	106
WS002-1	Stream	10/30/2018	20
WS012-12	Stream	10/30/2018	11

Location ID	Type	Sample Date	Score
WS017-1	Stream	10/30/2018	44
WS018-8	Stream	10/30/2018	22
WS028-21	Stream	10/30/2018	25
WS028-23	Stream	10/30/2018	58
WS028-34	Stream	10/30/2018	8
WS030-104	Stream	10/30/2018	34
WS030-134	Stream	10/30/2018	42
WS031-4	Stream	10/30/2018	240
WS031-5	Stream	10/30/2018	66
WS034-59	Stream	10/30/2018	44
WS034-82	Stream	10/30/2018	96
WS035-60	Stream	10/30/2018	28
WS040-62	Stream	10/30/2018	82
WS042-63	Stream	10/30/2018	78
WS057-24	Stream	10/30/2018	22
WS002-1	Stream	9/24/2018	122
WS012-12	Stream	9/24/2018	48
WS017-1	Stream	9/24/2018	22
WS028-21	Stream	9/24/2018	16
WS028-23	Stream	9/24/2018	70
WS030-104	Stream	9/24/2018	240
WS030-134	Stream	9/24/2018	22
WS031-1	Stream	9/24/2018	420
WS031-5	Stream	9/24/2018	104
WS034-59	Stream	9/24/2018	96
WS034-82	Stream	9/24/2018	82
WS035-60	Stream	9/24/2018	36
WS040-62	Stream	9/24/2018	640
WS042-63	Stream	9/24/2018	22
WS057-24	Stream	9/24/2018	96
WS002-1	Stream	6/11/2018	1.9
WS012-12	Stream	6/11/2018	2
WS017-1	Stream	6/11/2018	12
WS028-34	Stream	6/11/2018	31
WS031-4	Stream	6/11/2018	140
WS034-59	Stream	6/11/2018	18
WS002-1	Stream	4/17/2018	44

Location ID	Type	Sample Date	Score
WS012-12	Stream	4/17/2018	6
WS018-8	Stream	4/17/2018	16
WS028-21	Stream	4/17/2018	4
WS028-23	Stream	4/17/2018	96
WS028-34	Stream	4/17/2018	1.9
WS030-104	Stream	4/17/2018	27
WS030-134	Stream	4/17/2018	26
WS031-1	Stream	4/17/2018	13
WS031-11	Stream	4/17/2018	40
WS031-4	Stream	4/17/2018	66
WS031-5	Stream	4/17/2018	48
WS034-59	Stream	4/17/2018	48
WS034-82	Stream	4/17/2018	35
WS035-60	Stream	4/17/2018	4
WS040-62	Stream	4/17/2018	40
WS042-63	Stream	4/17/2018	24
WS057-24	Stream	4/17/2018	6
WS002-1	Stream	12/19/2017	35
WS018-7	Stream	12/19/2017	25
WS040-62	Stream	12/19/2017	7.3
WS028-21	Stream	10/3/2017	4
WS028-21	Stream	9/19/2017	>1600
WS028-21	Stream	9/11/2017	40
WS034-59	Stream	9/11/2017	19
WS035-60	Stream	9/11/2017	52
WS040-62	Stream	9/11/2017	8
WS002-1	Stream	11/15/2016	1.9
WS029-94	Stream	11/15/2016	76
WS034-59	Stream	11/15/2016	13
WS035-60	Stream	11/15/2016	4
WS040-62	Stream	11/15/2016	1.9
WS002-1	Stream	9/27/2016	>1600
WS028-21	Stream	9/27/2016	1.9
WS034-59	Stream	9/27/2016	1.9
WS035-60	Stream	9/27/2016	20
WS040-62	Stream	9/27/2016	27
WS034-59	Stream	8/17/2016	240

Location ID	Type	Sample Date	Score
WS034-82	Stream	8/17/2016	>1600
WS018-7	Stream	6/10/2016	120
WS028-21	Stream	6/6/2016	>1600
WS029-94	Stream	6/6/2016	900
WS030-134	Stream	6/6/2016	1380
WS034-59	Stream	6/6/2016	1380
WS034-82	Stream	6/6/2016	540
WS035-60	Stream	6/6/2016	120
WS040-62	Stream	6/6/2016	1080
WS029-94	Stream	4/21/2016	6
WS030-134	Stream	4/21/2016	73
WS034-59	Stream	4/21/2016	16
WS034-82	Stream	4/21/2016	240
WS035-60	Stream	4/21/2016	12
WS040-62	Stream	4/21/2016	12
WS033-44	Stream	12/7/2015	42
WS033-45	Stream	12/7/2015	72
WS033-46	Stream	12/7/2015	16
WS033-47	Stream	12/7/2015	10
WS033-44	Stream	11/4/2015	1.9
WS033-45	Stream	11/4/2015	1.9
WS033-46	Stream	11/4/2015	2
WS033-47	Stream	11/4/2015	11
WS033-44	Stream	11/3/2015	6
WS033-45	Stream	11/3/2015	12
WS033-46	Stream	11/3/2015	12
WS033-47	Stream	11/3/2015	48
WS033-44	Stream	11/1/2015	62
WS033-45	Stream	11/1/2015	44
WS033-46	Stream	11/1/2015	70
WS033-47	Stream	11/1/2015	94
WS033-44	Stream	10/26/2015	1.9
WS033-45	Stream	10/26/2015	1.9
WS033-46	Stream	10/26/2015	1.9
WS033-47	Stream	10/26/2015	2
WS028-23	Stream	9/29/2015	300
WS029-94	Stream	9/29/2015	110

Location ID	Type	Sample Date	Score
WS033-43	Stream	9/29/2015	14
WS034-59	Stream	9/29/2015	6
WS040-62	Stream	9/29/2015	52
WS042-63	Stream	9/29/2015	1.9
WS033-44	Stream	9/23/2015	1.9
WS033-45	Stream	9/23/2015	1.9
WS033-46	Stream	9/23/2015	1.9
WS033-47	Stream	9/23/2015	1.9
WS028-21	Stream	8/25/2015	1500
WS028-23	Stream	8/25/2015	86
WS029-94	Stream	8/25/2015	300
WS030-104	Stream	8/25/2015	74
WS030-134	Stream	8/25/2015	148
WS033-43	Stream	8/25/2015	6
WS034-59	Stream	8/25/2015	240
WS034-82	Stream	8/25/2015	500
WS040-62	Stream	8/25/2015	46
WS042-63	Stream	8/25/2015	34
WS033-44	Stream	8/16/2015	1.9
WS033-45	Stream	8/16/2015	2
WS033-46	Stream	8/16/2015	1.9
WS033-47	Stream	8/16/2015	1.9
WS033-44	Stream	8/14/2015	1.9
WS033-45	Stream	8/14/2015	1.9
WS033-46	Stream	8/14/2015	1.9
WS033-47	Stream	8/14/2015	2
WS033-44	Stream	8/4/2015	1.9
WS033-45	Stream	8/4/2015	1.9
WS033-46	Stream	8/4/2015	1.9
WS033-47	Stream	8/4/2015	1.9
WS028-21	Stream	7/28/2015	4
WS033-44	Stream	7/21/2015	1.9
WS033-45	Stream	7/21/2015	1.9
WS033-46	Stream	7/21/2015	1.9
WS033-47	Stream	7/21/2015	1.9
WS028-21	Stream	7/15/2015	4
WS028-23	Stream	7/15/2015	98

Location ID	Type	Sample Date	Score
WS029-94	Stream	7/15/2015	62
WS030-134	Stream	7/15/2015	40
WS033-43	Stream	7/15/2015	16
WS034-59	Stream	7/15/2015	500
WS034-82	Stream	7/15/2015	620
WS040-62	Stream	7/15/2015	360
WS042-63	Stream	7/15/2015	4
WS033-44	Stream	6/26/2015	1.9
WS033-45	Stream	6/26/2015	2
WS033-46	Stream	6/26/2015	7.3
WS033-47	Stream	6/26/2015	15
WS033-44	Stream	6/24/2015	22
WS033-45	Stream	6/24/2015	35
WS033-46	Stream	6/24/2015	16
WS033-47	Stream	6/24/2015	31
WS019-1	Stream	4/29/2015	6
WS028-21	Stream	4/29/2015	1.9
WS028-22	Stream	4/29/2015	1.9
WS028-23	Stream	4/29/2015	5.5
WS029-94	Stream	4/29/2015	2
WS032-39	Stream	4/29/2015	1.9
WS033-43	Stream	4/29/2015	6
WS034-59	Stream	4/29/2015	4
WS034-82	Stream	4/29/2015	2
WS029-93	Stream	12/3/2013	158
WS030-104	Stream	12/3/2013	18
WS030-106	Stream	12/3/2013	50
WS030-107	Stream	12/3/2013	500
WS030-108	Stream	12/3/2013	35
WS030-11	Stream	12/3/2013	220
WS030-2	Stream	12/3/2013	158
WS030-3	Stream	12/3/2013	120
WS030-4	Stream	12/3/2013	180
WS030-5	Stream	12/3/2013	64
WS030-6	Stream	12/3/2013	320
WS030-7	Stream	12/3/2013	160
WS030-8	Stream	12/3/2013	15

Location ID	Type	Sample Date	Score
WS031-1	Stream	12/3/2013	40
WS031-10	Stream	12/3/2013	68
WS031-11	Stream	12/3/2013	14
WS031-2	Stream	12/3/2013	20
WS031-3	Stream	12/3/2013	80
WS031-4	Stream	12/3/2013	60
WS031-5	Stream	12/3/2013	84
WS031-6	Stream	12/3/2013	2
WS031-7	Stream	12/3/2013	840
WS031-8	Stream	12/3/2013	9.1
WS031-9	Stream	12/3/2013	38
WS029-93	Stream	12/1/2013	106
WS030-104	Stream	12/1/2013	35
WS030-107	Stream	12/1/2013	>1600
WS030-108	Stream	12/1/2013	12
WS030-11	Stream	12/1/2013	300
WS030-2	Stream	12/1/2013	200
WS030-3	Stream	12/1/2013	260
WS030-4	Stream	12/1/2013	120
WS030-5	Stream	12/1/2013	110
WS030-6	Stream	12/1/2013	31
WS030-7	Stream	12/1/2013	320
WS030-8	Stream	12/1/2013	1.9
WS031-1	Stream	12/1/2013	1000
WS031-10	Stream	12/1/2013	42
WS031-11	Stream	12/1/2013	18
WS031-2	Stream	12/1/2013	22
WS031-3	Stream	12/1/2013	24
WS031-4	Stream	12/1/2013	33
WS031-4	Stream	12/1/2013	88
WS031-5	Stream	12/1/2013	88
WS031-6	Stream	12/1/2013	4
WS031-7	Stream	12/1/2013	180
WS031-8	Stream	12/1/2013	1.9
WS031-9	Stream	12/1/2013	11
WS029-93	Stream	11/13/2013	2
WS030-104	Stream	11/13/2013	180

Location ID	Type	Sample Date	Score
WS030-106	Stream	11/13/2013	22
WS030-107	Stream	11/13/2013	>1600
WS030-108	Stream	11/13/2013	1.9
WS031-1	Stream	11/13/2013	900
WS031-10	Stream	11/13/2013	3.6
WS031-2	Stream	11/13/2013	1.9
WS031-3	Stream	11/13/2013	4
WS031-4	Stream	11/13/2013	>1600
WS031-5	Stream	11/13/2013	28
WS031-9	Stream	11/13/2013	24
WS030-11	Stream	11/12/2013	16
WS030-2	Stream	11/12/2013	1.9
WS030-3	Stream	11/12/2013	12
WS030-4	Stream	11/12/2013	16
WS030-5	Stream	11/12/2013	6
WS030-6	Stream	11/12/2013	8
WS030-7	Stream	11/12/2013	1.9
WS030-8	Stream	11/12/2013	2
WS030-1	Stream	10/22/2013	6
WS030-11	Stream	10/22/2013	27
WS030-2	Stream	10/22/2013	35
WS030-3	Stream	10/22/2013	6
WS030-4	Stream	10/22/2013	5.5
WS030-5	Stream	10/22/2013	6
WS030-6	Stream	10/22/2013	14
WS030-7	Stream	10/22/2013	16
WS030-8	Stream	10/22/2013	22
WS029-93	Stream	9/25/2013	320
WS030-104	Stream	9/25/2013	33
WS030-106	Stream	9/25/2013	44
WS030-107	Stream	9/25/2013	>1600
WS030-108	Stream	9/25/2013	122
WS030-11	Stream	9/25/2013	25
WS030-2	Stream	9/25/2013	68
WS030-3	Stream	9/25/2013	24
WS030-5	Stream	9/25/2013	40
WS030-6	Stream	9/25/2013	138

Location ID	Type	Sample Date	Score
WS030-7	Stream	9/25/2013	20
WS030-8	Stream	9/25/2013	14
WS030-8	Stream	9/25/2013	50
WS031-1	Stream	9/25/2013	30
WS031-10	Stream	9/25/2013	18
WS031-11	Stream	9/25/2013	340
WS031-2	Stream	9/25/2013	2
WS031-3	Stream	9/25/2013	200
WS031-4	Stream	9/25/2013	>1600
WS031-5	Stream	9/25/2013	24
WS031-9	Stream	9/25/2013	76
WS029-93	Stream	8/7/2013	220
WS030-104	Stream	8/7/2013	100
WS030-106	Stream	8/7/2013	80
WS030-11	Stream	8/7/2013	68
WS030-2	Stream	8/7/2013	100
WS030-3	Stream	8/7/2013	1.9
WS030-4	Stream	8/7/2013	27
WS030-5	Stream	8/7/2013	36
WS030-6	Stream	8/7/2013	34
WS030-7	Stream	8/7/2013	25
WS030-8	Stream	8/7/2013	36
WS031-1	Stream	8/7/2013	90
WS031-10	Stream	8/7/2013	18
WS031-2	Stream	8/7/2013	1.9
WS031-3	Stream	8/7/2013	50
WS031-4	Stream	8/7/2013	10
WS031-5	Stream	8/7/2013	520
WS034-59	Stream	8/7/2013	12
WS030-1	Stream	7/10/2013	6
WS030-11	Stream	7/10/2013	30
WS030-2	Stream	7/10/2013	7.3
WS030-3	Stream	7/10/2013	10
WS030-4	Stream	7/10/2013	24
WS030-5	Stream	7/10/2013	46
WS030-6	Stream	7/10/2013	35
WS030-7	Stream	7/10/2013	42

Location ID	Type	Sample Date	Score
WS030-8	Stream	7/10/2013	136
WS030-9	Stream	7/10/2013	54
WS029-93	Stream	7/1/2013	160
WS030-1	Stream	7/1/2013	68
WS030-104	Stream	7/1/2013	86
WS030-106	Stream	7/1/2013	88
WS030-107	Stream	7/1/2013	1340
WS030-108	Stream	7/1/2013	60
WS030-11	Stream	7/1/2013	54
WS030-2	Stream	7/1/2013	52
WS030-3	Stream	7/1/2013	38
WS030-4	Stream	7/1/2013	46
WS030-5	Stream	7/1/2013	40
WS030-6	Stream	7/1/2013	128
WS030-7	Stream	7/1/2013	52
WS030-8	Stream	7/1/2013	36
WS030-9	Stream	7/1/2013	56
WS031-1	Stream	7/1/2013	100
WS031-10	Stream	7/1/2013	68
WS031-11	Stream	7/1/2013	220
WS031-3	Stream	7/1/2013	220
WS031-4	Stream	7/1/2013	50
WS031-5	Stream	7/1/2013	98
WS031-8	Stream	7/1/2013	160
WS031-9	Stream	7/1/2013	60
WS029-93	Stream	6/29/2013	380
WS030-1	Stream	6/29/2013	720
WS030-10	Stream	6/29/2013	1080
WS030-104	Stream	6/29/2013	58
WS030-106	Stream	6/29/2013	94
WS030-107	Stream	6/29/2013	>1600
WS030-108	Stream	6/29/2013	116
WS030-11	Stream	6/29/2013	180
WS030-2	Stream	6/29/2013	880
WS030-3	Stream	6/29/2013	760
WS030-4	Stream	6/29/2013	50
WS030-5	Stream	6/29/2013	620

Location ID	Type	Sample Date	Score
WS030-6	Stream	6/29/2013	1340
WS030-7	Stream	6/29/2013	200
WS030-8	Stream	6/29/2013	480
WS030-9	Stream	6/29/2013	380
WS031-1	Stream	6/29/2013	110
WS031-10	Stream	6/29/2013	74
WS031-11	Stream	6/29/2013	320
WS031-3	Stream	6/29/2013	320
WS031-4	Stream	6/29/2013	180
WS031-5	Stream	6/29/2013	220
WS031-8	Stream	6/29/2013	52
WS031-9	Stream	6/29/2013	90
WS029-93	Stream	6/15/2013	54
WS030-1	Stream	6/15/2013	14
WS030-104	Stream	6/15/2013	31
WS030-106	Stream	6/15/2013	44
WS030-107	Stream	6/15/2013	340
WS030-108	Stream	6/15/2013	700
WS030-11	Stream	6/15/2013	13
WS030-2	Stream	6/15/2013	82
WS030-3	Stream	6/15/2013	14
WS030-4	Stream	6/15/2013	18
WS030-5	Stream	6/15/2013	25
WS030-6	Stream	6/15/2013	98
WS030-7	Stream	6/15/2013	15
WS030-8	Stream	6/15/2013	12
WS030-9	Stream	6/15/2013	22
WS031-1	Stream	6/15/2013	58
WS031-10	Stream	6/15/2013	22
WS031-11	Stream	6/15/2013	160
WS031-3	Stream	6/15/2013	60
WS031-4	Stream	6/15/2013	16
WS031-5	Stream	6/15/2013	36
WS031-9	Stream	6/15/2013	25
WS030-1	Stream	6/13/2013	33
WS030-11	Stream	6/13/2013	70
WS030-2	Stream	6/13/2013	88

Location ID	Type	Sample Date	Score
WS030-3	Stream	6/13/2013	62
WS030-4	Stream	6/13/2013	56
WS030-5	Stream	6/13/2013	56
WS030-6	Stream	6/13/2013	320
WS030-7	Stream	6/13/2013	42
WS030-8	Stream	6/13/2013	48
WS030-9	Stream	6/13/2013	46
WS030-7	Stream	6/4/2013	16
WS034-59	Stream	5/29/2013	15
WS034-59	Stream	5/27/2013	27
WS029-93	Stream	5/25/2013	35
WS030-10	Stream	5/25/2013	740
WS030-104	Stream	5/25/2013	34
WS030-106	Stream	5/25/2013	56
WS030-107	Stream	5/25/2013	400
WS030-108	Stream	5/25/2013	62
WS030-11	Stream	5/25/2013	88
WS030-3	Stream	5/25/2013	74
WS030-4	Stream	5/25/2013	44
WS030-5	Stream	5/25/2013	54
WS030-6	Stream	5/25/2013	440
WS030-7	Stream	5/25/2013	80
WS030-8	Stream	5/25/2013	42
WS030-9	Stream	5/25/2013	58
WS031-1	Stream	5/25/2013	220
WS031-10	Stream	5/25/2013	25
WS031-11	Stream	5/25/2013	860
WS031-4	Stream	5/25/2013	100
WS031-5	Stream	5/25/2013	68
WS031-6	Stream	5/25/2013	860
WS031-7	Stream	5/25/2013	600
WS031-8	Stream	5/25/2013	440
WS031-9	Stream	5/25/2013	54
WS029-93	Stream	5/23/2013	10
WS030-1	Stream	5/23/2013	60
WS030-104	Stream	5/23/2013	24
WS030-106	Stream	5/23/2013	29

Location ID	Type	Sample Date	Score
WS030-107	Stream	5/23/2013	136
WS030-108	Stream	5/23/2013	11
WS030-11	Stream	5/23/2013	104
WS030-2	Stream	5/23/2013	86
WS030-3	Stream	5/23/2013	60
WS030-4	Stream	5/23/2013	70
WS030-5	Stream	5/23/2013	66
WS030-6	Stream	5/23/2013	820
WS030-7	Stream	5/23/2013	>1600
WS030-8	Stream	5/23/2013	28
WS030-9	Stream	5/23/2013	>1600
WS031-1	Stream	5/23/2013	60
WS031-10	Stream	5/23/2013	68
WS031-11	Stream	5/23/2013	146
WS031-3	Stream	5/23/2013	200
WS031-3	Stream	5/23/2013	140
WS031-4	Stream	5/23/2013	340
WS031-5	Stream	5/23/2013	56
WS031-7	Stream	5/23/2013	240
WS031-8	Stream	5/23/2013	>1600
WS031-9	Stream	5/23/2013	31
WS030-7	Stream	5/9/2013	>1600
WS029-93	Stream	5/7/2013	5.5
WS030-1	Stream	5/7/2013	1.9
WS030-104	Stream	5/7/2013	22
WS030-106	Stream	5/7/2013	10
WS030-107	Stream	5/7/2013	1.9
WS030-108	Stream	5/7/2013	1.9
WS030-11	Stream	5/7/2013	80
WS030-2	Stream	5/7/2013	9.1
WS030-3	Stream	5/7/2013	2
WS030-4	Stream	5/7/2013	7.3
WS030-5	Stream	5/7/2013	18
WS030-6	Stream	5/7/2013	140
WS030-7	Stream	5/7/2013	96
WS030-8	Stream	5/7/2013	6
WS030-9	Stream	5/7/2013	11

Location ID	Type	Sample Date	Score
WS031-10	Stream	5/7/2013	1.9
WS031-11	Stream	5/7/2013	540
WS031-3	Stream	5/7/2013	1.9
WS031-4	Stream	5/7/2013	27
WS031-5	Stream	5/7/2013	24
WS031-9	Stream	5/7/2013	2
WS030-7	Stream	4/24/2013	33
WS029-93	Stream	4/3/2013	4
WS030-1	Stream	4/3/2013	2
WS030-104	Stream	4/3/2013	2
WS030-105	Stream	4/3/2013	52
WS030-106	Stream	4/3/2013	2
WS030-107	Stream	4/3/2013	1.9
WS030-108	Stream	4/3/2013	1.9
WS030-11	Stream	4/3/2013	14
WS030-2	Stream	4/3/2013	2
WS030-3	Stream	4/3/2013	5.5
WS030-4	Stream	4/3/2013	4
WS030-5	Stream	4/3/2013	4
WS030-6	Stream	4/3/2013	15
WS030-7	Stream	4/3/2013	>1600
WS030-8	Stream	4/3/2013	2
WS030-9	Stream	4/3/2013	>1600
WS031-10	Stream	4/3/2013	1.9
WS031-11	Stream	4/3/2013	1.9
WS031-3	Stream	4/3/2013	2
WS031-4	Stream	4/3/2013	1.9
WS031-5	Stream	4/3/2013	4
WS031-6	Stream	4/3/2013	1.9
WS031-7	Stream	4/3/2013	70
WS031-8	Stream	4/3/2013	1.9
WS031-9	Stream	4/3/2013	1.9
WS029-93	Stream	3/15/2013	1.9
WS030-1	Stream	3/15/2013	8
WS030-106	Stream	3/15/2013	1.9
WS030-107	Stream	3/15/2013	8
WS030-108	Stream	3/15/2013	5.5

Location ID	Type	Sample Date	Score
WS030-11	Stream	3/15/2013	14
WS030-2	Stream	3/15/2013	6
WS030-3	Stream	3/15/2013	5.5
WS030-4	Stream	3/15/2013	6
WS030-5	Stream	3/15/2013	2
WS030-6	Stream	3/15/2013	4
WS030-7	Stream	3/15/2013	>1600
WS030-8	Stream	3/15/2013	4
WS030-9	Stream	3/15/2013	240
WS031-10	Stream	3/15/2013	1.9
WS031-11	Stream	3/15/2013	1.9
WS031-3	Stream	3/15/2013	1.9
WS031-4	Stream	3/15/2013	4
WS031-5	Stream	3/15/2013	1.9
WS031-6	Stream	3/15/2013	62
WS031-7	Stream	3/15/2013	50
WS031-8	Stream	3/15/2013	6
WS031-9	Stream	3/15/2013	1.9
WS029-93	Stream	3/13/2013	13
WS030-1	Stream	3/13/2013	2
WS030-10	Stream	3/13/2013	8
WS030-106	Stream	3/13/2013	10
WS030-107	Stream	3/13/2013	240
WS030-108	Stream	3/13/2013	360
WS030-11	Stream	3/13/2013	280
WS030-2	Stream	3/13/2013	31
WS030-3	Stream	3/13/2013	6
WS030-4	Stream	3/13/2013	27
WS030-5	Stream	3/13/2013	16
WS030-6	Stream	3/13/2013	106
WS030-7	Stream	3/13/2013	>1600
WS030-8	Stream	3/13/2013	1.9
WS030-9	Stream	3/13/2013	380
WS031-10	Stream	3/13/2013	4
WS031-11	Stream	3/13/2013	8
WS031-3	Stream	3/13/2013	2
WS031-4	Stream	3/13/2013	64

Location ID	Type	Sample Date	Score
WS031-5	Stream	3/13/2013	44
WS031-6	Stream	3/13/2013	6
WS031-7	Stream	3/13/2013	18
WS031-8	Stream	3/13/2013	2
WS031-9	Stream	3/13/2013	2
WS035-60	Stream	11/6/2012	4
WS042-63	Stream	11/6/2012	31
WS030-33	Stream	10/26/2012	10
WS030-67	Stream	10/26/2012	620
WS030-33	Stream	10/24/2012	11
WS030-67	Stream	10/24/2012	104
WS030-33	Stream	10/20/2012	660
WS030-67	Stream	10/20/2012	>1600
WS034-59	Stream	9/21/2010	40
WS034-59	Stream	8/16/2010	180
WS035-60	Stream	7/12/2010	138
WS034-59	Stream	6/23/2010	980
WS035-60	Stream	6/23/2010	600
WS042-63	Stream	6/23/2010	11
WS014-20	Stream	6/16/2010	18
WS034-59	Stream	6/16/2010	18
WS035-60	Stream	6/16/2010	4
WS042-63	Stream	6/16/2010	7.3
WS034-59	Stream	6/7/2010	420
WS042-63	Stream	6/7/2010	720
WS057-24	Stream	6/7/2010	66
WS034-82	Stream	6/2/2010	44
WS035-60	Stream	6/2/2010	54
WS040-62	Stream	6/2/2010	148
WS042-63	Stream	6/2/2010	122
WS028-21	Stream	11/22/2009	4
WS036-61	Stream	11/18/2009	1.9
WS034-59	Stream	10/27/2009	5.5
WS035-60	Stream	10/27/2009	12
WS042-63	Stream	10/27/2009	16
WS057-24	Stream	10/27/2009	5.5
WS034-59	Stream	9/30/2009	82

Location ID	Type	Sample Date	Score
WS035-60	Stream	9/30/2009	84
WS042-63	Stream	9/30/2009	220
WS057-24	Stream	9/30/2009	92
WS034-59	Stream	9/15/2009	160
WS035-60	Stream	9/15/2009	102
WS042-63	Stream	9/15/2009	120
WS057-24	Stream	9/15/2009	1540
WS034-59	Stream	9/1/2009	80
WS035-60	Stream	9/1/2009	48
WS035-60	Stream	7/15/2009	27
WS034-59	Stream	6/3/2009	18
WS035-60	Stream	6/3/2009	24
WS042-63	Stream	6/3/2009	20

Agricultural Activities

Farming operations and agricultural activities can have an adverse impact on water quality within the surrounding areas. Runoff from heavy rainfall events can quickly transport animal waste and fertilizers to the watershed causing elevated fecal scores which can result in shellfish closures. The farms along the shores of the Medomak River are small family operated farms consisting of one or two horses or some chickens. Several larger farming operations are located north of Route One, above areas classified for shellfish harvest. These farms are located several miles away from shellfish resource areas and have therefore never been inspected. Farming operations nearby the shore are inspected when the shoreline survey of the growing area is updated. Small farms did not appear to be directly impacting the Growing Area during routine shoreline survey.

Wildlife Activity

The fields, back coves, salt marshes and mudflats of the growing area provide valuable habitat to a variety of wildlife. Much of the Growing Area is forest with several large fields. There are over 40 conservation easements within the Medomak Valley area that protect over 4500 acres of wildlife habitat. Commonly observed bird species include a variety of gulls, sea and inland ducks, cormorants, geese, great blue herons, egrets, swans, and others. Mammals living within the growing area include dogs, cats, whitetail deer, muskrat, squirrels, chipmunks, rabbits, moles, mice, bats, shrews, weasels, skunks, raccoons, and others. Maine Inland Fish and Wildlife surveys indicate that migratory waterfowl numbers begin to increase in the early autumn months, and typically peak in late fall or early winter. Although large numbers of birds can, in theory, pose a threat the growing area water quality, such occurrences are very difficult to document.

Recreation Areas (parks, beaches, trails, campgrounds, etc.)

There are no large parks, public beaches, or campgrounds in Growing Area WS. There are a few small public parks and picnic areas along the upper Medomak River. Dogs are allowed in these parks but there are signs reminding users to dispose of pet waste properly. The Midcoast Conservancy has 10 preserves in the Medomak Valley area with trails that are available for public use. There are also two preserves with public hiking trails in Bristol on Muscongus Bay. In addition, there are at least 40 conservation easements in the Medomak Valley area meant to protect the land for wildlife. A few have public access, but most do not. Overnight camping is not permitted in any of these areas. Camping is allowed on a few of the islands at the northern end of Muscongus Bay. Crow and Thief island are part of the Maine Island Trail and allow primitive camping. No facilities are provided, and it is expected that all waste is carried out. Hog Island is owned by the National Audubon Society and has cabins and a house at the northern end of the island. There are toilet facilities provided. There are also primitive campsites on the southern tip of the island. Access to all of these locations is restricted to small boats, canoes, and kayaks so they are not heavily used by transient campers.

Hydrographic and Meteorological Assessment

Tides

Coastal Maine experiences a mixed, semi-diurnal tide, with diurnal inequalities that are more pronounced on spring tides. Except for very few isolated areas with extensive saltwater marshes, tides are not considered to be contributors to fecal contamination. The National Oceanic and Atmospheric Administration data for a station at Eastport indicate a mean tidal range of 18.35 ft. The mean tidal range for most of Maine is nine feet to 13 feet. Unlike areas with small diurnal tides, this extreme volume exchange results in significant bacterial dilutions. Currents in the area are predominantly driven by the tides. There are no conditional areas in the Growing Area managed based on tides.

Rainfall

The mean annual precipitation in growing area WS is approximately 37 inches and the precipitation is not evenly distributed throughout the year. The wettest months are generally April and November while August is typically the driest month. Much of the precipitation in the winter comes as snow and may affect runoff rates in spring upon melting. Flood closures are implemented when areas receive greater than two inches of rainfall in a twenty-four-hour period. Rainfall is monitored by numerous rain gauges located along the entire Maine coast and reported primarily through the Weather Underground website. Some areas of Maine have documented fecal influences resulting from rainfall of greater than one inch in a twenty-four-hour period. These areas are considered rainfall conditional areas and are Conditionally Approved based on the one-inch closure trigger. There are two conditional areas in the Growing Area (CA1 and CA2) that close when rainfall meets or exceeds one inch in a 24-hour period.

Maine DMR is working collaboratively with the University of Maine on a statewide coastal project determining how various watershed characteristics influence fecal contamination of marine waters

during rainfall events. This research clusters watersheds based on similar characteristics then models how rainfall and associated pollution is distributed. The model is being refined to incorporate margin watershed influences.

Winds

Migratory weather systems cause winds that frequently change in strength and direction. Gulf of Maine winds are generally westerly, but often take on a northerly component in winter and a southerly one in summer. Strongest winds are generated by lows and cold fronts in fall and winter and by fronts and thunderstorms during spring and summer. Extreme winds are usually associated with a hurricane or severe nor'easter and can reach 125 knots. In Maine, wind is not a contributor to fecal pollution because marine currents are primarily influenced by the size and duration of the normal tidal cycle.

River Discharge

The Medomak River is a narrow, shallow river at the head of tide which is nearby the center of Waldoboro. At low tide, this portion of the river becomes a narrow stream with large mud flats on either side. Above head of tide the river flows for nine miles from Medomak Pond and Meadow Brook winding through low wet areas which are surrounded by forests and farmland. The river remains very shallow until the area just above The Narrows nearby Pitchers Point. Just below this portion of the river there are strong ocean currents which flow around either side of Hungry Island and Bremen Long Island. Water quality data shows that the upper portion of the river is impacted primarily by rainfall. The Medomak River ultimately discharges into Muscongus Bay.

Hydrographic Influence

Water circulation in the Medomak River and Muscongus Bay are dominated by tides. The tidal range in the area is approximately 10 feet. Tides are caused by the gravitational effects of the moon and sun on the ocean; other influences are heavy rainfall, low barometric pressure and strong onshore winds which will increase tides and can increase the residency time of freshwater in the river. Tide levels fluctuate during the month based on the positions of the sun, moon, and earth. These fluctuations and the speed and direction of the tidal currents constantly change during a tidal cycle. Tidal currents have the greatest energy when water is pushed in and out of bays and channels during the highest and lowest tide levels. Growing area WS is subject to a semidiurnal tidal cycle with two high tides and two low tides per day. The tidal cycle is 12 hours and 25 minutes long, so that high and low tides are 50 minutes later each day. A study of water flow was conducted for the Medomak River in 2017 and 2018 by a graduate student from the University of Maine. Hydrographic models show freshwater residence time and impacts of other environmental factors on water circulation.

Water Quality Studies

A map of sampling stations is available in the overview section of this document.
Most marine fecal pollution of Maine waters comes from non-point sources. DMR uses Systematic Random Sampling (SRS) to monitor this influence and uses a pre-established schedule at an adequate frequency to capture all meteorological, hydrographic and/or other pollution events that trigger non-point pollution contribution. Using SRS will detect intermittent and unfavorable change in water quality and the program accepts the estimated 90th percentile (P90) as the standard to measure variance of a data set.

There are currently 47 active water sampling sites in Growing Area WS. It is recognized that access, icing and safety considerations can prevent some stations from being sampled on scheduled dates. Currently all stations in Growing Area WS meet their current NSSP classification standard.

Water Quality Discussion and Classification Determination

P90s for all active stations with a minimum of 30 samples were calculated and all stations meet their classification standards. The percent change in P90 score from 2020 to 2021 was calculated and only one station showed a substantial increase in P90 score. Station WS043.90 had a 52.5-point increase in calculated P90 score. This station was already classified as Prohibited so additional management was not needed. There was an increase in score at 33 percent of stations between 2020 and 2021 but the average score increase is only 1.3 points. There was a decrease in score at 52 percent of stations and the average decrease in score was -1.96 points. There were 13 percent of stations that saw no change in calculated P90 score. One station in CA1 (WS040.00) is close to failing the Approved standard during the conditionally open periods. Overall water quality is generally improving or remaining constant.
WS018.00 was deactivated in 2021 due to it being replaced by WS018.50.

Table 6. P90 calculations for stations with a minimum of 30 samples.

Station	Class	Count	GM	SDV	MAX	P90	Min_Date
WS017.00	A	30	3	0.31	18	7.7	4/18/2017
WS018.50	A	30	3.3	0.33	16	8.9	1/29/2018
WS019.00	A	30	2.8	0.32	24	7.4	4/18/2017
WS019.80	A	30	2	0.09	4	2.7	5/24/2017
WS021.00	A	30	2	0.1	5.5	2.7	4/18/2017
WS022.00	A	30	2.3	0.27	35	5.3	4/18/2017
WS024.00	A	30	2.1	0.17	12	3.6	4/18/2017
WS030.00	A	30	3.4	0.62	1700	21.6	4/18/2017
WS031.00	A	30	3.9	0.57	320	21.3	4/18/2017
WS032.00	A	30	2.9	0.33	26	7.8	4/18/2017
WS034.00	A	30	2.6	0.36	92	7.7	4/18/2017
WS035.00	A	30	1.9	0	2	1.9	4/18/2017
WS036.00	A	30	2.4	0.3	40	6	4/18/2017

Station	Class	Count	GM	SDV	MAX	P90	Min_Date
WS037.00	A	30	2.6	0.26	18	5.7	1/29/2018
WS038.00	A	30	2.8	0.33	25	7.5	10/3/2017
WS048.00	A	30	2.4	0.21	10	4.6	8/28/2017
WS048.40	A	30	2.9	0.31	23.6	7.2	3/20/2018
WS049.20	A	30	2.5	0.22	8	4.8	4/18/2017
WS050.00	A	30	2.7	0.26	11	6	8/28/2017
WS051.00	A	30	2.4	0.2	9.1	4.4	4/18/2017
WS052.00	A	30	2.1	0.13	7.3	3	4/18/2017
WS053.00	A	30	2.1	0.11	4	2.9	4/18/2017
WS055.00	A	30	2.3	0.28	25.5	5.3	4/18/2017
WS057.00	A	30	2.7	0.33	70	7.5	4/18/2017
WS065.00	A	30	2	0.1	7.3	2.7	5/17/2017
WS067.00	A	30	2	0.12	8	2.9	5/24/2017
WS069.00	A	30	1.9	0.05	4	2.3	5/24/2017
WS072.00	A	30	1.9	0	2	1.9	5/24/2017
WS041.00	P	30	4.4	0.48	240	18.3	9/19/2017
WS041.80	P	30	13.7	0.46	100	54.4	9/19/2017
WS043.90	P	30	33.5	0.52	1160	156.8	9/19/2017
WS060.00	P	30	2.5	0.35	134	7.3	4/18/2017
WS063.00	P	30	2	0.12	6	2.9	4/18/2017
WS054.00	R	30	3.3	0.5	100	14.5	4/18/2017
WS058.00	R	30	4.8	0.45	66	18.9	8/28/2017

WS CA1, 1" Rainfall May-November

Station	Class	Count	GM	SDV	MAX	P90	Min_Date
WS038.50	CA	40	4.4	0.48	94	18.8	9/27/2016
WS039.00	CA	40	5	0.5	104	22.4	8/17/2016
WS040.00	CA	40	6.1	0.53	58	29.3	6/16/2016
WS047.30	CA	40	3.3	0.4	154	11	8/17/2016

WS CA2, 1" Rainfall

Station	Class	Count	GM	SDV	MAX	P90	Min_Date
WS059.00	CA	40	6.2	0.48	106	26.1	6/16/2016

WS CA3, Closed 5/1 to 9/30

Station	Class	Count	GM	SDV	MAX	P90	Min_Date
WS049.00	CA	30	4.9	0.48	46	20.8	1/18/2017

WS CA4, Closed 7/1-11/30

Station	Class	Count	GM	SDV	MAX	P90	Min_Date
WS024.80	CA	30	2.3	0.21	9.1	4.3	4/18/2017
WS025.00	CA	30	3.9	0.49	62	16.7	6/19/2013
WS026.00	CA	30	4.1	0.53	160	20.1	6/19/2013
WS027.00	CA	30	2.6	0.35	46	7.7	6/19/2013
WS028.00	CA	30	4.6	0.52	82	21.5	5/7/2013

Emergency Closures: The reports summarizing emergency closures such as flood and biotoxin closures for the entire state are in the DMR central files.

Reclassifications*:* Reclassification addendums to the sanitary survey report are in the DMR central files.

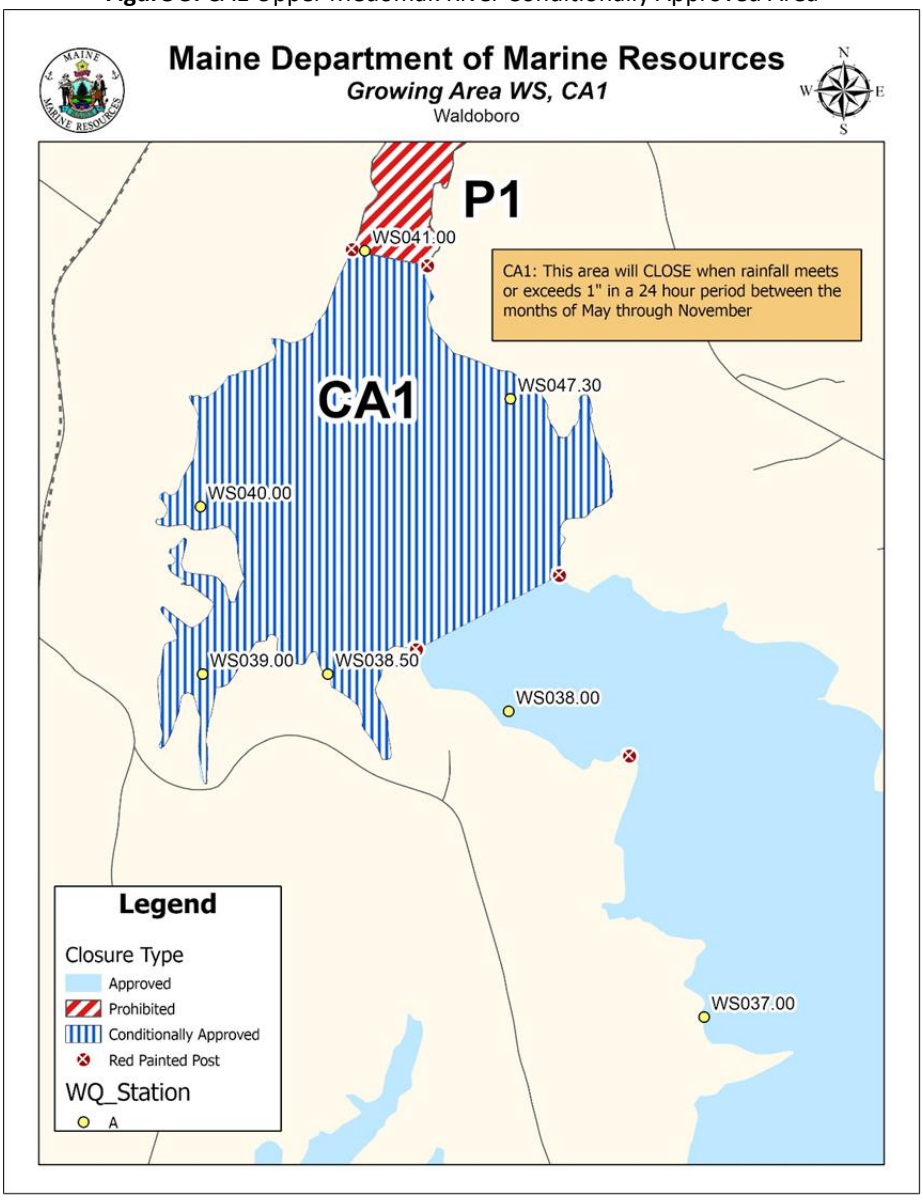
CAMP Reviews, Inspection Reports, and Performance Standards

Annual Review of CA1 Upper Medomak River, Waldoboro Conditional Area Management Plan

Scope

Pollution Area WS CA1, Upper Medomak River- Waldoboro, is classified as Conditionally Approved based on seasonal rainfall and is closed when rainfall totals exceed one inch over a 24-hour period during the months of May through November. The Upper Medomak River conditional boundaries include: South of a line beginning at a red painted post located on the shore approximately 220 yards south of a prominent point south of Laila Ln.(Waldoboro) running east to a red painted post on the eastern shore; AND north of a line beginning at a red painted post located at the eastern most point of Meetinghouse Cove located approximately 95 yards northeast from the end of Geele Lane running northeast to a red painted post on the southwestern most point of land known as Hoffse Point. The Upper Medomak Conditional Area is monitored by stations WS038.50, WS039.00, WS40, WS047.30. It is also monitored by boundary stations WS038.00, which is classified as Approved, and WS041.00, which is classified as Prohibited.

Figure 5. CA1 Upper Medomak River Conditionally Approved Area



Compliance with management plan

The Upper Medomak Conditional Area remains in compliance with the current conditional area management plan (CAMP). Water Quality staff adequately monitor and report rainfall in excess of one inch in 24-hours and the area is closed to harvest for the mandated period of time. There were 12 closures in Growing Area WS in 2021. Rainfall closures lasted for a minimum of nine days from the day the closure was initiated. See CAMP annual reviews for information on annual compliance with the current CAMP.

Adequacy of reporting and cooperation of involved persons
In the event that a conditional area closure must be implemented due to rainfall, the management plan for this conditional area uses online automatic rainfall data collected from active weather station gauges in the area.

Compliance with Growing Area criteria
The area continues to meet the criteria for Approved harvest during the open status based on P90 calculations and no other known sources of pollution in the area.

Water Sampling Compliance History
All Conditionally Approved stations were sampled a minimum of six times in the Open status. Additional collections occurred during closed status to monitor rainfall impact.

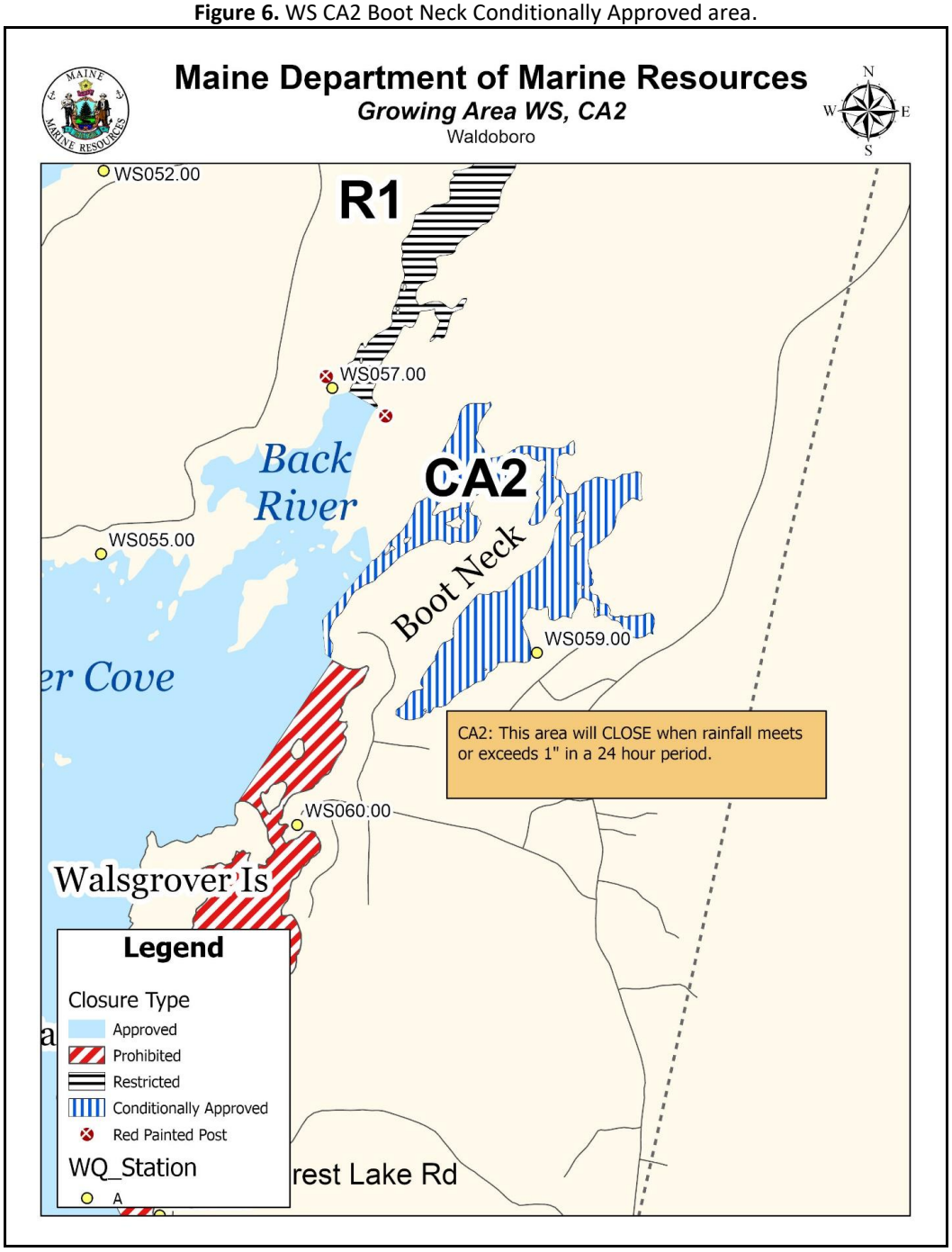
Analysis-Recommendations
The Upper Medomak River Conditional Area (CA1) continues to meet the standards for conditional harvest and remains in compliance with the CAMP. Samples with very low salinity have been collected from the area when there hasn't been recent rainfall. These samples are occasionally associated with high scores. The area should continue to be monitored for other adverse impacts such as tide or wind.

Annual Review of CA2 Boot Neck, Waldoboro Conditional Area Management Plan

Scope

Pollution Area WS CA2, Boot Neck, Waldoboro, is classified as Conditionally Approved based on rainfall and is closed when rainfall totals exceed one inch over a 24-hour period. Boot Neck boundaries include areas east of a line beginning at the southwest prominence of Boot Neck (Friendship), then running northeast approximately 300 yards to the southeast point on the unnamed point of land in the town of Waldoboro. This area is monitored by a single water quality station, WS059.00. The Boot Neck Conditional area southwestern boundary is determined by using a deep-water line, above the mean low water level, so that no mud is exposed near or around the boundary. This method has been used in lieu of using a water quality station to defend the border. Other stations in the area beyond the border of the conditional area (WS055.00, WS057.00 and WS060.00) meet Approved standards year-round.

Figure 6. WS CA2 Boot Neck Conditionally Approved area.



Compliance with management plan

The Upper Medomak Conditional Area remains in compliance with the current conditional area management plan (CAMP). Water Quality staff adequately monitor and report rainfall in excess of one inch in 24-hours and the area is closed to harvest for the mandated period of time. There were 12 closures in Growing Area WS in 2021. Rainfall closures lasted for a minimum of nine days from the day

the closure was initiated. See CAMP annual reviews for information on annual compliance with the current CAMP.

Adequacy of reporting and cooperation of involved persons
In the event that a conditional area closure must be implemented due to rainfall, the management plan for this conditional area uses online automatic rainfall data collected from active weather station gauges in the area.

Compliance with Growing Area criteria
The area continues to meet the criteria for Approved harvest during the open status based on P90 calculations and no other known sources of pollution in the area.

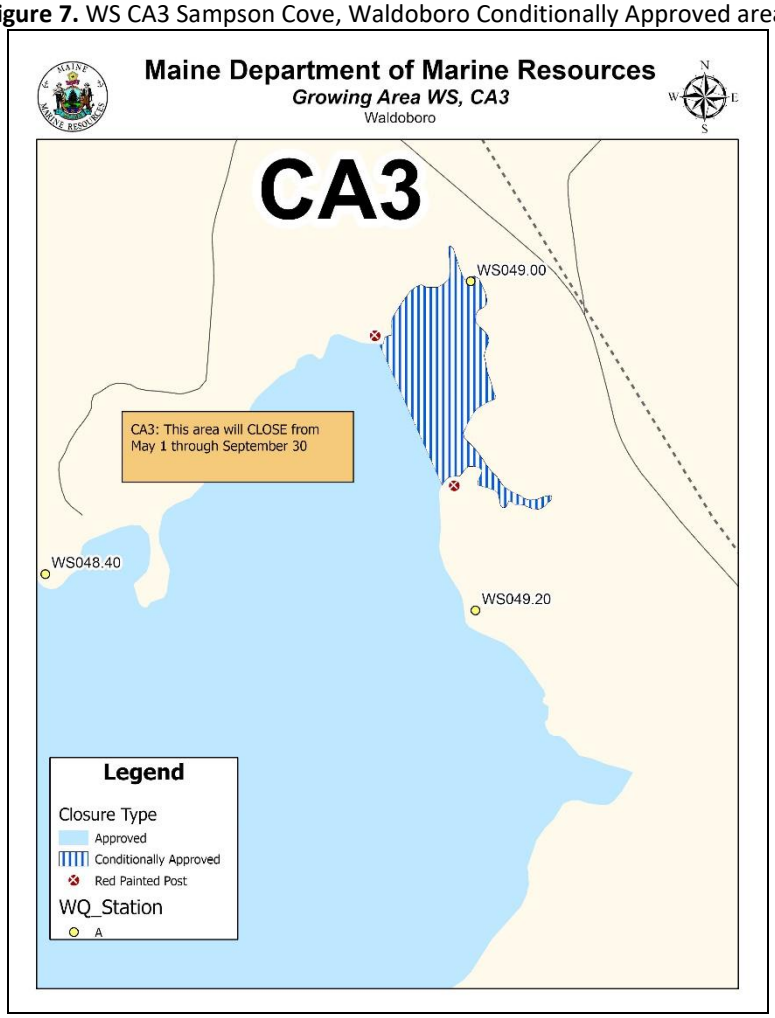
Water Sampling Compliance History
All Conditionally Approved stations were sampled a minimum of six times in the open status. Additional collections occurred during closed status to monitor rainfall impact.

Analysis-Recommendations
The Boot Neck Conditional Area (CA2) continues to meet the standards for conditional harvest and remains in compliance with the CAMP.

Annual Review of CA3 Sampson Cove, Waldoboro Conditional Area Management Plan

Scope
Sampson Cove (Waldoboro) is Conditionally Approved based on season; it will close May 1 to September 30. The boundary begins east of a line drawn running southeast from a red painted post located at a prominent un-named point on the north shore of the inner portion of Sampson Cove to a red painted post located on the point of land that forms the southern mouth of the unnamed brook on the eastern shore of Sampson Cove. Sampson Cove experiences freshwater discharge year-round from a stream located at the head of the cove. Wildlife impacts may also be present. It is monitored by water quality station WS049.00 with WS049.20 as a boundary station.

Figure 7. WS CA3 Sampson Cove, Waldoboro Conditionally Approved area.



Compliance with management plan

The Sampson Cove Conditional Area remains in compliance with the current conditional area management plan (CAMP).

Adequacy of reporting and cooperation of involved persons

No reporting is required for this conditional area.

Compliance with Growing Area criteria

The area continues to meet the criteria for Approved harvest during the open status based on P90 calculations and no other known sources of pollution in the area.

Water Sampling Compliance History

All Conditionally Approved stations were sampled a minimum of six times in the open status. Additional collections occurred during closed status to monitor seasonal impacts.

Analysis-Recommendations

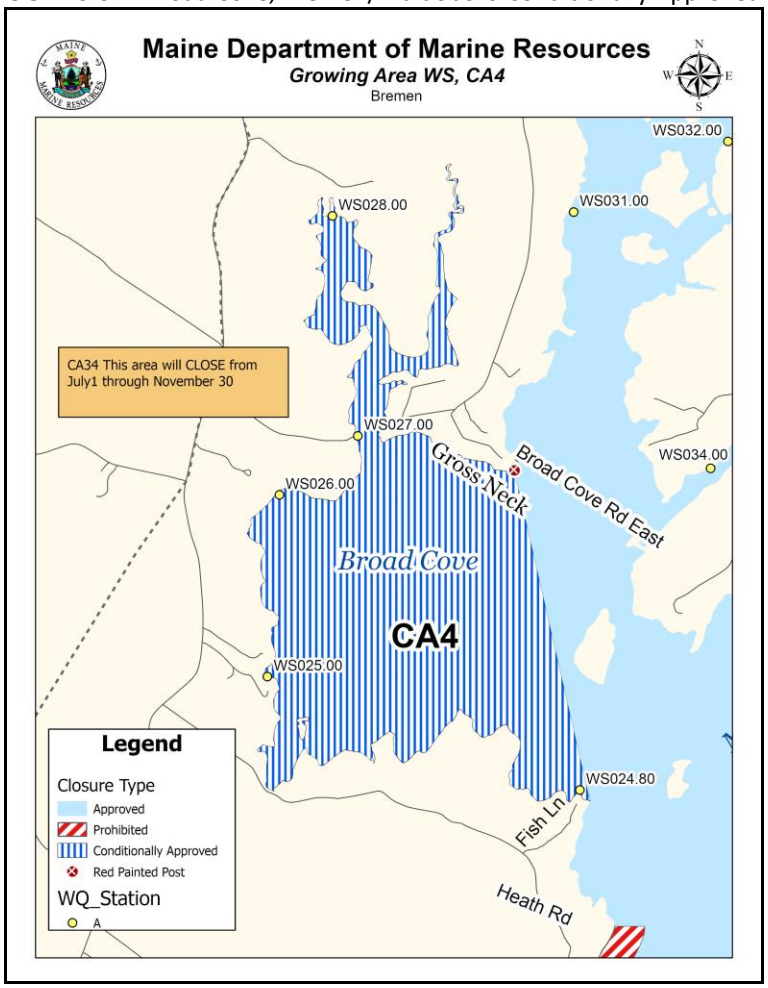
The Sampson Cove Conditionally Approved area continues to meet the standards for seasonal Approved harvest and remains in compliance with the CAMP. It is recommended that water quality monitoring be continued.

Annual Review of WS CA4 Broad Cove, Bremen/Waldoboro

Scope

Pollution Area CA4, Broad Cove is located in Bremen and Waldoboro, on the Medomak River. The area is Conditionally Approved based on season with an open status for harvest from December 1 through June 30. Boundaries are areas west of a line beginning at the northeastern point of land at the end of Fish Ln. (Bremen) running northwest to a red painted post on the southeastern point of Gross Neck at the end of Broad Cove Road East (Waldoboro). Water quality in the area is monitored by stations WS024.80, WS025.00, WS026.00, WS027.00, and WS028.00. Station WS030.00 serves as a boundary station.

Figure 8. WS CA4 Broad Cove, Bremen/Waldoboro Conditionally Approved area



Compliance with management plan
The Broad Cove Conditional Area remains in compliance with the current conditional area management plan (CAMP).

Adequacy of reporting and cooperation of involved persons
No reporting is required for this Conditional Area.

Compliance with Growing Area criteria
The area continues to meet the criteria for Approved harvest during the open status based on P90 calculations and no other known sources of pollution in the area.

Water Sampling Compliance History
All Conditionally Approved stations were sampled a minimum of six times in the open status. Additional collections occurred during closed status to monitor seasonal impacts.

Analysis-Recommendations
The Broad Cove Conditionally Approved area continues to meet the standards for seasonal Approved harvest and remains in compliance with the CAMP. Water quality has appeared to be improving over the last few years and upgrading the area by reducing the size and/or season of the closure should be investigated.

Recommendation for Future Work

During the 2022 season three areas are being assessed for an upgrade. No downgrades are necessary in Growing Area WS in 2022. Due to improved water quality in Broad Cove (CA4), it is being proposed that the entirety of the area be upgraded to Approved. Due to stable water quality and low calculated P90 scores at monitoring stations in Back River Cove (R2), it is being proposed that the entirety of the area be upgraded to Approved. Due to the removal of OBDs and low calculated P90 scores it is being proposed that the Wharton Island Cove (P3), area be reduced in size to encompass enough area to dilute the remaining OBD at the north end of the area. Investigative station WS050.25 was activated in 2022 and deactivating nearby station WS050.00 should be considered. Investigative station WS041.50 has reached its 30-sample count and has a year-round calculated P90 of 21.4 cfu/100ml. This station should be activated.

Table 7. Count table of samples collected in Growing Area WS during the 2021 season

Station	Class	Closed	Open	Samples	Samples Required	Comments
WS017.00	A		6	6	6	
WS018.00	R		1	1	6*	*Deactivated during 2021
WS018.50	A		4	6	6	Upgraded to A 5/21
	R		2			
WS019.00	A		6	6	6	
WS019.80	A		6	6	6	
WS021.00	A		6	6	6	
WS022.00	A		6	6	6	
WS024.00	A		6	6	6	
WS024.80	CA	3	6	9	6	
WS025.00	CA	3	6	9	6	
WS026.00	CA	3	6	9	6	
WS027.00	CA	3	6	9	6	
WS028.00	CA	3	6	9	6	
WS030.00	A		6	6	6	
WS031.00	A		6	6	6	
WS032.00	A		6	6	6	
WS034.00	A		6	6	6	
WS035.00	A		6	6	6	
WS036.00	A		6	6	6	
WS037.00	A		6	6	6	
WS038.00	A		6	6	6	
WS038.50	CA	2	7	9	6	
WS039.00	CA	2	8	10	6	
WS040.00	CA	2	7	9	6	
WS041.00	P	6		6	6	
WS041.80	P	6		6	6	
WS043.90	P	6		6	6	
WS047.30	CA	2	8	10	6	
WS048.00	A		6	6	6	
WS048.40	A		6	6	6	
WS049.00	CA	2	6	8	6	
WS049.20	A		6	6	6	
WS050.00	A		6	6	6	
WS051.00	A		6	6	6	
WS052.00	A		6	6	6	

Station	Class	Closed	Open	Samples	Samples Required	Comments
WS053.00	A		6	6	6	
WS054.00	R		6	6	6	
WS055.00	A		6	6	6	
WS057.00	A		6	6	6	
WS058.00	R		6	6	6	
WS059.00	CA	1	8	9	6	
WS060.00	P	6		6	6	
WS063.00	P	6		6	6	
WS065.00	A		6	6	6	
WS067.00	A		6	6	6	
WS069.00	A		6	6	6	
WS072.00	A		6	6	6	

References

National Shellfish Sanitation Program: Guide for the Control of Molluscan Shellfish, 2019 Revision;

Town Information, Maine Census Data, https://www.maine.gov/dep

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Medomak River Study; https://digitalcommons.library.umaine.edu/etd/3136/

Appendix A.

Key to Water Quality Table Headers
Station = water quality monitoring station
Class = classification assigned to the station; Prohibited (P), Restricted (R), Conditionally Restricted (CR), Conditionally Approved (CA) and Approved (A).
Count = the number of samples evaluated for classification, must be a minimum of 30.
GM = means the antilog (base 10) of the arithmetic mean of the sample result logarithm (base 10).
SDV = standard deviation
Max = maximum score of the 30 data points in the count column
P90 = 90th percentile, Approved standard is 31, Restricted standard is 163
Min_Date = oldest date sampled included in the calculations.
X = investigative station

Reference Material

An interactive map is available on the DMR website for reference. This map includes water quality station locations, end of year P90 scores, current classifications, and other information.
https://www.maine.gov/dmr/shellfish-sanitation-management/maps/index.html