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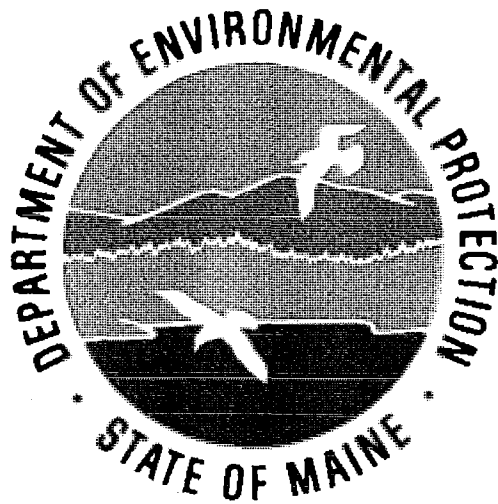
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Coastal Pumpout Plan

2001 to 2005



Martha Kirkpatrick, Commissioner

Report Prepared by:
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Pumpout Grant Program
Bureau of Land and Water Quality

September 21, 2001



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ANGUS S. KING, JR.
GOVERNOR

MARTHA KIRKPATRICK
COMMISSIONER

MEMORANDUM

TO: Senator John Martin and Representative Scott Cowger, Chairmen
Members of the Natural Resources Committee
FROM: *Martha Kirkpatrick*
Martha Kirkpatrick, Commissioner
DATE: October 1, 2001
RE: Coastal Pumpout Plan

In accordance with the requirements of PL 1999, Chapter 655, "An Act to Rid Maine's Water of Ocean Vessel Sewage", the Maine Department of Environmental Protection has prepared this report for the Legislature.

A summary of the report can be found on Page 1 in the "Purpose" section. If you have any questions or comments regarding this report, please feel free to contact Pam Parker at 287-7905 or via e-mail at pamela.d.parker@state.me.us.

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STATE OF MAINE
COASTAL PUMPOUT PLAN
September 21, 2001

Purpose:

In April, 2000 the Legislature enacted PL 1999, Chapter 655, "An Act to Rid Maine's Waters of Ocean Vessel Sewage". Part A, Section A-1(3) required the Maine Department of Environmental Protection (DEP) to develop a plan for the construction, renovation or maintenance of pumpout facilities adequate to meet the needs of watercraft using the coastal waters of the State. The plan is to be submitted to the joint standing committee of the Legislature having jurisdiction over natural resource matters. The purpose of this document is to fulfill that requirement.

This document provides a brief history of the Maine Pump Out Grant Program (PGP), an overview of the recreational boating context, the methodology for developing the harbor priority list, the ranking system and completed ranking, and the year-by-year plan for the PGP. Once completed in 2005, the PGP will have installed approximately 40 new pumpout stations, and provided at least 4 mobile pumpout vessels, resulting in most harbors along the coast of Maine being within 4 miles of a pumpout station. In addition, the PGP will have conducted an extensive public education plan to encourage boat owners to use the pumpout systems, conducted regular maintenance inspections of the pumpout systems and provided marinas with technical and financial support to help maintain their systems. Finally, this plan calls for the DEP to apply for "No Discharge Area" designations for selected harbors and bays in 2004.

Background:

Maine has gone to significant lengths to protect its shoreline and coastal waters through the regulation of point source pollution, management and removal of combined sewer overflows and regulation of coastal land development. Although significant strides have been made to clean up the point sources of pollution, an underlying and more difficult problem of non-point source pollution is often revealed. Approximately 202,616 acres of shellfish harvesting areas (10.7% of the total) are closed to shellfishing due to the threat of bacterial contamination. Stormwater, urban runoff, failing septic systems, illegal discharges, and mobile source discharges from boats cause these closures, resulting in an estimated loss of \$100 million dollars of revenue within the state per year. In addition, some harbors become so polluted in the summer that swimming and other in-water activities become unappealing or risky due to waterborn pathogens.

Many of the point sources of pollution are well regulated by the Clean Water Act and the State's water quality laws, as well as regulations through the Coast Guard, the DEP, and the United State Environmental Protection Agency (USEPA). Maine has begun to address stormwater

contamination with an aggressive combined sewer overflow elimination plan, the enactment of the Stormwater Management Law in 1998, and continuing efforts to identify and eliminate failing or illegal domestic waste water systems. State environmental laws such as the Mandatory Shoreland Zoning Act and the Natural Resources Protection Act are designed to control the development of sensitive coastal areas and to limit the amount of non-point source pollution. The state's Small Communities Grant Program (SCGP) funds the repair or replacement of many failing or illegal systems every year. Since its beginning in 1982, the SCGP has repaired or replaced approximately 3,500 systems. The Overboard Discharge Grant Program (ODGP) is designed to eliminate approved discharges to targeted shellfish areas so those areas may be opened for harvesting. Since 1991, the ODGP has removed over 170 systems and facilitated the opening of 4,500 acres of shellfish harvesting areas.

One of the sources of bacterial pollution that is not well controlled in Maine comes from the illegal discharge of sewage from cruising and fishing boats. Between 1970 and 1997, the number of registered boats on the Maine coast more than tripled to over 56,000. Of the registered boats in coastal waters, it is estimated that approximately 5,900 used marine sanitation devices (MSDs) of some kind. These numbers do not include the significant transient boat traffic estimated to be nearly 8,000 boats per year, almost all of which are cruising boats equipped with MSDs. The percentage of those nearly 14,000 boats that are equipped with holding tanks (MSDIIs) is unknown but is estimated to be nearly 50%.

Past Work:

Since 1993, Maine has worked toward increasing the availability of boat pump-out stations along the coast and increasing the public's awareness of the facilities through the Federal Clean Vessel Act funding. Until 1998, the grants were administered by the State Planning Office (SPO). Starting in 1999, the grant program has been administered by the DEP. The following is a summary of the Maine pump-out grant program's accomplishments:

- Extensive inventory of available pump-out services available and need survey completed (1994).
- The Maine Marine Sewage Management Plan (1995).
- 25 new pump-outs funded (stationary and portable).
- A mobile pump-out boat for Casco Bay funded along with operating costs (1997). (The boat is managed by the Friends of Casco Bay).
- Printed and distributed education and outreach materials, including a booklet for marinas and municipalities and laminated list of pump-out stations along the coast.

As part of the previous grant agreement, SPO had committed to siting and funding a mobile pump-out unit in Penobscot Bay. Because of personnel changes, and the part-time nature of the SPO program, this objective was not achieved. DEP is committed to following through with this objective in addition to others outlined below.

In 1995, SPO compiled data on existing boat pump-outs and the number of vessels potentially having and using holding tanks in Maine's waters. This information formed the basis for the

1995 Maine Marine Sewage Management Plan (MMSMP). The plan summarized the data on registered vessels, estimated the number of boats that would be equipped with MSDs and set some goals for the pumpout grant program.

After the Clean Vessel Act was reauthorized in 1998, the state had the opportunity to re-apply for the grant program and significantly revamp the program. After discussion, DEP and SPO concluded that the program was best suited for administration through the DEP. The DEP applied for and received approval for a substantially larger grant program. Details of the grant proposal and award are available from the DEP PGP administrator.

Current Status:

The Maine PGP has been successful in a number of ways but there is plenty of work yet to be done due to rapidly increasing recreational boat traffic along the coast. The PGP has almost tripled the number of pump-outs available on the coast and, through education and outreach materials, has increased the level of pump-out use throughout the coast. The activities of the Friends of Casco Bay, funded in part by the PGP, have dramatically increased awareness of the water quality impacts of sewage discharges and the use of pump-outs in Casco Bay. DEP continues to make strides on the water quality front by assisting the Department of Marine Resources in the opening of shellfish harvesting areas, and by upgrading the water quality classifications for certain coastal waters to prevent future discharges.

The actual use of pump-outs in Maine is not well documented, but is estimated to represent only a small fraction of all boats with holding tanks. For instance, the Friends of Casco Bay pumpout boat performed around 750 pumpouts during 2000. Although this volume is a significant increase from the previous year, it represents serving only a fraction of the boats located in the service area. Reports from stationary pumpout operators in the same area indicate light use of the stations. This information begs the question of what is happening to the rest of the waste. We fear that much of it is going directly into the coastal waters. This evidence indicates that an extensive education and outreach plan, targeted at recreational boaters, will be essential to the effectiveness of the program

Maine continues to see growth in tourism and transient boat traffic. Since 1994 the total number of registered vessels has increased 18%, with a corresponding increase in the estimate of coastal vessels with MSDs. In 1994, SPO estimated transient traffic to be less than 5,000 boats per season. A brief informal survey by DEP in 1998 indicated estimated transient traffic at between 5,000 and 8,000 vessels per season. Because transient traffic normally consists of cruising boats, the estimated percentage with MSDs should be higher than general registered vessels.

Priority Development:

Historically, the state has relied on facilities deciding on their own to install a pump-out rather than asking them directly to be the "host". This has resulted in sporadic and inconsistent siting of facilities along the coast. The DEP believes the more direct approach outlined in this plan will be more effective. In the 1995 MMSMP, SPO determined that the coastline contained at least

100 "significant" harbors. The harbors are considered "significant" due to the number of boats normally sheltered, the harbor flushing capability, the presence of sensitive habitats, and the presence or absence of other known sources of pollution. SPO determined that these 100 harbors should be targeted for pumpout installation.

To expand upon with this concept, the DEP compiled an inventory and set out to prioritize the roughly 360 recognized harbors along the vast coast of Maine. The harbor inventory was generated using well known cruising guides, and although probably not the definitive list of all anchorages, we are confident it represents at least 98% of those recognized by cruising boaters. DEP worked with an informal advisory group to specify criteria that were essential to determine a harbor's "significance" in terms of boating patterns and pumpout systems and how this "significance" translated into the harbor's priority. The group also worked to create a formula to generate a ranking system. The criteria were assigned a numbered scale and data were gathered to complete the database. In order to simplify the criteria, the group decided to use an abbreviated, somewhat qualitative, scale. The criteria descriptions and scale, and ranking formula are in Appendix A. The ranked Pumpout Priority List is in Appendix B. A map of the priority harbors can be found in Figure 1.

After reviewing the pumpout priority list and discussing the feasibility of pumpout installation in some more remote areas of the coastline, *the DEP believes that revising the goal from a pumpout in all the priority harbors to having a pumpout within 4 miles of the priority harbor is appropriate and attainable.* The revised goal is hinged on the effectiveness of the education and outreach plan in convincing boaters to properly dispose of their waste water. If the boater is inclined, the DEP believes most boaters would be willing to travel up to 1 hour to properly dispose of waste water and most cruising vessels could travel at least 4 miles within an hour. Further, it may be impractical to try to site a pumpout system in some areas. Modifying the goal of a pumpout in every priority harbor also allows pumpouts to be sited in less remote areas and provides more flexibility easing pumpout maintenance and operation. Currently 51 priority harbors, and 145 harbors in all, are within 4 miles of a pumpout station.

In addition to the Pumpout Priority List, DEP has committed to enforcing the provisions of 38 M.R.S.A. §423-B. This section of law requires coastal marinas over a certain size to have operational pumpouts or DEP approved contractual agreements for pumpout service. All coastal marinas having a total of 18 or more slips and/or moorings for boats greater than 24 feet in length meet the threshold for pumpout requirement.

The DEP has analyzed a number of resources to develop a list of facilities that appear to trigger the pumpout requirement in §423-B. Currently, there appear to be 25 facilities that trigger the threshold that do not have pumpout stations. Of those 25 facilities, 23 of them are located in a priority harbor. Pumpout installation at these 25 facilities will result in 13 more priority harbors receiving a pumpout station. As of July 15, 2001 all of the facilities subject to the requirements of §423-B have been contacted by mail, notified of the legal requirements, given the opportunity to correct any errors in the data, and required to install a pumpout station by May 2002. Any facility that refuses to comply will be subject to enforcement action. A map of the existing and required pumpout stations can be found in Figure 2.

All facilities that have installed a pumpout system and are subject to §423-B are also required to maintain their system in good working order. Facilities with pumpouts that are not subject to the requirements of §423-B but have received grant funds for their pumpout system are required to maintain their systems or refund a portion of the grant money they received. The DEP will be conducting regular inspections of all pumpout systems to ensure that they function properly.

Once all facilities required to have a pumpout have installed one or have an approved contract for pumpout services, there will be 48 priority harbors still without a pumpout station within the harbor itself. However, only 31 will not have a pumpout station within 4 miles. These harbors do not have any facility required to have a pumpout station and may not have any obvious hosts capable of installing a system. The PGP project manager will work closely with any facilities in the targeted harbors and the towns to find a way to install a pumpout system. Several of these priority harbors may be able to be served by a centrally located pumpout system reducing the pumpout system installation needs to less than 31. A tabular breakdown of this information is provided below.

Pumpout Needs

Priority harbors	100
Priority harbors with existing or required pumpouts	52
Priority harbors within 4 miles of existing or required pumpout	17
Priority harbors not within 4 miles of existing or required pumpout	31

The eventual outcome of the pumpout plan will be pumpout stations in approximately 100 harbors along the Maine coast and pumpouts in the major lakes by December, 2004. Further, the DEP estimates that over half of all the harbors along the coast of Maine will have a pumpout station within 4 miles.

Finally, PL1999 Chapter 655 requires that the DEP apply to the USEPA for "No Discharge Area" designation for appropriate harbors and bays and prepare a report for the State legislature regarding feasibility of a statewide "No Discharge Area". "No Discharge Area" is a federally designated body of water that prohibits the discharge of treated and untreated boat sewage. Federal Law prohibits the discharge of untreated sewage from vessels within all navigable waters of the U. S., which include territorial seas within three miles of shore. If a harbor or bay is designated a "No Discharge Area" all vessels must use a holding tank for their waste water. Use of other marine sanitation devices is not allowed.

Yearly Plans:

2001

Contact all facilities required by section §423-B to have a pumpout (approximately 25).
(Completed)

Schedule installation of pumpouts at these required facilities.

Conduct inspections of all existing pumpouts.

Install mobile pumpout vessels in Penobscot Bay and Mount Desert Island.

With the help of the advisory group, develop an education and outreach plan for boat owners to encourage the use of pumpouts.

Implement education and outreach plan.

2002

Evaluate remaining 31 priority harbors without pumpouts for potential "host" facilities.

Contact potential "host" facilities.

Schedule installation of at least 10 new pumpout facilities.

Conduct inspections of all existing pumpouts.

Implement education and outreach plan and evaluate.

2003

Evaluate remaining priority harbors without pumpouts for potential "host" facilities particularly targeting those without a pumpout within four miles of the harbor.

Contact potential "host" facilities.

Schedule installation of at least 10 new pumpout facilities.

Conduct inspections of all existing pumpouts.

Prepare report to the legislature regarding status of this plan and plans for enforcing "No Discharge Zones" in the state.*

2004

Apply to the USEPA for "No Discharge Area" designation for appropriate harbors and bays.*

Prepare report for State legislature regarding feasibility of a statewide "No Discharge Area".*

* Required by PL1999 Chapter 655

Appendix A Ranking Formula and Criteria

In order to create a fairly objective prioritization of all the harbors in Maine, the pumpout advisory group selected critical criteria then developed a formula to use those criteria. The criteria were narrowed from an initial list of over 20 to 8 for simplicity. The group then decided to use a fairly gross scale, again for simplicity, with the highest score receiving the highest priority. The logic behind criteria and the scale for each are detailed below.

Ranking Criteria:

A. Existing Point Sources

Other point sources of pollution need to be considered in the prioritization because they can impact the overall water quality and impacts on sensitive resources. Removal of any pollution from boats may incrementally improve the water quality but it may not result in significant changes if point sources are also present. Therefore, if a harbor did not have other point sources of pollution, it may be more sensitive to improvements resulting from increased pumpout use. The point sources evaluated included municipal treatment plant discharges, combined sewer overflows, industrial discharges and overboard discharges. The DEP used the GIS system to determine how many different types of point sources were located in the harbor, and that number was then translated into a value as follows.

No point sources = 3 points
1 type of point source = 2 points
2 types of point sources = 1 point
All types of point sources = 0 points

B. Water Quality

The current water quality of a harbor was also deemed an important criterion. However, in this case, because the majority of coastal waters are only impaired by high bacteria levels, the group determined that waterbodies not attaining water quality standards should receive a higher score. This conclusion was based on the premise that boats, although certainly not the only source of bacteria to harbors, could significantly impact the harbor water quality. The DEP used water quality data from our own sampling efforts as well as extensive data provided by the Department of Marine Resources (DMR) to determine whether the harbor was meeting water quality standards. The data from DMR has been statistically evaluated as accurate 90% of the time. Water quality scores for bacteria that are below 15 colonies per 100 milliliters meet water quality standards for shellfish harvesting, a designated use of all marine or estuarine waters of the state. Scores of 15 to 30 col/100ml were determined to be in marginal compliance, waters scoring over 30 col/100ml were determined to not be attaining standards. Water bodies that did not have data were assumed to be attaining standards.

Attaining standards (0-15col/100ml) = 1 point
Marginal attainment (>15-30 col/100ml) = 2 points
Non-attainment (>30 col/100ml) = 3 points

C. Sensitive Resources

The group felt it essential to account for the impacts of potential pollution from boats by evaluating the presence of sensitive natural resources in the harbor. The resources evaluated were: shellfish harvesting areas, aquaculture leases, endangered species habitat, and state identified natural areas. The criterion was set up so the higher the number of natural resources in the harbor, the higher the score. The DEP used GIS data from DMR and other projects done by the DEP to evaluate the number of resources in each harbor.

No resources = 0 points
Few resources (2 or less) = 1 point
Some resources (3-4) = 2 points
Many resources (>4) = 3 points

D. Boat Services

The group felt that harbors that offered more services would be more likely to see higher levels of transient boats and would be both potentially more impacted by those boats as well as being more likely to be able to provide pumpout services. This criterion was evaluated using references to facilities provided by cruising guides that were updated by recent periodicals.

No services = 0 points
Limited services (Ex. moorings or restaurant only) = 1 point
Some services (Ex. Moorings/slips, gas, food, repairs) = 2 points
All services = 3 points

E. Number of boats

Obviously the number of boats that can visit a harbor at one time significantly affects the potential impact boaters could have on the water quality in the harbor, and it is difficult to know how many of those boats have installed heads. Because little data exists on the actual number of boats that frequent each harbor, the group had to make large groupings. This factor has the greatest variability and is subject to the most uncertainty of all of the criteria.

Few boats (less than 10) = 1 point
Some boats (10-30 boats) = 3 points
Many boats (over 30) = 5 points

F. Flushing

The amount of water that moves in and out of a harbor can drastically affect the potential impact of boaters on the water quality. Actual flushing calculations are very involved and require significant modeling. However, for the purpose of this ranking, the DEP engineers felt that 4 basic divisions would adequately segregate the basic flushing characteristics of the harbors.

Open ocean, large embayment or deep open mouthed harbors = 1 point

Large embayment, large mouthed-shallow harbors, or high flow estuaries (rivers) = 2 points

Small embayment, enclosed mouth moderate-deep = 3 points

Low flow estuaries, enclosed mouth shallow = 4

G. Existing pumpouts

Harbors with existing pumpouts, although no less sensitive, are already able to handle a certain amount of boat waste. The group determined that the impact of the number of boats (score under "E") can be directly modified by the presence of existing pumpouts. The group decided that the value for the existing pumpouts should be a multiplier for the number of boats.

1 existing pumpout = multiply (E) by .75

2 or more existing pumpouts = multiply (E) by .50

Ranking Formula:

The advisory group came up with a ranking formula that was made to be simple but provide an adequate spread for prioritization. The ranking formula, $\{(A+B+C+D)(E*G)\}F = \text{score}$, results in a maximum score of 240 and a minimum score of 2. Based on the advisory groups review, it appears the formula captures the criteria in the right relationship to one another to reflect the overall priority for receiving pumpouts.

In detail, the formula adds the criteria scores from point sources, water quality, sensitive environments, and boat facilities. The number of boats score is multiplied by the pumpout score and multiplied by the sum of the first four criteria. So, in gross terms, the environmental sensitivity scores are multiplied by a boat number score that may have been modified by the number of exiting pumpouts. Finally, the product is multiplied by the flushing score. This means that the flushing ability of a harbor carries a lot of weight in the score.

Appendix B

Priority Harbors

Rank	Harbor	Town	point sources	attainment	sensitive	boat facilities	# of boats	flushing	pumpout	Score
1	Christmas Cove	South Bristol	2	3	3	2	5	4	1	200.00
2	Orrs Cove	Harpswell	2	3	1	3	5	4	1	180.00
3	Kennebunk River	Kenebunk	1	3	1	3	5	4	1	160.00
4	Round Pond	Bristol	2	3	0	3	5	4	1	160.00
5	Bucks Harbor & Lem's Cove	Brooksville	2	3	1	3	5	3	1	135.00
6	New Meadows River	Brunswick	2	3	1	3	5	4	0.75	135.00
7	Northeast Harbor	Mount Desert	2	3	1	3	5	4	0.75	135.00
8	Back Channel	Kittery	2	3	1	2	5	3	1	120.00
9	Tenants Harbor	St George	2	3	0	3	5	3	1	120.00
10	York Harbor	York	2	1	2	3	5	3	1	120.00
11	Thomaston	Thomaston	2	3	2	3	5	3	0.75	112.50
12	Biddeford Pool	Biddeford	3	1	2	3	3	4	1	108.00
13	Cape Small Harbor	Phippsburg	3	3	2	1	3	4	1	108.00
14	Ames Cove	Islesboro	3	1	1	2	5	3	1	105.00
15	Center Harbor	Brooklin	2	2	1	2	5	3	1	105.00
16	Bass Harbor	Tremont	2	3	1	3	5	3	0.75	101.25
17	Camden Harbor	Camden	1	3	2	3	5	3	0.75	101.25
18	Benjamin River	Sedgwick	3	2	1	2	3	4	1	96.00
19	Blue Hill Harbor	Blue Hill	1	3	1	3	3	4	1	96.00
20	Inner Harbor	Winter Harbor	3	2	1	2	3	4	1	96.00
21	Somesville Harbor	Mount Desert	2	2	2	2	3	4	1	96.00
22	Merepoint Bay	Brunswick	2	1	2	3	5	3	0.75	90.00
23	Pepperal Cove	Kittery	2	2	2	3	5	2	1	90.00
24	Horseshoe Cove	Brooksville	3	1	1	2	3	4	1	84.00
25	Little River	Boothbay	2	2	2	1	3	4	1	84.00
26	The Basin	Phippsburg	3	2	2	0	3	4	1	84.00

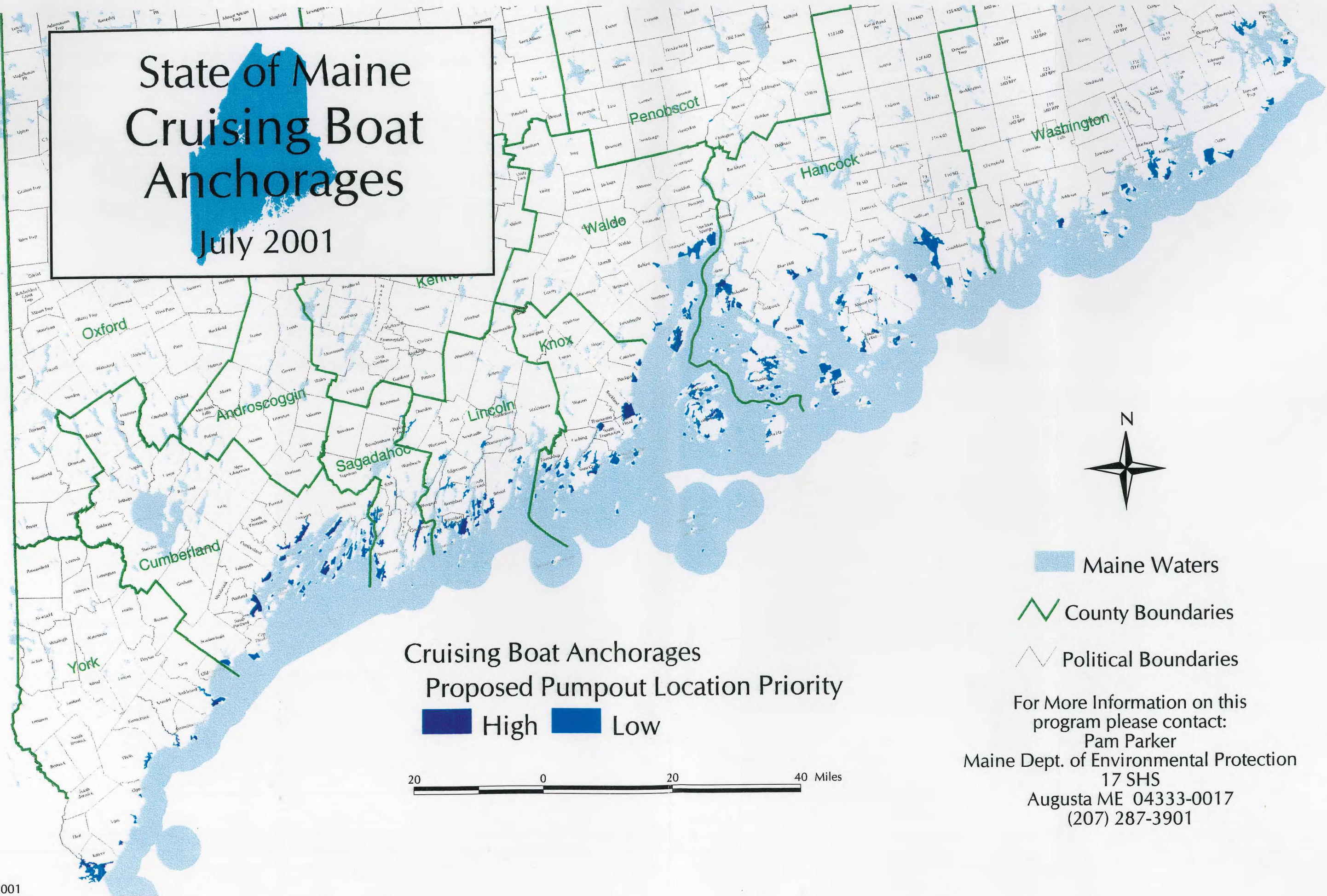
27	Cape Porpoise Harbor	Kennebunkport	3	3	1	2	3	3	1	81.00
28	Cutler	Cutler	2	3	2	2	3	3	1	81.00
29	Mackerel Cove	Harpowell	2	3	1	3	3	3	1	81.00
30	Pemaquid Harbor	Bristol	2	2	2	2	5	2	1	80.00
31	Rockport	Rockport	2	2	2	2	5	2	1	80.00
32	Royal River	Yarmouth	1	3	1	3	5	4	0.5	80.00
33	Maddock Cove	Southport	2	1	1	3	5	3	0.75	78.75
34	Perkins Cove	Ogunquit	2	1	0	2	5	3	1	75.00
35	Potts Harbor	Harpowell	2	3	2	3	5	2	0.75	75.00
36	Snow Island	Harpowell	3	1	1	0	5	3	1	75.00
37	Eastern Harbor	Addison	2	2	1	1	3	4	1	72.00
38	Frenchboro	Frenchboro	2	1	1	2	3	4	1	72.00
39	Poorhouse Cove	South Bristol	3	1	2	0	3	4	1	72.00
40	Pulpit Harbor	North Haven	2	1	2	1	3	4	1	72.00
41	Gilkey Harbor	Islesboro	3	1	2	1	5	2	1	70.00
42	Little Cranberry Island	Cranberry Isles	2	2	1	2	5	2	1	70.00
43	Seal Harbor	Mount Desert	3	1	1	2	5	2	1	70.00
44	East Boothbay	Boothbay	2	3	1	3	5	2	0.75	67.50
45	Burnt Coat Harbor	Swan's Island	2	3	1	1	3	3	1	63.00
46	Corea	Gouldsboro	2	3	0	2	3	3	1	63.00
47	High Head Yacht Club	Harpowell	3	1	2	1	3	3	1	63.00
48	Long Island	Harpowell	3	3	1	0	3	3	1	63.00
49	McHeard Cove	Blue Hill	2	3	1	1	3	3	1	63.00
50	New Harbor	Bristol	2	3	0	2	3	3	1	63.00
51	Perry Creek	Vinalhaven	3	1	3	0	3	3	1	63.00
52	Stonington	Stonington	1	3	2	3	3	3	0.75	60.75
53	Castine	Brooksville	1	3	1	3	5	2	0.75	60.00
54	Harraseeket River	Freeport	2	1	2	3	5	3	0.5	60.00
55	Manset	Southwest Harbor	2	3	0	3	5	2	0.75	60.00
56	North Haven Thorofare	North Haven	1	1	2	2	5	2	1	60.00

57	Peaks Island	Portland	2	1	1	2	5	2	1	60.00
58	Portland Harbor	Portland	0	3	2	3	5	3	0.5	60.00
59	Sebasco Harbor	Phippsburg	2	3	2	3	3	2	1	60.00
60	Sorrento Harbor	Sorrento	1	1	1	2	3	4	1	60.00
61	Southwest Harbor	Southwest Harbor	1	3	1	3	5	2	0.75	60.00
62	Stage Island Harbor		3	1	1	0	3	4	1	60.00
63	Winter Harbor	Vinalhaven	2	1	2	0	3	4	1	60.00
64	Falmouth Foreside	Falmouth	3	3	2	3	5	2	0.5	55.00
65	Carver's Harbor	Vinalhaven	0	3	1	2	3	3	1	54.00
66	Cousins Island	Yarmouth	3	1	2	0	3	3	1	54.00
67	Cradle Cove	Islesboro	3	1	2	3	3	2	1	54.00
68	Greenlaw Cove	Deer Isle	3	2	1	0	3	3	1	54.00
69	Jewell Island	Cumberland	3	1	2	0	3	3	1	54.00
70	Love Cove	Harpwell	2	3	1	0	3	3	1	54.00
71	Northwest Harbor	Deer Isle	2	1	2	1	3	3	1	54.00
72	Port Clyde	Saint George	2	3	1	3	3	2	1	54.00
73	Robinhood Cove	Georgetown	2	3	1	0	3	3	1	54.00
74	Warren Island	Islesboro	3	1	2	0	3	3	1	54.00
75	Wills Gut	Harpwell	2	3	2	2	3	2	1	54.00
76	Riggs Cove	Georgetown	2	2	0	3	5	2	0.75	52.50
77	Bath Harbor	Bath	2	3	0	3	3	2	1	48.00
78	Sand Cove	Winter Harbor	3	2	1	2	3	2	1	48.00
79	Starboard Cove		3	2	2	1	3	2	1	48.00
80	Bar Harbor	Bar Harbor	1	2	3	3	5	2	0.5	45.00
81	Cape Harbor	Southport	2	1	1	1	3	3	1	45.00
82	Eastern Branch	Bristol	2	1	2	0	3	3	1	45.00
83	Farnham Cove	Southport	3	2	0	0	3	3	1	45.00
84	Harmon Harbor	Georgetown	2	1	1	1	3	3	1	45.00
85	Isle au Haut thorofare	Isle Au Haut	2	1	1	1	3	3	1	45.00
86	Sylvester Cove	Deer Isle	2	1	1	1	3	3	1	45.00

87	The Gut (West of Bridge)	South Bristol	2	1	0	2	3	3	1	45.00
88	The Gut-East of the Bridge	South Bristol	2	1	0	0	5	3	1	45.00
89	Diamond Cove	Portland	2	1	1	3	3	2	1	42.00
90	Friendship	Friendship	2	2	1	2	3	2	1	42.00
91	Gilpatrick Cove	Friendship	3	3	1	0	3	2	1	42.00
92	Great Chebeague Island	Cumberland	3	1	2	1	3	2	1	42.00
93	Hulls Cove	Bar Harbor	1	3	1	2	3	2	1	42.00
94	Jonesport	Jonesport	1	3	1	2	3	2	1	42.00
95	Owls Head Harbor	Owls Head	2	3	1	1	3	2	1	42.00
96	Piscataqua River	Kittery	1	2	1	3	3	2	1	42.00
97	Henry Cove	Winter Harbor	1	2	1	2	3	3	0.75	40.50
98	Linekin Bay	Boothbay	1	1	1	1	5	2	1	40.00
99	Rockland	Rockland	0	3	2	3	5	2	0.5	40.00
100	Townsend Gut	Boothbay Harbor	2	1	1	0	5	2	1	40.00

State of Maine Cruising Boat Anchorage

July 2001



Cruising Boat Anchorages
Proposed Pumpout Location Priority

High Low

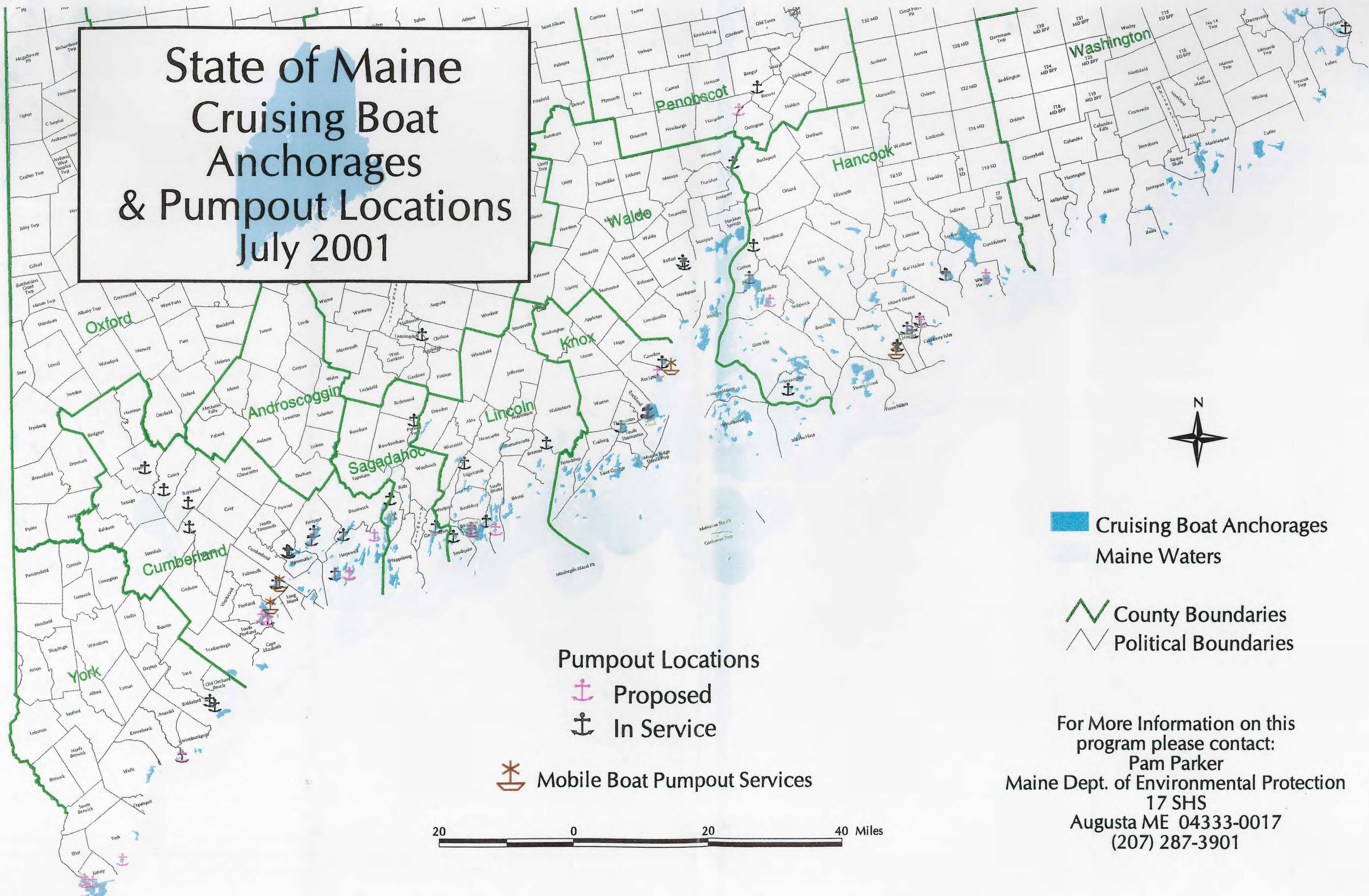
20 0 20 40 Miles






- Maine Waters
- County Boundaries
- Political Boundaries

For More Information on this program please contact:
Pam Parker
Maine Dept. of Environmental Protection
17 SHS
Augusta ME 04333-0017
(207) 287-3901


State of Maine Cruising Boat Anchorage & Pumpout Locations July 2001




 Cruising Boat Anchorages
Maine Waters

 County Boundaries
 Political Boundaries

Pumpout Locations

 Proposed
 In Service

 Mobile Boat Pumpout Services



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