U. S. ARMY CORPS OF ENGINEERS
Water Quality Certification // Natural Resources Protection Act
Kennebec River Dredge – Bath and Phippsburg

APPEAL DOCUMENTS

- PHIPPSBURG APPELLANTS
- DOT KELLY
- DOUG WATTS AND ED FRIEDMAN

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STEPHEN F. HINCHMAN
ATTORNEY AT LAW

May 16, 2011

Susan Lessard, Chair
Board of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

By Hand Delivery and Facsimile to 207.287.2814

Re: Appeal of the Order of the Commissioner in the matter of U.S. Army Corps of Engineers Maintenance Dredging of the Kennebec River, L-16281-4E-N

Dear Chair Lessard,

On behalf of the Town of Phippsburg, the Phippsburg Shellfish Conservation Commission, the Phippsburg Land Trust, the Kennebec Estuary Land Trust, the Friends of Merrymeeting Bay, Bob Cummings, Lawrence Pye, Dean Doyle, Dot Kelly, Captain Ethan DeBery, and Laura Sewall, I hereby submit the attached appeal of the decision of the Commissioner of the Maine Department of Environmental Protection on April 14, 2011, granting U.S. Army Corps of Engineers a water quality certification and a Natural Resources Protection Act permit to conduct Maintenance Dredging of the Kennebec River .(Order #L-16281-4E-N.)

I have arranged for both facsimile and hand delivery of the appeal and will also provide a courtesy electronic copy to the Board staff via email.

Sincerely,

Stephen F. Hinchman, Esq., counsel for Appellants

Cc: Acting Commissioner Jim Brooks
Ed O'Donnell, U.S. Army Corps of Engineers

Enclosure

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STATE OF MAINE
BOARD OF ENVIRONMENTAL PROTECTION

U.S. ARMY CORPS OF ENGINEERS	) NATURAL RESOURCES PROTECTION ACT
Bath and Phippsburg, Sagadahoc County	) COASTAL WETLAND ALTERATION
MAINTENANCE DREDGING	) WATER QUALITY CERTIFICATION
L-16281-4E-E-N	)

APPEAL OF THE DECISION OF THE COMMISSIONER APPROVING THE U.S. ARMY CORPS OF ENGINEERS KENNEBEC RIVER DREDGING PROJCT

NOW COME the Town of Phippsburg, the Phippsburg Shellfish Conservation Commission, the Phippsburg Land Trust, the Kennebec Estuary Land Trust, the Friends of Merrymeeting Bay, Bob Cummings, Lawrence Pye, Dean Doyle, Dot Kelly, Captain Ethan DeBery, and Laura Sewall (together as "Appellants") to appeal the decision of the Commissioner of the Maine Department of Environmental Protection ("Department" or "DEP") on April 14, 2011 ("Order"), granting to the U.S. Army Corps of Engineers ("Corps") a water quality certification pursuant to section 401 of the federal Clean Water Act ("401 Certification") and a permit under the Natural Resources Protection Act ("NRPA"). The Order authorizes the Corps to conduct out-of-season maintenance *and* advanced maintenance dredging in August of two locations in the Kennebec River in Bath and Phippsburg, Maine, and to dump approximately 70,000 cubic yards of dredge spoils at two locations in the Kennebec River and near-shore environments in Phippsburg.

For the reasons below, Appellants request that the Board of Environmental Protection ("Board") modify the Order to allow only the minimum out-of-season August dredging necessary, if any, to allow the U.S.S. Spruance to safely transit the Kennebec River in September, and to require that disposal of dredge spoils, if any, occur at upland and/or offshore locations where it will not cause unreasonable impacts to the environment or to Appellants. In the alternative, if the current disposal sites are approved by the Board, Appellants request that the Board impose conditions that will minimize adverse impacts to the environment and Appellants.

I. INTRODUCTION

The Federal Navigation Project ("FNP") in the lower Kennebec River stretches from shipbuilding facilities at the Bath Iron Works ("BIW") to the Atlantic Ocean. The Corps occasionally dredges the FNP to keep the channel open for deep draft Navy ships. Pursuant to a 10-year maintenance dredging permit issued in 2002, dredging is only authorized between Nov. 1 and April 30 in order to minimize impacts to the environment, including to the endangered shortnose sturgeon.

The Corps last dredged the channel in 2003. Since then, gradual buildup of sand and mud in the Doubling Point reach, located just below BIW, has pushed the navigable channel eastward – outside the FNP channel designation and closer to the eastern bank of the river. Last

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fall, the Navy requested that the Corps dredge the marked FNP channel at Doubling Point in order to allow transit of the U.S.S. Spruance for sea trials in February 2011 and then for eventual delivery to the Navy in September 2011. Due to budgeting restrictions, the Corps was unable to let contracts in time to dredge the channel prior to the scheduled sea trials or during the existing November-April permit window. BIW and the Coast Guard, however, temporarily relocated the channel markers at Doubling Point Reach and took the Spruance safely down the river last February. The ship returned to BIW via the same route in March.

In order to ensure that the channel stays open for final delivery of the Spruance to the Navy in September, the Corps has requested a NRPA permit and 401 Certification for out-of-season dredging this August. However, instead of seeking approval to dredge the minimum amount necessary to safely transit the Doubling Point reach, the Corps applied for permits to conduct both full maintenance *and* advanced maintenance dredging at Doubling Point. Maintenance dredging authorizes excavation to the approved FNP channel depth of -27 feet mean lower low water ("MLLW"). Advanced maintenance dredging would authorize overdredging by five feet to -32 feet. Additionally, the Corps has also sought approval for maintenance *and* advanced maintenance dredging by two feet (-29') of the channel near North Sugarloaf Island at the mouth of the Kennebec River off Popham Beach. (Order at 2.)

Dredging is due to begin August 1st and, according to the Corps' Public Notice, it will take three to five weeks to dredge both locations. Overall, the Corps will dredge 50,000 cubic yards of material from Doubling Point and dispose of those spoils at an in-river dump site two miles downstream at Bluff Head (known locally as the Kennebec Narrows or Fiddler's Reach), and 20,000 cubic yards of material from North Sugarloaf Island and dispose of those spoils at a near-shore dump site 0.4 miles south of Jackknife Ledge ("JKL") immediately offshore of Popham Beach State Park. (*Id.*)[1]

The Corps could not have picked a worse time to plan a full-scale dredging and disposal project for the Kennebec River. August is the height of a very short two-month summer season and is the busiest and most critical month of the year for virtually all other users of the Kennebec. It is the most productive month of the year for shellfish harvesters and lobster fishermen; it is when the beachfront hotels, bed-and-breakfast inns, campgrounds, and restaurants have a full house almost every night; it's when the river is most heavily used by striper fishermen, fishing guides, and recreational boaters; it is the peak season for the beaches, state parks, surfers, sunbathers and kayakers.

August is also an incredibly productive month for wildlife in the Kennebec estuary. August is traditionally the dry season in Maine, when the Kennebec water quality is at its highest. It is when the juvenile clam spats set on the clam flats; when endangered sturgeon and salmon are actively moving in the river channel; when alewives, shad and other critical anadromous species are in the midst of their downstream migration; when groundfish, sea bass,

[1] Maps of the proposed dredging and disposal sites are provided in the Corps 30-Day Public Notice ("Public Notice") of Maintenance and Advanced Maintenance Dredging of the Federal Navigation Project in the Kennebec River, Maine, at 7-8, attached as Ex. 1.

and harbor seals are plentiful in the estuary and bays; and when the lobsters are at their peak out in North Sugarloaf Island channel and on Jackknife Ledge.

Dredging and dumping of 70,000 cubic yards of spoils into this ecosystem in August would be devastating to these resources and to the people who rely upon them. It is no exaggeration to say that the livelihoods of the town's lobstermen, shellfish harvesters, fishing guides, and tourist business operators are all at stake – and that the combined impacts from dredging and disposal would be devastating for Phippsburg.

To protect their economy and way of life, a broad cross section of the community has come together in unison to ask the Board of Environmental Protection to reverse the Commissioner's decision to issue permits for this incredibly damaging and unnecessary project. Appellants contend that the Kennebec River channel can be kept open for the U.S.S. Spruance without subjecting the local community to such severe economic and environmental impacts.

Accordingly, appellants ask that the Board modify the permit to:

(a) Approve only the minimum out-of-season dredging necessary, if any, to enable the Spruance to exit the river in September; and

(b) Since minimal dredging will vastly reduce the volume of dredge spoils, to disallow summertime dumping of dredge spoils in-river or near-shore, and instead to require disposal of dredge spoils upland or in the Corps' pre-approved offshore ocean disposal site near Portland.

In the alternative, if the current disposal sites are approved by the Board, Appellants request that the Board impose conditions on the permit and 401 Certification requiring:

(1) Monitoring for potential water quality impacts and sedimentation of clam flats;

(2) Immediate shut down of dredging and/or dumping operations should monitoring results require closure of open clam flats;

(3) Provisions to compensate licensed fishermen for lost lobster and shellfish harvests; and

(4) Implementation of the Department of Marine Resources recommendations to mitigate impacts to endangered shortnose sturgeon and other endangered species.

II. APPELLANTS

The Town of Phippsburg, with 2,216 residents, is a Sagadahoc county town on a peninsula surrounded by the Kennebec River, the Atlantic Ocean, and the New Meadows River. Residents' lives and livelihoods are often tied to the waters that it. Although Phippsburg is only 6 percent of Sagadahoc County's total population, it has a third of Sagadahoc County's farmers, fishermen and forestry workers. Maintaining traditional occupations and fisheries in Phippsburg

is very important to the community; the town manages several town landings specifically for use of area fisherman and clammers, including several locations on the Kennebec River. Residents not involved in lobstering, fishing, or shellfish harvesting, are often involved in tourism-related businesses, as Phippsburg is home to one of Maine's most popular tourist destinations, Popham Beach State Park and hosts several multi-generational colonies of "summer residents," including a large community at Small Point. Bed and breakfast inns, cottage rentals, fishing guides, local stores, antique shops and artists round out the economic base of Phippsburg. The Town of Phippsburg is deeply concerned that the proposed dredging and disposal operation in August, 2011 will be devastating to the local economy, impacting the local lobster and shellfishing industries at their peak seasons, and affecting attendance at Popham Beach State Park and all the related businesses that depend on the tourist traffic that the State Park creates. Summer residents may choose to go home early rather than endure the disruption of a dredging and disposal operation 24 hours a day, causing further economic impacts. Although Phippsburg residents are also employed at the Bath Iron Works, and town residents recognize the importance of shipbuilding to the local economy as well, the Town of Phippsburg is concerned that the full economic impact of the proposed dredging and disposal project has not been considered, including potential long-term consequences from damage to juvenile lobsters and clams at a critical time of year, as well as the impact on other commercial fish species that live in or transit the lower Kennebec River and the nearshore Popham Beach environment. In a brief 4 day period, 250 town and area residents signed a petition circulated by the Phippsburg Shellfish Conservation Commission that urged rejection of the current proposal and supported less disruptive alternatives. The Phippsburg Selectboard voted unanimously to join this appeal.

The Phippsburg Shellfish Conservation Commission represents 40 local commercial shellfish harvesters who depend on the shellfish flats on the Kennebec River for a substantial portion of their families' financial support. In the seven years ending in 2007, Phippsburg's harvesters dug an average of 225,543 pounds of clams each year. However, the productivity of the flats varies widely depending on the time of year, the height of tides, and the weather. Stormy weather and periods of high water flow on the River cause the levels of pollution to rise to unacceptable levels, closing down the flats. Under Phippsburg's local shellfish ordinance, commercial shellfish license holders commit extensive time each year to management of the shellfish resource. Each year, surveys are held to determine the clam population, in order to ensure we have a sustainable fishery. Several reseedings are held annually, to move juvenile clams from one area to another in order to ensure a wide distribution of the shellfish population. Regular water samples are collected by Commission members and tested by the Department of Marine Resources to ensure the waters remain healthy, along with numerous additional water samples required to ensure pollution levels have dropped sufficiently to allow reopening of closed areas. The month of August is the single most productive and profitable period for shellfish harvests. The Phippsburg Shellfish Conservation Commission is deeply concerned that the dredging and disposal as currently permitted will cause high levels of pollution, shutting down the most productive shellfish flats in Phippsburg at the most profitable time of year. The Commission is also concerned that the suspended solids and siltation deposits caused by the dredging and disposal may kill or injure juvenile clams that in August are just emerging from their larval stage to "set" just below the surface of the mudflats. Shellfish harvesters' past experiences with dredging and disposal events indicates that the silt component of the dredged material does not fall to the bottom upon disposal; instead, re-suspended sediments are

transported widely by the strong currents and tides of the Kennebec River and deposited on the shellfish flats, blocking the holes created by a clam's respiration and feeding process. This effect is both stressful and harmful to the clams, and prevents the harvesters from identifying clam locations, reducing productivity by as much as half. In short, the Phippsburg Shellfish Commission feels the full time, multi-week dredging and disposal operations planned for August, 2011 will have a devastating impact on Phippsburg's commercial shellfishing industry. Landings and income generated in August support fishermen's families at other less productive times of the year. Damage caused to juvenile clams setting into the Kennebec River flats in August will disrupt future shellfish harvests and the long term sustainability of this fishery.

The Phippsburg Land Trust is a community land trust that preserves, protects and stewards the special wild and natural places in Phippsburg for the benefit and education of Phippsburg children, grandchildren and future generations. The Land Trust is a Maine non-profit corporation that currently protects 800 acres of land in Phippsburg through easements and fee ownership; more than half of these acres abut or drain into or are viewsheds along the Kennebec River. The Phippsburg Land Trust holds easements on about 120 acres in the Fiddler's Reach area of Phippsburg, and holds a fee interest in 13 acres at our Noble Hill Preserve at the end of Fiddler's Reach on the Kennebec River. In total, there are six Phippsburg Land Trust preserves at Fiddler's Reach that are potentially affected by the proposed disposal activity at Bluff Head. The Phippsburg Land Trust also holds fee interest in approximately 10 acres at Cox's Head, an area affected by the dredging activity planned for the mouth of the Kennebec River. The Land Trust sponsors guided walks each summer on its preserves and in other areas in Phippsburg; planned activities in the Fiddler's Reach area and Cox's Head will need to be rescheduled or moved due to the disruptive impact of dredging and disposal on enjoyment of our preserves. The Land Trust is deeply concerned with the potential environmental impact of changes that have been observed along the shores of the Kennebec Narrows, such as the influx of sand and mud on the shoreline, and decreased depth measurements in the channel due to extended use of the Kennebec Narrows disposal site. The Land Trust holds a conservation easement creating the Greenleaf Preserve, an area abutting and just south of this disposal area with a small salt marsh wetland that would be significantly damaged by sedimentation from dredging disposal. The Land Trust's Wilbur Preserve at Cox's Head serves in part as a public access point for Phippsburg shellfish harvesters to access the highly productive Cox's Head and Atkin's Bay mudflats, which extend from the preserve at the point of Cox's Head across to Fort Popham. This area is less than a quarter mile from the area where dredging is planned at the mouth of the Kennebec. The Land Trust is concerned that turbidity, siltation and pollution impacts from the dredging could shut down this important shellfish harvesting area.

The Kennebec Estuary Land Trust ("KELT") is a community based membership organization serving the towns of Arrowsic, Bath, West Bath, Georgetown, Westport Island and Woolwich. KELT is committed to conserving land and wildlife habitat of the Lower Kennebec and Sheepscot River estuaries and has protected lands both through direct acquisition and through collaborations with state and federal agencies and private conservation organizations under the umbrella of the Maine Wetlands Protection Coalition. KELT's work has resulted in the protection of over 18,000 acres of critical wetland habitat. Additionally, KELT sponsors educational workshop on environmental stewardship techniques, leads trips to lovely local places, and offers educational programs on the local environment. KELT is concerned that the

proposed August dredging will negatively impact the Kennebec estuary and wetlands, and will disturb its educational and stewardship mission, and interfere with its field work and workshops.

Friends of Merrymeeting Bay ("FOMB") is a non-profit Maine corporation with over 450 members. FOMB undertakes research, advocacy, land conservation, education, and litigation activities in order to preserve the ecological, aesthetic, historical, recreational, and commercial values of Merrymeeting Bay, its watershed, and the Gulf of Maine. FOMB has members who live near, own property near, and recreate on and near Merrymeeting Bay, the rivers that flow into the Bay and the lower Kennebec flowing out of the Bay. Among other activities, FOMB members kayak and canoe, recreationally fish, hike, photograph, and observe aquatic life and wildlife in and around all of these waters. FOMB members receive economic value from these waters through, among other activities, commercial fishing and guiding. FOMB members are interested in maintaining the natural biodiversity of the Merrymeeting Bay watershed and the Gulf of Maine. FOMB has long recognized the important connections between Maine's rivers and the Gulf of Maine (the Bay and lower Kennebec making that connection). FOMB's "Healthy Rivers, Healthy Gulf Program" is devoted to educating the public and policy makers about these connections. FOMB has conducted intensive circulation studies of waters in Merrymeeting Bay and its tributaries, sediment toxicity studies, and successfully filed an Endangered Species Act petition to expand the Atlantic salmon listing to include the Kennebec and Androscoggin River salmon populations. FOMB is concerned that dredging and disposal in August will significantly impact water quality, recreation, and wildlife and thus harm the interests FOMB and its members have in these waters.

Bob Cummings has lived on Drummore Bay since 1962, and has been a member of the Phippsburg Shellfish Committee for the last 20 years. Prior to serving on the Shellfish Committee, he served as a Phippsburg selectmen for 12 years. In these roles, he has spent years working to clean up the Kennebec River and reopen once-closed clam flats. He enjoys canoeing on Drummore Bay and the Kennebec River, watching the seals at play in the Kennebec and the eagles that reside on Lee Island. In summer, his canoe is joined by many other small boaters who are fishing and recreating on the Kennebec River. He is concerned that the wildlife in this portion of the Kennebec River will be disturbed by impacts from the dredge operations; that clam flats in the lower part of Drummore Bay will be contaminated; that his boating experience will be negatively affected by the noise and disruption of the dredging and reductions in water quality; and that the fishing and guiding businesses that depend on this stretch of the Kennebec River will be adversely affected by the full-time dredging and disposal operation planned for August, 2011.

Capt. Ethan DeBery is a Phippsburg resident and owner and operator of Fish 'n' Trips Charters. Capt. DeBery operates the ferry to Seguin Island and conducts fishing charters around Popham Beach area and in the Kennebec River estuary. The proposed dredging would impact his ferry and charter fishing operations by obstructing and preventing use of impacted waters during the height of the boating and fishing season. Additionally, the proposed activity would create noise, air pollution, water quality impacts, and disturb fish, wildlife and habitat – all of which would degrade the experience for his customers and detract from his business.

Peggy Johannessen is owner and operator of Popham Beach Bed & Breakfast. The B&B is located in the old lifesaving station on Popham Beach at the mouth of the Kennebec River, directly opposite the proposed dredge operations near North Sugarloaf Island. August is the B&B's busiest month of the year, and accounts for roughly a third of its business. Generally, the B&B has a full house all month long. Past dredging conducted during winter and spring months has been marked by very loud and persistent noise, night and day, but when few or no guests were present. Mrs. Johannessen is concerned that the proposed dredging during August will significantly affect her guests and deter business. In particular, she is concerned about noise impacts, which will occur night and day, as well as nighttime lighting and other impacts to the otherwise spectacular views of the ocean, islands and the Seguin Lighthouse.

Dot Kelly is a Phippsburg property owner, member of the Phippsburg Conservation Commission and FOMB, and direct riverfront abutter to the disposal area in the Kennebec Narrows at Bluff Head. Mrs. Kelly uses the river and shores to swim and wade, is an avid river kayaker and observer of wildlife. She highly values the river's quiet, clean and natural setting, and likes to observe fishermen drifting with currents in the river. Past dredge and dumping events have disrupted this natural setting, both during the day and at night and have been loud enough to wake her and her family up at night. Mrs. Kelly has also personally observed that during and after past dredging and disposal events, the entire river corridor in front of her house turned turbid and discolored, resulting in deposits of sand and silt along her shoreline and upstream and downstream areas. These impacts detract from her ability to use the area, and have driven away resident seals and other wildlife that she enjoys watching.

Lawrence Pye is a Phippsburg resident, Phippsburg Town Selectman, and commercial lobster fisherman. Lawrence traditionally fishes the waters surrounding JKL in August and plans to continue fishing this area in the future. Dredging of the Popham beach area and disposal of dredge spoils at JKL would prevent Lawrence from continuing to fish the area, and would result in destruction of lobster habit, burial of his lobster gear under the sand, and cut lines and lost and damaged gear due to dredge, barge, tug, and attendant boat traffic. Lawrence is also concerned that long term and cumulative impacts from dredging and disposal at JKL would degrade the habitat and lobster fishery in the waters surrounding JKL and the North Sugarloaf Island channel.

Laura Sewall is a Phippsburg resident who lives on the Sprague River Marsh, very near to Seawall Beach in the Small Point area. Laura is an avid swimmer and surf kayaker and enjoys the water at Seawall Beach and other area beaches on most August days. Laura greatly values the aesthetic experience of a clean, quiet, scenic, and natural coastline. She is also the director of the Bates-Morse Mountain Conservation Area (BMMCA). Every summer season, nearly 16,000 people walk over Morse Mountain to go to Seawall Beach. The trail ends just inshore of Jack Knife Ledge. The turbidity in the water, and concerns about potential toxins stirred up by dredging and dumping would prevent Laura and the public users of BMMCA from engaging in recreational activities in and on the water, and would detract from their enjoyment of the scenic, quiet and natural experience that the area has to offer.

Dean Doyle is a Phippsburg resident, commercial clam harvester, and chair of the Phippsburg Shellfish Conservation Commission. For the last 16 years, Mr. Doyle has harvested

clams throughout Phippsburg, including clam flats in Drummore Bay, the Upper Flats, Parker Head, Wyman's Bay, Atkins Bay, and the Popham/Small Point Beach and Morse/Sprague River areas. During and immediately after prior dredging events, including the last time the FNP channel was dredged in 2003, Mr. Doyle has personally observed a layer of silt and sediment dispersed over productive clamflats and the filling of clam air holes due to such sedimentation. He is concerned that the silt and sediments from the proposed action will affect the above listed clam flats and force closure of shellfishing under state and federal public health protocols. A closure due to dredging in August would impose severe negative impacts on Mr. Doyle's business and all other shellfish harvesters in town: August is the most important month of the year for harvesters because it generally has the best weather (i.e. fewest rain-induced flats closures) and long days for harvesting. Not only is their harvest volume highest in August, but harvesters also get premium prices during the month – often double the price paid for clams in the winter and spring. Even short of a closure, deposition of silt and sediments on the clam flats will cover air holes, making it difficult to find clams and reducing harvests. In addition, siltation in August is likely to have severe negative impacts on clam spats (juvenile clams), which must set near the top of the flats until they mature sufficiently to survive at deeper levels. Mr. Doyle is concerned that burial by a layer of silt and sediment will kill many of these juvenile clams, potentially eliminating an entire year class from future harvests.

III. THE FINDINGS OF FACT, CONCLUSIONS OF LAW, AND CONDITIONS OR APPROVAL CHALLENGED IN THIS APPEAL

1. The Applicant failed to affirmatively demonstrate that the proposed action will not result in unreasonable adverse impacts to the environment. 38 M.R.S.A § 480-D.

2. The Applicant failed to affirmatively demonstrate that there are no practicable alternatives that would be less damaging to the environment. *Id.*; 06-096 CMR ch. 310, §§ 5(A), 9(A).

3. The Applicant failed to affirmatively demonstrate that dumping of approximately 70,000 cubic yards of dredge spoils will not violate Maine's water quality standards, including;

    a. Class SA standards preventing direct discharges, *id.* § 465-B(1)(C);
    b. Class SA habitat and marine life standards, *id.* §§ 465-B(1)(A), (B);
    c. Class SB habitat and aquatic life standards, *id.* §§ 465-B(2)(A), (C);
    d. Class SB bacteria and shellfishing harvesting standards, *id.* §§ 465-B(2)(B), (C).

4. The Applicant failed to affirmatively demonstrate that proposed disposal of 70,000 cubic yards of dredge spoils in the Kennebec River and near-shore environment in August will unreasonably harm significant wildlife habitat, estuarine and marine fisheries, and other aquatic life, in violation of 38 M.R.S.A § 480-D(3).

5. The proposed disposal of 70,000 cubic yards of dredge spoils in the Kennebec River and near-shore environment in August will unreasonably interfere with existing scenic, aesthetic, and recreational uses in violation of 38 M.R.S.A § 480-D(1).

IV. GROUNDS FOR THE APPEAL

1. THE PRIOR PERMITS.

Out-of-season dredging is generally impermissible under NRPA due to the severe and unreasonable impacts dredging causes to shellfish, marine fisheries, aquatic life and habitat. *See* 38 M.R.S.A § 480-D. As longstanding Department guidance states,

> Dredging and the disposal of dredged material have both long and short term adverse impacts on the marine environment. Short term effects include the degradation of water quality due to increased turbidity, the suspension of toxic contaminants contained within the sediments and the physical removal of marine organisms. Long term effects include the cumulative disturbance caused by the need for periodic maintenance, the removal of soft bottom sediments that provide habitat to economically important species and the possible acceleration of adjacent shoreline erosion. These guidelines are intended to minimize the adverse impacts of dredging to the greatest extent possible.
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> ...
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> **Timing** of [a dredging] project must coincide with the time of year that will minimize impacts on marine resources. The impact to these resources will be minimized by performing dredging activities at the time of year that avoids anadromous fish runs, shellfish spawning and lobster migration activities. For most projects, this means that dredging must be undertaken between November 1 and April 15.

DEP Issue Profile, *Applications to Dredge or to Dispose of Dredged Material in Coastal Waters* (March 1997) (emphasis in original).[2] *See also* 06-096 CMR, ch. 310, § 5(A) ("no activity may be permitted if there is a practicable alternative to the project that would be less damaging to the environment").

In a series of prior permit decisions in 1989, 1997, 2000, and 2002, in order to minimize impacts to the endangered sturgeon, shellfish, and lobster, the Department consistently prohibited dredging of the FNP in the Kennebec River in summertime.[3] In 2002 the Department issued a ten-year permit – which is still in effect – expressly prohibiting maintenance dredging and advanced maintenance dredging of the FNP by hopper dredge except between Dec. 1 and March 1, and by mechanical clamshell bucket dredge except between Nov. 1 and April 30.[4]

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[2] Attached as Ex. 2 and available at: http://www.maine.gov/dep/blwq/docstand/fsdredg.htm.

[3] The 1989, 1997, 2000, and 2002 permits are attached as Ex. 3.

[4] Order # L-16281-4E-D-N, at 2-3 (March 15, 2002), Ex. 3.

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In other words, for the last 20 years the Department has consistently determined that dredging of the Kennebec River FNP in August – during the critical period for shellfish spawning and harvesting, lobster migration and anadromous fish runs – would unreasonably impact the marine environment in violation of NRPA. The fact that this year the Corps failed to act within its existing permit window does not, by itself, transform what have long been considered unreasonable impacts into reasonable impacts. Rather, "a reasoned explanation is needed for disregarding facts and circumstances that underlay [the prior determination.]" *FCC v. Fox Television Stations, Inc.*, 129 S. Ct. 1800, 1811 (2009); *Uliano v. BEP*, 2005 ME 88, ¶ 23 (findings in licensing order must be stated with sufficient specificity to permit understanding and meaningful review). In this case, however, neither the applicant nor the Department provided any new information, revised findings or conclusions of law, or any other rationale to explain why the prior permit determinations were all in error, why it is departing from its longstanding guidance, and why use of a hopper dredge in August is suddenly reasonable under NRPA.[5]

These omissions are fatal and, as a matter of law, require reversal of the Department's Order, reconsideration of the evidence, and issuance of new findings. *Id.*, 2005 ME 88, ¶ 25.

2. REVIEW OF PRACTICABLE ALTERNATIVES.

The Department's Order also fails to comply with NRPA's mandatory review of practicable alternatives. Pursuant to DEP rules, the review of practicable alternatives must include a review of alternate sites, alternate configurations, and reduced project size and scope. 06-096 CMR, ch. 310, §§ 5(A), 9(A). The alternatives review is not a separate, stand-alone determination; rather "consideration of practicable alternatives to a proposed project is a factor that should be balanced in [the] section 480-D[] analysis." *Uliano v. BEP*, 2005 ME 88, ¶ 17; *Uliano v. BEP*, 2009 ME 89, ¶ 40. In other words, *Uliano* directs that the Department use the alternatives review as a means to compare and identify the least environmentally damaging alternative as it evaluates each NRPA criterion.

The Order, however, disposed of all potential alternatives in a single paragraph that provides no analysis or review of *any* impacts. The entirety of that review is excerpted below:

> The applicant submitted an alternatives analysis for the proposed project in the February 2011 Draft Environmental Assessment. The purpose of the proposed project is to restore the depth of the federal channel and reduce the potential of groundings by ships. The alternatives analysis considered a no dredge alternative and several alternate dredging methods

[5] Not only is there zero new information in the record to support the Department's reversal of its longstanding position, the 2011 Order utterly fails to even review or make findings regarding potential dredging and disposal impacts to important marine resources that are most vulnerable in late summer, such as lobster migration, juvenile clams, or anadromous fish runs. This failure comes despite detailed comments on these very concerns provided by Appellants during public hearings and in written comments.

> (mechanical, hydraulic, or hopper dredge) and disposal methods (ocean or upland disposal). The Department finds that the analysis demonstrates that ocean disposal is the least environmentally damaging practicable alternative that meets the project purpose.

(Order at 7.) This is exactly the sort of cursory and meaningless review that is impermissible under Maine law. In *Uliano I*, which reversed and remanded the Board's denial of a dock permit under NRPA, the Maine Supreme Judicial Court held that findings that "merely summarize the evidence considered and state the Board's conclusion" are "inadequate as a matter of law." *Uliano v. BEP*, 2005 ME 88, ¶¶ 23, 25. In this case, the Order does not even summarize the evidence: it merely lists the alternatives and stated the Commissioner's conclusion.

Additionally, by arbitrarily eliminating all other options the Department only evaluated the environmental impacts of a single alternative – the proposed project. This fails to meet the standard for balancing the impacts of reasonable alternatives as set out by the Supreme Judicial Court in both *Uliano* decisions. *Uliano v. BEP*, 2005 ME 88, ¶ 17; *Uliano v. BEP*, 2009 ME 89. These flaws are also fatal under Maine law and render the Order invalid. To cure the above defects, the Board must undertake a real and meaningful review of all practicable alternatives, including alternative dredging methods (clamshell bucket, hopper dredge), reduced scope (minimal dredging instead of overdredging), timing (deferring major dredging activities to winter), and alternate disposal sites (upland, offshore). At a minimum, that review must include the following alternatives

a. No Dredge Alternative

The sole rationale in the record for *out-of-season* dredging is to provide safe passage through Doubling Point reach for the U.S.S. Spruance to exit from BIW to the sea in September. (Order at 1; Draft EA at 1.) The Corps, however, is not just proposing to dredge to the minimum safe depth for transit of a DDG Destroyer (-25 feet),[6] or even to the authorized depth of the FNP (-27 feet). Instead, the Corps is proposing to overdredge 35 acres in the Doubling Point reach by an additional five feet (-32 feet). In addition, despite the lack of any evidence showing that the North Sugarloaf Island reach is currently impassible,[7] the Corps is also proposing to overdredge two acres in the North Sugarloaf Island reach by an additional two feet (-29 feet). (Order at 2.) Overall, the project as proposed by the Corps will require three to five weeks of dredging beginning August 1st, and will result in approximately 50,000 cubic yards of spoils from Doubling Point and 20,000 cubic yards from North Sugarloaf Island. (*Id.*; *see also* Public Notice at 1-2.)[8]

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[6] *See* email from Bob Herman, BIW, to Bob Green, DEP, April 7, 2011, 1:47 pm, attached as Ex. 4.

[7] *Id. See also* Letter from Bill Kavanaugh, Army Corps, to Kathleen Leyden, Maine Coastal Program, at 2 (Feb. 16, 2011), attached as Ex. 5.

[8] Although the Order states that "under optimal conditions, the estimated time to complete dredging at the Doubling Point site would be two to three days and less at the North Sugarloaf

This is overkill. The Draft EA contends that failure to conduct this full scale dredging would prevent or delay sea trials and transits of the river by Navy, cargo ships and other deep draft vessels, eventually making the federal navigation channel totally impassable and causing negative economic impacts on the region. As noted above, however, regular maintenance of the FNP is separately permitted. Thus, the No Dredge Alternative would not cause any of the impacts suggested by the Corps. Rather, the sole potential impact of the No Action Alternative would be to delay transit of the U.S.S. Spruance by no more than three months (until normal in-season dredging can begin in November 2011).

Even then, there may be no need for delay. As noted in the Army Corps' Feb. 16, 2011 letter to the State Planning Office, "a lane of travel with deeper depths exists to the east of the shoal area in the FNP [at Doubling Point]."[9] Thus, dredging may not in fact be necessary. Additionally, this letter makes no mention of any need to dredge the North Sugarloaf Island reach to allow ship transit. As is clearly indicated in the maps attached to the Corps Public Notice for the August dredging project, current channel depths in the western portion of the FNP at North Sugarloaf Island allow ship transit *without dredging*.[10]

Using alternate routes at both locations, the Spruance can clearly exit the Kennebec River safely. In fact it did so to conduct sea trials in February and to return in March, as shown by the photograph in Figure 1.

Island site," (Order at 3)

. Regardless, any permit and permit review must be based on the estimated three to five weeks project duration as stated in the Corps' official public notice, not upon wishful thinking about best case conditions which may or may not occur.

[9] *See* note 7.

[10] Public Notice at 8; attached as Ex. 1. *See also* Order at 2 ("At North Sugarloaf Island reach, sand has shoaled at a lesser rate, but *some areas within this reach* are still above the authorized river channel depth of -27 feet MLLW.") (emphasis added).

Figure 1: The U.S.S. Spruance seen leaving the mouth of the Kennebec River at Fort Popham in February 2011

Thus, the evidence currently fails to shows the need for out-of-season dredging in either location. This is particularly true for the North Sugarloaf Island reach, which is only partially shoaled and is open for ship passage at MLLW depths of 27'. Neither the BIW nor the Army Corps' memorandums and emails explaining the need for this project state that August dredging is necessary in the North Sugarloaf Island reach to allow the Spruance to safely transit the river.[11] Barring new evidence to the contrary, no action at North Sugarloaf Island is clearly practicable and less environmentally damaging.

Because the no dredge alternative is a practicable solution and would not impact any coastal wetlands, the environmental impacts from the proposed action are, by rule, "unreasonable" and therefore may not be permitted. 06-096 CMR, ch. 310, § 5(A).

b. Minimized Summertime Dredging

To the extent that new hydrographic surveys expected to be conducted in late May show that some level of out-of-season dredging is absolutely required in one or both dredging locations to enable egress of the Spruance in September, the Corps must evaluate a low impact alternative that authorizes the least amount of August dredging necessary *in each location* to help this one ship exit the river.

The Corps has already conceded that dredging in August has the greatest impact of any month. Army Corps project manager Bill Kavanaugh, recently wrote to Maine DEP and DMR, "As discussed with you at the meeting, we're all in agreement that August isn't the best month for dredging – in fact it probably can't get any worse relative to the Kennebec." Email from Bill Kavanaugh, Army Corps, to Brian Swan, DMR, and Bob Green, DEP, at 1, April 5, 2011, 10:15

[11] *See* email from Bob Herman, BIW, to Bob Green, DEP, April 7, 2011, 1:47 pm, attached as Ex 4; Letter from Bill Kavanaugh, Army Corps of Engineers, to Kathleen Leyden, Maine SPO, Feb. 16, 2011, attached as Ex. 5.

a.m., attached as Ex. 6. Given the Corps forthright admission that August is the worst month of the year for dredging, its failure to consider a minimal solution that dredges to lesser depths and/or dredges a smaller area this summer and defers additional dredging to the winter months when it will cause less environmental damage is a categorical violation of NRPA. *See* 06-096, CMR ch. 310, § 9(A) (alternatives analysis must evaluate alternative sites and "[r]educing the size, scope, configuration or density of the project" to avoid or reduce impacts to protected natural resources). Clearly, one possible alternative configuration is to change the timing of the project to reduce impacts; indeed this has been standard DEP condition on dredging impacts since 1997.[12]

c. Alternative Dredging Methods

In a minimal dredging alternative, the Corps may be able to further minimize pollution and impacts to anadromous fish by using mechanical instead of hydraulic dredging. Mechanical dredging by clamshell bucket was once state of the art and was widely used in the Kennebec River. This method is clearly practicable: it is still used by BIW to dredge its facility and sinking basin, and Reed and Reed contractors has a full suite of deck barges, clamshell buckets and push and work boats at its Woolwich Dockyard on the Kennebec.

Mechanical dredging has environmental benefits over hopper dredging, including reduced water quality impacts and lower turbidity.[13] Mechanical dredges also reduce the chance of entraining fish in the hopper dredge's impellers, screens, pipes and hoppers. For this reason, although less efficient than a hopper dredge, the Corps' Draft EA notes that a "mechanical dredge has also been considered if work is urgently needed during the warmer months, to reduce potential impacts to shortnose sturgeon." (Draft EA at 3.) This is why, on recommendation of DMR, the last permit issued to the Corps limited use of a hopper dredge to the period from Dec. 1 to March 15. For dredging outside that window, the permit required the corps to "use a mechanical dredge with clamshell bucket, which is less likely to capture sturgeon," but only between Nov. 1 to April 1." (License # L-16281-4E-D-N at 2, March 15, 2002, attached as Ex. 3.)

Despite its admission that mechanical dredging will reduce impacts to the endangered shortnose sturgeon in August, the Corps still prefers a hopper dredge.[14] The Corps theory is that

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[12] *See* note 2 above.

[13] *See* note 18, below.

[14] The National Marine Fisheries Service, in its 1998 Final Recovery Plan for the Shortnose Sturgeon, explained the threat that hydraulic dredge operations have to endangered shortnose sturgeon:

> Maintenance dredging of federal navigation channels can adversely affect or jeopardize shortnose sturgeon populations. In particular, hydraulic dredges (e.g., hopper) can lethally harm sturgeon by entraining sturgeon in dredge dragarms and impeller pumps. In addition to direct effects, dredging operations may also impact shortnose sturgeon by destroying

even though the chances for lethal entrainment from a hopper dredge are far higher (and several sturgeon were in fact trapped by the dredge in 2003, *see* Draft EA at 22.), the work goes faster and therefore there is less chance for interactions between the dredge and fish. This is mere speculation: the Corps offers no evidence whatsoever that a project of shorter duration but which kills more fish per day is better than a project of longer duration but which kills no or less fish per day. The question is how many fish could be impacted by each alternative – and the Corps has utterly failed to meet its burden to affirmatively demonstrate that it has chosen the best alternative (and the Department has likewise failed to explain why it chose one alternative over the other.)

Moreover, under a minimal dredging alternative, the Corps' logic falls apart. Clearly, the environmentally preferred alternative is to dredge as little as possible (or not at all) in August when the Kennebec is heavily used by migratory and endangered fish. In such a case, a clamshell bucket dredge may be both environmentally and technically preferable. Additionally, under a minimal dredging alternative the economy of scale that favor hopper dredging disappears. This is particularly true if dredging in North Sugarloaf Island reach can be deferred until the normal winter dredging window.

Once again, this is exactly the sort of balancing and weighing of impacts among alternatives that NRPA requires and which the Department failed to do. *Uliano v. BEP*, 2005 ME 88, ¶ 17; *Uliano v. BEP*, 2009 ME 89, ¶ 40.

d. Minimum Dredging and Upland Disposal

> benthic feeding areas, disrupting spawning migrations, and filling spawning habitat with resuspended fine sediments. Potential impacts from hydraulic dredge operations may be avoided by imposing work restrictions during sensitive time periods (i.e., spawning, migration, feeding) when sturgeon are most vulnerable to mortalities from dredging activity. In 1991, the National Marine Fisheries Service concluded that an Army Corps of Engineers' (ACOE) maintenance dredging operation in the lower Connecticut River was likely to jeopardize the continued existence of the Connecticut River shortnose sturgeon population. This conclusion was based on the season in which the project was scheduled (early summer), the proposed use of a hydraulic hopper dredge, and in-river disposal within high use feeding areas. To avoid jeopardy, the NMFS recommended that the ACOE use alternative dredge types (i.e., clamshell, hydraulic pipeline) and/or reschedule the project when sturgeon were unlikely to be in the project area.

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, 1998 Final Recovery Plan for the Shortnose Sturgeon Acipenser breverostrum, available at http://ecos.fws.gov/docs/recovery_plan/sturgeon_shortnose_1.pdf.

To the extent that minimal dredging can reduce the volume of spoils, the Corps must re-consider upland disposal. Because upland disposal is not water-dependent, by rule it is presumptively available and less impactful. 06-096 CMR, ch. 310, § 5(A). The Draft EA acknowledged that upland disposal is viable but dismissed it unless a site and financial sponsor could be found. (EA at 7.) This approach, however, illegally reverses the applicant's burden to affirmatively demonstrate compliance with NRPA standards. It is the Corps' burden to show that no sponsors can be found, and in this case it has made absolutely no effort to solicit bids or to explore this option. Such lack of effort stands in marked contrast with BIW, which currently contracts with Reed & Reed to dispose of a portion of its dredge spoils on land.[15] As BIW and Reed and Reed have learned, there is a market for clean sand for construction and road building, which can defray the costs of such disposal.

In sum, the available evidence demonstrates that, contrary to the Draft EA, the necessary equipment, infrastructure, and trained personnel are all available for land-based disposal in a scaled-back alternative and that such an alternative may be economically viable. Moreover, because use of sand from dredge spoils will displace other sand and gravel mining – which causes environmental impacts – environmental *benefits* would accrue from this alternative. Additionally, it could provide jobs for local companies and local workers instead of an out-of-state dredging company with transient workers.[16]

Unless and until the applicant submits new evidence affirmatively demonstrating that minimum dredging with full or partial upland disposal at one or both sites is not practicable – and currently there is no such evidence in the record – the Board must reverse the Commissioner's Order and deny this permit.

e. Minimum Dredging and Offshore Disposal

To the extent that out-of-season dredging at one or both sites is absolutely required to enable egress of the Spruance and the Corps can demonstrate based on clear and convincing evidence that upland disposal is impracticable for one or both dredge sites, the Corps must demonstrate that it is also impracticable to dispose of reduced dredge spoils in an offshore location, including the pre-approved DAMOS offshore disposal site near Portland.[17]

As is detailed below, dredging and disposal in August will have unacceptable impacts on virtually all other users and resources in the river aside from navigation. In-river and near-shore disposal, in particular, may be very damaging to the environment and to Appellants. The Draft EA acknowledges that offshore disposal was used previously and remains economically

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[15] *See* Comments of the Phippsburg Commenters ("PC") at 8 (March 30, 2011), attached as Ex. 7.

[16] According the Corps, there is but one company with a hopper dredge in the entire northeast.

[17] *See* http://www.nae.usace.army.mil/damos/mapsinfo.asp?myName=Portland, attached as Ex. 8.

practicable. The Corps, however, rejects this alternative because it does not keep the material within the littoral system. (Draft EA at 7.) The concern is that dredging should not deplete the Kennebec River sand budget and potentially lead to erosion of Popham Beach. Yet there is no analysis of whether a reduced amount of material from a one-time emergency dredging event this summer could be safely removed from the littoral system without impacting the beaches.

By dredging the least amount possible, the Corps would reduce the duration and extent of dredging impacts to other resources and remove less material from the Kennebec River sand budget. By using pre-approved offshore disposal sites (such as the pre-approved Portland Disposal Site), disposal impacts to lobstering, shellfishing, tourism and recreation, wildlife, endangered fish species, wetlands, and water quality would be averted. Based on the totality of the circumstances, such an alternative could reduce overall environmental impacts and may represent the optimum solution to what is admittedly a complex problem. This is exactly the sort of balancing and weighing of impacts among alternatives that NRPA requires. *See Uliano v. BEP*, 2005 ME 88, ¶ 17; *Uliano v. BEP*, 2009 ME 89, ¶ 40.

The Commissioner's Order, however, makes no attempt to weigh the potentially competing environmental impacts of the proposed action versus off-shore disposal, or to devise an alternative solution that achieves the optimum balance to minimize the overall impact. For this reason, the Order violates NRPA and must be reversed.

In summary, because the applicant failed to affirmatively demonstrate that less environmentally damaging alternatives, including no dredging, mechanical dredging, minimal summertime dredging, and upland and/or offshore disposal are impracticable, the Order violates NRPA. Appellants respectfully request that the Board modify the order to conduct the proper alternatives analysis, and, specifically, that the Board review an alternative that limits summertime dredging and disposal to the absolute minimum necessary to allow safe transit of the U.S.S. Spruance, that considers mechanical dredging to minimize impacts to marine fisheries, and that requires dredge spoils, if any, be disposed of upland or offshore.

3. WATER QUALITY VIOLATIONS

The primary issue driving this dispute is the proposed dumping of 70,000 cubic yards of dredge spoils at in-river and near-shore dump sites during the height of the summer tourist, clamming and fishing seasons in August. Dumping this massive amount of pollution during the most critical summer month – generally one of the very cleanest months of the year on the Kennebec – will severely impact all other users of the system, and in particular lobster fishermen, shellfish harvesters, and anglers and their guides. It will also violate multiple state water quality standards and therefore cannot be permitted under either NRPA, 38 M.R.S.A § 480-D(5), or sections 401 and 404 of the Clean Water Act, 40 C.F.R. §§ 121.2(3), 230.10(b)(1).

a. Background on Water Quality Impacts from Dredging and Disposal

Since the early 1980s, local shellfish harvesters have complained that dumping of dredge spoils in-river increases bacteria levels in the river and causes siltation and sedimentation of clam flats. The Corps contends that disposal of dredge spoils produces only very localized impacts at dump sites and that, according to studies done in the 1980s and 1990s, dumping of spoils in-river at the Kennebec Narrows will not result in sedimentation or pollution of downstream flats. Based on this narrow and dated look at potential sedimentation of clam flats from one of the two disposal sites (and ignoring all other water quality impacts), the Order found that the proposed activity would not violate Maine water quality standards. (Order at 6-7, 8.)

This finding is deeply flawed and ignores both the very severe and significant water quality violations from localized impacts – which are not in dispute – and evidence showing that disposal of such large volumes of dredge spoils in August will also result in more widespread impacts and water quality violations to clam flats and other resources in the system (such as marine fisheries).

First, however, we discuss the background on water quality impacts from dredging and disposal.

The Corps is proposing to use a hopper dredge, which vacuums material off the bottom and pumps a slurry of sand and water to be filtered in a hopper (thus the name) at the surface. Hopper dredges result in turbidity levels that are triple the levels from clamshell bucket dredges.[18] It takes approximately two hours to fill the hoppers with slurry (one part spoils, four parts water) and then the dredge ship will move to a dump site. The ship will release the accumulated dredge slurry at the dump site by opening bay doors under the hold. Although mostly coarse sand, the data and personal observations show that the liquefied dredge spoils do not drop straight to the bottom, but rather "cause sediment to be suspended in the water column." (Draft EA at 19.) For example, during November 2009 dumping of similar material by BIW at the Kennebec Narrows, Appellant Dot Kelly, an adjacent landowner, reported that dumping resulted in immediate turbidity and discoloration of the entire river, from bank to bank. [19] That dredge event – approximately 18,000 cubic yards – deposited about a foot of coarse brown sand topped by finer black silt on the normally rocky shoreline and intertidal zone (more than half of the sand is still present today, see Figure 2).

These observations are consistent with the limited studies that have been conducted to monitor dredging impacts in the Kennebec Narrows. An analysis of dumping at the Kennebec Narrows by Corps staffer William Hubbard in 1981 found that bottom areas 300 meters (1,000')

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[18] Comments of Dot Kelly to DEP and Army Corps, at 12-13 (March 30, 2011) (attached as Ex 9), citing Lackey, US Army Corps of Engineers, Vicksburg, MS, *Prediction of Suspended Sediment Due to Dredging at the Willamette River*, 2009 available at http://el.erdc.usace.army.mil/workshops/09sep- dots/36_WillametteRiver_Lackey.pdf.

[19] *Id.* at 2-3.

downstream of the disposal site accumulated dredge spoils at 50% of the rate of bottom areas immediately underneath the disposal site. *See* William A. Hubbard, *Analysis of Survey Data Kennebec River Disposal Site, Sagadahoc County, Maine*, contained in Draft EA, Appendix 1). After dumping approximately 50,000 cubic yards of "sandy material," the mound of spoils accumulated on the river bottom immediately below the 150m x 150m Kennebec Narrows dump site averaged approximately 3 meters deep (just under 10'). 300 meters downstream spoils accumulated to an average of 1.4 meters (4' 6"). (*Id.*) No measurements were taken to either side of the dump location or further downstream; however, the Corps estimates that dredge spoils dumped at the Narrows will initially disperse at least 3,000 feet downstream. (Draft EA at 19.) In the Kennebec Narrows, the shoreline on each side is within 55 meters (180') of the dump site boundaries, and well within the range of impact identified by Hubbard and the Corps. Thus, Kelly's observations are wholly consistent with Hubbard's findings and provide clear and irrefutable evidence that dumping at the Kennebec Narrows will, at a minimum, result in deposition of large amounts of sandy material in the intertidal zone along much of the Narrows.

A second analysis was conducted by Normandeau Associates in 1997, which was summarized in a cover letter (rather than a scientific or peer reviewed report) that accompanied the data results. (*See* M. Bowne, Office Manager, Normandeau Associates, Dec. 5, 1997 letter to Bob Herman, BIW, at Table 1. Attached as Ex. 13.) The Order relies upon the Normandeau letter's conclusions that "turbidity levels were consistent with other sampling stations along the Kennebec River and that there was no trend related to station, depth, or dredging/disposal." (Order at 4.) Reliance on the Normandeau Letter is error for two reasons. First, the study is fatally flawed, both in design and in implementation. Second, the limited data it produced actually demonstrates the opposite of Normandeau's conclusion – there is a clear trend showing that dredging and dumping results in increases in turbidity and fecal coliform levels.

Regarding the study design, Normandeau evaluated water quality at only four locations (with a pair bracketing the dredge site and disposal site, respectively). (*Id.*) Use of just four data points is wholly insufficient to support a study of a river system of this complexity. More problematically, Normandeau only took measurements at the bottom and at mid-depth. No measurements were taken close to the surface where hopper dredge filtering and dumping occurs. Finally, the study sites and data were not correlated to tides and currents, which is critical to measuring and understanding dispersal patterns. (*Id.*) These flaws render the study design statistically inadequate to support any findings.

Next, Normandeau collected its pre-dredge baseline samples during a "large storm event" instead of normal conditions. (*Id.*) Due to high levels of pollution from storm events (CSO discharges, POTW overflows, stormwater runoff, and non-point pollution) data collected on that date does not provide a valid baseline. To make matters worse, Normandeau then failed to follow EPA sampling protocols for the baseline samples, making the baseline data suspect. Finally, Normandeau reported post-dredge sampling dates (Nov. 18th) on days that clearly occurred prior to completion of dredging. (*Id.*) Based on the numerous and fundamental flaws in design and implementation, the Department erred by relying upon the Normandeau study.

Second, contrary to the conclusions stated in the cover letter, the Normandeau data in fact show an increase in turbidity levels due to dredging and dumping. At station 4 located

downstream of the dump site, the turbidity value was lowest pre-dredge (even though it was measured during a storm event); turbidity doubled the day of dredging, and rose even higher a day later, post-dredge. In fact three of the four sampling sites show increases in turbidity levels during and immediately after dredging, while the fourth station (#3) stayed even. The data results are re-produced below.

Table 1. Turbidity (NTU) before and during Kennebec River Dredging

Station	Depth	Pre-Dredge*	Dredge	Post-dredge
1	Mid	8.5	14.0	10.0
	Bottom	9.5	12.0	9.0
2	Mid	6.5	9.0	12.0
	Bottom	6.3	9.0	8.0
3	Mid	8.0	7.0	8.0
	Bottom	7.0	9.0	9.0
4	Mid	3.0	5.0	6.0
	Bottom	2.5	5.0	9.0

* Samples exceeded the allowable holding period.

(*Id.*) Contrary to the conclusions in the Order, the trend is clearly one of increasing turbidity from dredging. Moreover, this is based on comparisons to Normandeau's corrupted baseline data (2.5 to 9.5 NTU). When the Normandeau dredge and post-dredge data is compared to dry weather turbidity levels as measured by a separate study BIW modernization program (1.1 to 1.8 NTU during the months of August to October) (*Id.*, Table 2), the data clearly indicate that dredging will likely result in substantial increases in turbidity above normal water quality conditions in August. In short, the Normandeau data do not show no impact to water quality from dredging; rather the data indicate that dredging in August – normally among the very cleanest months of the year – will significantly reduce water quality.

Normandeau's fecal coliform tests show the same general trend. Pre-dredge sampling — which occurred during a large storm event – found bacteria levels at the dump site as high as 43 and 23 MPN/100 ml (above and below the Kennebec Narrows dump site, respectively). The day after dredging, bacteria levels matched or more than doubled the rainy day bacteria levels (93 and 23 MPN/100 ml) (*Id.*, Table 4.) This indicates that disposal of dredge spoils causes an increase in bacteria levels that is similar or higher than increases in bacteria levels from storm events, which often result in closure of the clam flats. Additionaly, the Normandeau data occurred during months when most upstream wastewater treatment plants do not chlorinate. In August, however, treatment plants are under seasonal disinfection requirements. Thus, the August baseline water quality will be much higher for bacteria.

The Normandeau data – to the extent the study has any validity – do not show no impact from dredging. Rather, the clear trend indicates that dredging does in fact increase bacteria levels and therefore poses a threat to downstream clam flats. This threat is cumulative for each day of dredging, just as in an extended rain event. Moreover, the threat also increases during wet weather, since the addition of bacteria from dredging to background levels could raise total

bacteria counts above safe levels for human consumption and thus cause DMR to close downstream the clam flats.

A third study cited in the Order, "*A Final Report on the Effects of Dredging and Spoil Disposal on the Sediment Characteristics of the Clam Flats of the Lower Kennebec Estuary*," by Peter Larsen in March 1982, attempted to measure sedimentation rates before during and after dredging of the FNP in October 1981. Larsen's methodology – burial of plates 15-20 centimeters deep in the clam flats – compromised his data from the start because it involving altering the very locations he studied. Moreover, he sampled generally sampled only one location for each flat, even though impacts vary widely depending upon exposure to tides and currents. Additionally, the sampling protocol looked only for accumulated deposition over an extended period (six data points for each sampling site over a one-month period). But as every clammer knows, the flats change daily with each tide, river levels, rain events, currents, and other natural causes. The study design did not and could not identify the level of daily sediment flux or potential causes for changes in sedimentation. Moreover, the study includes no information about intervening water levels, water quality, weather events or tides (including occurrence of spring or neap tides) that may have affected results. Area clammers contend that disposal of finer materials in dredge spoils can and sometimes does result in siltation of downstream clam flats and that the silt may raise levels of bacteria and/or toxins and, at a minimum, will fill in breathing and feeding holes. The Larsen study, sheds no light on whether such siltation occurs, i.e. whether deposition occurs on one tide and is then washed downstream to another flat on the next tide, whether breathing and feeding holes have been filled, whether clams are exposed to water quality impacts (bacteria, toxins), and potential impacts to juvenile clams. Finally, October-November conditions are generally wetter, with lower water quality and stronger tides. Thus, the same test done in August could produce significantly different results .

In summary, based on direct observations, sediment accumulation on nearby riverbanks, and the limited studies that have been done, dredge spoils – including even coarse-grained sands – do not drop straight down like a rock. Rather, the spoils and any liberated bacteria are carried by currents and tides to surrounding waters. Finer materials disperse even farther. Given the volume and locations of proposed dumping, the proposed action will likely result in severe reduction in water quality and cause multiple violations of Maine water quality standards.

b. Violations of Class SA Standards – Kennebec Narrows

Currently, the Kennebec Narrows dump site is designated by the legislature as class SA. 38 M.R.S.A § 469(5)(B). Discharge of dredge spoils is therefore categorically prohibited. *Id.*, § 465-B(1)(C). The Order authorizes the proposed action on the premise that the 1990 class SA designation was in error, and makes the 401 Certification and NRPA permit contingent upon anticipated legislation to revise the Kennebec Narrows classification to class SB. (Order at 8.) Appellants strenuously dispute that the 1990 classification was an error and that the 2011 Legislature can unilaterally revise the classification without meeting federal requirements for downgrading the classification of a water body, including the requirement to conduct public hearings in the affected communities and developing a Use Attainability Analysis pursuant to 40 C.F.R. § 131.10. Additionally, no such downgrade is effective unless and until reviewed and

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approved by EPA. *Id.* § 131.21(c). *See also* James E. Tierney, Maine Attorney General Opinion 86-6A, at (March 10, 1986) (*quoting Mississippi Commission on Natural Resources v. Costle*, 625 F.2d 1269, 1275 (5th Cir. 1980) (water quality revisions must be submitted to EPA to be effective and the agency has the final voice on the legal adequacy of the standards)). Thus, at a minimum, the Order must be modified to clarify that disposal of dredge spoils at the Kennebec Narrows is contingent upon both Legislative downgrade of existing class SA designation *and* EPA approval of that downgrade.

c. Violations of Class SA Standards – Jackknife Ledge

The proposed Jackknife Ledge disposal area is in class SB waters immediately adjacent to and abutting class SA waters. (*See* Public Notice at 8.)[20] Direct discharges of pollutants, including dredge spoils, are prohibited in class SA waters. 38 M.R.S.A § 465-B(1)(C).[21] Here, the proposed discharge point is immediately proximate to the Class SA boundary. Based on the Hubbard study and the Draft EA – which shows that initial dispersal of dumped spoils will extend between 1,000 feet (up to 50% of total accumulation) to 3,000 feet (up to 10% of total accumulation) (Draft EA at 19) – disposal of 20,000 cubic yards of dredge spoils at JKL will undoubtedly result in large amounts of pollution entering into and settling out within immediately adjacent class SA waters. Direct discharges into class SA waters violate Maine water quality standards and cannot be permitted.

Additionally, under Class SA standards, "habitat must be characterized as free-flowing and natural," 38 M.R.S.A § 465-B(1)(A) and "estuarine and marine life . . . shall be as naturally occurs. *Id.* § 465-B(1)(B). "'Natural' means living in, or as if in, a state of nature not measurably affected by human activity." *Id.* § 466(9). "'As naturally occurs'" means conditions with essentially the same physical, chemical and biological characteristics as found in situations with similar habitats free of measurable effects of human activity." *Id.* § 466(2).

Dumping of 20,000 cubic yards of dredge spoils immediately adjacent to the class SA boundary – which will cause "measureable" amounts of dredge spoils to enter those class SA waters and to bury class SA habitat and natural occurring marine life under many feet of pollution – expressly violates class SA water quality standards. Burying some of the prime lobstering grounds off of the Phippsburg peninsula under several feet of dredge spoils cannot even be remotely described as "natural" or "a state of nature not measurably affected by human activity." *Id.* Moreover, based on the applicant's own studies, such dumping will result in measurably higher levels of turbidity in class SA waters, which may kill, stress and displace

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[20] The circular 500-yard JKL dump site is within a hundred feet, or less, of the Longitude 69° 47' 0" W boundary between Class SA and SB waters.

[21] Direct discharge is defined in statute to mean the same thing as a point source, i.e. a any discernible, confined and discrete conveyance from which pollutants are discharged. *Cf.* 38 M.R.S.A § 466(5) (definition of "direct discharge") with 06-096 CMR, ch. 520, § 2 (definition of "point source").

lobsters (and their food sources) at a key period in their migration, during molting, when their shells are too soft to offer protection from predators.

Appellants raised concerns about impacts to lobster and lobster habitat repeatedly, at both the public hearing and in written comments. For example, Dean Doyle, chair of the Phippsburg Shellfish Conservation Commission, wrote that

> The mouth of the Kennebec has a significant amount of lobstering activity (particularly south of Jackknife Ledge). One committee member noted you could practically walk from Morse River to Seguin Island on the sea of lobster buoys in the area in August. We are concerned that the dredge itself will cut lines and wipe out lobster traps that are in its path, both while dredging and while transporting the dredged material to the disposal site. The dredging and dumping at the mouth of the Kennebec will kill and stress lobsters in this very active fishery, again at a time of year when demand for the product is at its peak.

Comments of Dean Doyle, Chair, Phippsburg Shellfish Committee, at 3-4 (March 25, 2011); *see also* PC at 12.

At the start of the permit review process, DMR also raised concerns with DEP that the project would "definitely [impact] lobstering off Popham beach."[22] The next day the DEP project manager commented to his supervisor that "this looks like something we will have to rush through, possibly over [DMR's] concerns."[23] And that is exactly what DEP did. Nowhere does the Department Order even mention, let alone provide a reasoned analysis, of potential dredging and disposal impacts to habitat or marine life (including lobsters and all other marine species) in the North Sugarloaf Island reach or surrounding Jackknife Ledge, whether in class SA or SB waters (see discussion of almost identical violation of class SB standards, below). Failure to address this problem is yet another fatal flaw in the Order. *See Uliano v. BEP*, 2005 ME 88, ¶23.

Accordingly, because dredging of the North Sugarloaf Island channel is not necessary in August to allow safe transit of the Spruance; because the applicant has failed to meet its burden to affirmatively demonstrate that dumping at Jackknife Ledge will not violate class SA habitat and marine life standards; and because the Department's Order fails to provide any analysis or meaningful review of these issues, the Order must be reversed. Given these major gaps, the Department's conclusion that the proposed action will not violate any state water quality law is arbitrary and capricious and must be set aside. (*See* Order at 8.) At a minimum, the Board must revise the order to minimize disposal impacts, particularly to lobstering, shellfish harvesting, and guided fishing, and to require compensation for lost fishing days.

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[22] Email from Brian Swan, DMR, to Bob Green, DEP, Feb. 1, 2011 at 5 p.m., attached as Ex. 10.

[23] Email from Bob Green, DEP to Marybeth Richardson, DEP, Feb. 2, 2011, at 9:35 a.m., attached as Ex. 10.

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d. Violations of Class SB Standards – Habitat and Aquatic Life

Maine's class SB standards for habitat and aquatic life require that "habitat must be characterized as unimpaired." 38 M.R.S.A § 465-B(2)(A).[24] "Discharges to Class SB waters may not cause adverse impact to estuarine and marine life in that the receiving waters must be of sufficient quality to support all estuarine and marine species indigenous to the receiving water without detrimental changes in the resident biological community." *Id.* § 465-B(2)(C).[25]

The Kennebec Narrows disposal site north of Bluff Head is a rocky deep, narrow (300 yards wide) channel with strong currents, eddies and upwelling. It is a critical and very biologically rich area: all the anadromous fish and aquatic life that ride the currents up and down the Kennebec and Androscoggin Rivers transits these narrows. Since it is a fertile fishing ground, it attracts diving ducks, birds, birds of prey and seals. Impacts to this rich aquatic environment have not been studied in any prior dredging analysis; nor are there any analyses of impacts to this river segment in the draft EA or Public Notice document.

During a prior BIW dredging event in November 2009 – which involved disposal of 18,750 cubic yards of material also designated as "clean sand" in the permits issued to BIW – Appellant Kelly observed that the dumping resulted in immediate and extreme turbidity and discoloration of the entire reach of the Kennebec Narrows, from bank to bank, which drove virtually all visible wildlife from the area.[26] Despite findings by the Department that dredged sands from the BIW dredging would cause no impacts, a foot-plus thick layer of sand and mud was deposited on the adjacent intertidal zone, including both the Kelly shoreline and the adjacent marshes. This impact is not temporary. As shown in the photograph in Figure 2, approximately four to six inches of sand still covers most of the intertidal zone over 17 months later. This layer of sand extends throughout much of the Kennebec Narrows shoreline and adjacent marshes and wetlands, including the marsh at the Phippsburg Land Trust's Greenleaf Preserve. (This is also an example of the kind of deposition that threatens clam flats, see below).

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[24] "'Unimpaired' means without a diminished capacity to support aquatic life." *Id.* §466(11). Aquatic life "means any plants or animals which live at least part of their life cycle in fresh [sic] water" *Id.* § 466(1).

[25] "'Without detrimental changes in the resident biological community' means no significant loss of species or excessive dominance by any species or group of species attributable to human activity." *Id.* § 466(12). "'Resident biological community' means aquatic life expected to exist in a habitat which is free from the influence of the discharge of any pollutant. This shall be established by accepted biomonitoring techniques." *Id.* § 466(10).

[26] *See* note 18, above. *See also* PC at 16, Ex. 7; Dot Kelly, *Comments to DEP*, at 9-12 (March 20, 2011) attached as Ex. 9.

Figure 2: A thick layer of sand still coats the western shore of the Kennebec Narrows approximately 17 months after being deposited from the dumping of dredge spoils in 2009

Sustained burial of the Kennebec Narrows' normally rocky shoreline under a thick layer of sand and mud fundamentally alters normal conditions and detrimentally affects the resident biological community by filling interstices and smothering habitat. This is a clear violation of class SB habitat and aquatic life standards. Although Appellants raised this concern during the public comment period, the Department made no effort whatsoever to review this concern or even respond to the Appellants concerns. *See* Order at 6-7.

Pursuant to NRPA and Section 401 of the Clean Water Act, it is the applicant's burden to affirmatively demonstrate compliance with all applicable standards, including proof that the "activity will not violate any state water quality law, including those governing the classification of the State's waters." 38 M.R.S.A § 480-D(5). Here, the applicant made no such effort and the Department utterly failed to even consider the issue. The only evidence in the record conclusively shows that extensive deposition from dredging has in fact occurred on this shoreline, in levels and for durations sufficient to detrimentally affect the resident biological community. This evidence is corroborated by the applicant's own studies of dispersal rates (Hubbard, Draft EA) and turbidity levels (Normandeau), which both show that dumping will result in extensive sedimentation of the shoreline. Accordingly, barring new evidence affirmatively demonstrating that the undisputed localized impacts from dredging will not violate water quality standards, the Board must find that the Order is in error and that in-river disposal at the Kennebec Narrows is prohibited under NRPA and the Clean Water Act because it is reasonably likely to cause violations of class SB standards. 40 C.F.R. § 121.2(3).

The applicant and Department face the same problem at the Jackknife Ledge disposal site. As noted above, the bottom surrounding JKL is prime lobster habitat. Burial of a wide area of the bottom under several meters of sand will detrimentally affect lobsters and other resident biological life, thus violating class SB standards. While the Order can be read as downplaying such impacts based on a best case scenario that dredging will only last for a few days (Order at 3,

5), the Draft EA acknowledges that regardless of the dredge duration the immediate impacts will last for years, and that repeated impacts from disposal events are cumulative.

As the Draft EA states, "the benthic organisms that have colonized the [Jackknife Ledge disposal] site since the previous disposal operation will be buried. Re-colonization is anticipated to occur *within a few seasons* of larval and adult recruitment." (Draft EA at 21-22, emphasis added.) No discussion is provided of how many seasons larval and adult recruitment will take. But return of the benthic population, which makes up the prey base for the lobster population, is critical for appellants, whose livelihood depends upon maintaining a high quality fishery. As this discussion makes clear, from a water quality, habitat and fisheries perspective, JKL is a bad location to dump large volumes of dredge spoils – particularly during the lobster molting season in August. Moreover, given anticipated widespread dispersal of spoils due to strong tides and currents in the area, the impact will not be confined to the relatively small dumping area, but can be expected to cover a wide area of bottom habitat.

Since the only evidence in the record conclusively shows that deposition from disposal of dredge spoils will obliterate (i.e. "impair") the benthic community for a period of years, at a minimum, the Department erred in finding that the proposed disposal at JKL will not violate any water quality law, including class SB standards. Accordingly, the Board must find that the Order is in error and that near-shore disposal at JKL is prohibited because it is reasonably likely to cause violations of class SB habitat standards.

e. Violations of Class SB Standards – Shellfish and Bacteria

Disposal of dredge spoils in class SB waters is also prohibited if it would cause or contribute to excessive bacteria levels or cause the Department of Marine Resources (DMR) to close open shellfishing areas. 38 M.R.S.A § 465-B(2)(C). Maine's class SB standards for clam flats and shellfish harvesting provide that:

- E.Coli bacteria levels of human origin (which would include suspension of formerly isolated bacteria because of dredging) may not exceed a geometric mean of 8/100 ml or an instantaneous level of 54/100 ml. Total coliform levels in shellfish harvesting areas may not exceed the criteria recommended by the U.S. National Shellfish Sanitation Program. *Id.* § 465-B(2)(B).[27]

- "There may be no new discharge to Class SB waters that would cause closure of open shellfish areas." *Id.* § 465-B(2)(C).

In findings four and five, Order finds that there will be no violation of the class SB bacteria and shellfish standards. For example, finding five states: "Given the composition of

[27] The Kennebec River estuary is included in the 2009 statewide bacteria TMDL. *See* Maine DEP, *Maine Statewide Bacteria TMDL*, Report # DEPLW-1002 at 16 (August 2009). Because direct discharge of dredge spoils is not assigned a waste load allocation under the TMDL, any discharge of bacteria is technically prohibited by the Clean Water Act. *See id.* at 26 (Table 4-2).

dredged material and the provisions that will be taken to protect open shellfish areas, the Department does not anticipate that the proposed project will violate any state water quality law, including those governing the classification of the state's waters." (Order at 7.) This is in error for the following reasons.

First, this finding is arbitrary and capricious because in fact the Order makes no provisions to protect open shellfish areas. To the contrary, the current plan is to close the flats if monitoring shows contamination, not to stop dredging. Due to public health concerns over bioaccumulation of toxins and bacteria, DMR has determined that the project will require regular testing. (Patrick Keliher, Acting Deputy Commissioner of DMR, *Additional Comments*, at 2, April 11, 2011, attached as Ex. 14). DMR has further stated that if it measures an impact, "we will need to close the shellfish resource downstream of the disposal site, until such time as testing confirms that there is no longer a public health issue." (*Id.*) No conditions are imposed to stop dredging operations. Thus, because no provisions have been made to protect open shellfish areas, the Department's Order is based on a false premise. This alone warrants reversal of the Department's Order.

Second, to add insult to injury, the Department also rejected DMR's recommendations to provide compensation to shellfish harvesters if a closure does occur. As DMR stated:

> The time period for this proposed dredging activity (late July to August) falls during the time of year when most of the harvesting takes place in the area, and when clam prices are historically the highest of the entire year. License and landings data available at the towns show that many harvesters make as much as 50% of their annual harvest income during the proposed dredging period, and therefore *compensation should definitely be required*, if there is a shellfish closure triggered by the dredging activity.
>
> Because the dredging/disposal activities would be taking place outside the normal work window, DMR strongly suggests that the Corps, DEP, DMR, BIW, the Navy and the Phippsburg Shellfish Committee meet to discuss the ramification to shellfish harvesters for lost income in the event of a necessary shellfish area closure caused by these activities.

(*Id.*, emphasis added.) The Department's refusal – without explanation – to incorporate DMR's recommendation to compensate harvesters violates NRPA standards prohibiting interference with existing uses, 38 M.R.S.A § 480-D(1), and unreasonable impact to marine fisheries, *id.* §§ 480-D(3), (9). *See also Uliano v. BEP*, 2005 ME 88, ¶23 (License must provide rationale for each determination). For this reason also, it must be set aside.

Third, the Department's finding of no impact to shellfishing is in error because it relies upon a best case scenario assumption that dredging will be completed in as few as two or three days. Specifically, the Order found:

> The Corps stated that, given the 24 hours a day work schedule for this project, dredging operations at Doubling Point *could be completed in as few*

> *as two or three days* and less for dredging at North Sugarloaf Island reach. Because DMR proposes to monitor water quality downstream of the Bluff Head Disposal Site, and given the low percentage of silt-sized particles that would create turbid discharge and *the short time to perform the dredge*, the Department finds that the proposed project is not expected to have an unreasonable impact to the clam flats near the mouth of the river.

(Order at 5, emphasis added.) In contrast to this rosy prediction, the project application is for a three to five week dredging project. [redacted] Thus, the assumption in the Order that dredging "*could*" be completed in a matter of days is unwarranted, inaccurate and insufficient to meet the standards under NRPA and Section 401 of the Clean Water Act. Here again, the Department's finding is based on a false premise and is therefore in error.

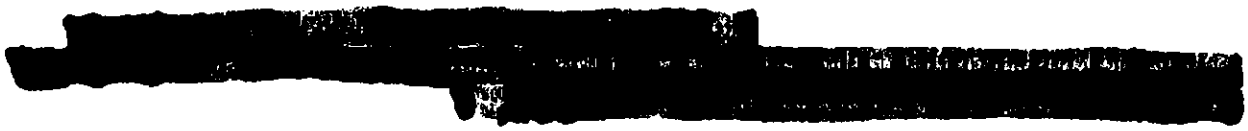
Fourth, and most importantly, the Department erred in assuming that water quality impacts from dredging and disposal will be limited to local areas and will not affect clam flats downstream of the Kennebec Narrows or in-shore from JKL. Although the Department cites to grain sample sizes and to a pair of old (and deeply flawed) studies to show no impact, the actual experience of DMR and the Phippsburg shellfish harvesters is far different. As DMR has explained,

> The lower Kennebec had very little shellfish resource that was classified as approved for harvest in 1997, when the issue of potential shellfish area closure downstream of Corps' dredging/disposal was last studied. In recent years, DMR has been successful with an incredibly intense effort to re-classify shellfish resource in that area and make it available to local harvesters. In the process of this work, we have documented that shellfish resource in the lower Kennebec River has proven to be excessively sensitive to river flow and discharge characteristics.

(Keliher, *Additional Comments*, at 2.) The Phippsburg Shellfish Committee is unequivocal that, based on the personal experience of harvesters during dredge events in 1997, 2000, 2002, and 2003, dredging and disposal into this very sensitive system does in fact effect the clam flats. In his comment letter to DEP, chair Dean Doyle stated:

> In our experience, dredged material does not stay within the proposed dumping area and/or the dredging process itself releases noticeable and significant silt spreads throughout the clam flat areas along the Kennebec, particularly those in proximity to the dredging or dump sites, closing the feeding and breathing holes used by harvesters to locate populations of clams. Dredging at Doubling Point and dumping at Bluff Head affects active shellfish flats at Dromore Bay, the Upper Flats, Parker Head, Wyman's Bay

[redacted]



> and Atkins Bay. Dredging at Popham Beach and disposal at Jackknife Ledge affects the entire Small Point/Popham Beach complex, including the Morse and Sprague rivers.

Comments of Dean Doyle, Chair, Phippsburg Shellfish Committee, at 3 (March 25, 2011).[29]

There is no dispute that fine grain sediments (silts and clays) from dredging, as Maine Geological Survey ("MGS") states, "would not settle quickly but would be carried by tidal and river currents to intertidal and subtidal depositional sites upstream and downstream of the disposal sites." (Order at 4.) The Department dismisses this impact simply because the percentage of estimated fines is small, about 1-2% of the spoils based upon the Corps sampling. (*Id.*) That, however, misses the point. Spoils expand exponentially when liquefied; particularly the fines. This is why the Hubbard survey of the 1981 dumping in the Kennebec Narrows found disposed spoils were four times greater in volume than the amount of material dredged, just within the disposal area (Kelly at 11), and it is undisputed that much of the spoils settled out downstream of the disposal area. A 50,000/20,000 cubic yard dumping event, is more than capable of entraining enough silt in the water column to produce some siltation on downstream flats, including, at a minimum, the filling in of breathing and feeding holes. The clammers' testimony provides first hand evidence that this may be exactly what happened in prior years.

The Department's dismissal of these impacts based solely upon older and flawed studies, to the exclusion of the testimony of fishermen who regularly work the flats and who have first hand knowledge of dredge impacts, is arbitrary and capricious and should be reversed. This is especially true since the concerns of the harvesters are supported by testimony both from DMR, which states that the flats are "excessively sensitive" to river flows and discharges (Keliher at 2), and from MGS, which stated that "it is not possible to quantify and predict transient water quality impacts, nor is it possible to identify specific areas that may become silted as a result of the proposed project." (Order at 4.)

This is not just some academic dispute. For the Phippsburg commercial harvesters, the months of July and August are the best months of the year – the weather tends to be dry, the days long (often two low tides per day), and the value of each bushel of clams is at its peak. Moreover, in recent years, the Kennebec River flats have been subject to a number of closures due to high rainfall and excessive upstream pollution; resulting in closures as many as half of the fishing days in 2009 and 2010. Additionally, if there is a red tide closure this summer on the coast, which is not uncommon, the inland Kennebec River flats are often the only local areas that remain open.

In short, the risk of dredging and disposal in August to local harvesters is extreme. Closure in August could easily cost $350,000 to $500,000, not including recreational harvests. But the concern is not just for this year. If dispersal of dredge spoils by currents and tides results in impacts to any of the clam flats, and especially the highly productive clam flats in the Morse and Sprague Rivers, there is a real concern for long term impacts:

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[29] Attached as Ex. 11.

> The Jackknife ledge disposal site sits offshore from the Fox Islands and the mouth of Morse River. It is part of the sediment circulation system that feeds the entire Small Point and Popham beach area. As noted above, this is apparently part of the reason why the Corps has selected the Jackknife Ledge site, as the area is considered part of the littoral system. This is also why we are especially concerned about dredging and dumping – both in this area and at this particular time of year.
>
> In the last few years, the Morse River has become one of the most productive clam spawning grounds in Phippsburg. It is one of the few places where sufficient seed clams for our reseeding efforts could be found in 2010. In August, any spring-spawned clams that have survived will be in the top inch or so of these flats; these juveniles are especially susceptible to stress and suffocation if buried under silt or dredging debris, or if they are in waters with a high amount of suspended solids.... The risk to the juvenile clam population means that the impact of dredging in August does far beyond the current economic costs to today's harvesters; such activity will impact the sustainability of our shellfish program for years to come.

Doyle, at 3.

In sum, because there are no provisions to protect open shellfish flats or compensate for lost harvests at this key time of year; because dredging is expected to take weeks, not days; because there is undisputed evidence that a percentage of dredge spoils (fines) will in fact impact clam flats; because any siltation in August could affect recruitment of juvenile clam spat; and because there is a significant concern that bacteria levels may, cumulatively, require closure of some clam flats, the Board should reverse the Department's order and require disposal of (minimal) dredge spoils upland and/or offshore where it will not impact this key ecological and economic resource.

4. IMPACTS TO SIGNIFICANT WILDLIFE HABITAT AND MARINE FISHERIES

Under NRPA, the Department must consider impacts both to "significant wildlife habitat" and to "marine fisheries." 38 M.R.S.A § 480-D(3). Federally endangered Gulf of Maine Atlantic salmon (GOM salmon) and critical habitat for GOM salmon fall within both of these provisions. Yet, the Order provides no analysis or discussion of any potential impacts to the endangered GOM salmon or to critical habitat for GOM salmon within the Kennebec River. This is reversible error for the following reasons.[30]

[30] Appellants also incorporate by reference the appeal of Douglas Watts regarding impacts to wildlife, fisheries, and habitat.

First, the finding that the project area contains no significant wildlife habitat, as defined by NRPA, is arbitrary and capricious. (Order at 6.)[31] To be "significant wildlife habitat," habitat must meet two requirements: (1) habitat must within one of the areas designated by statute, and (2) it must include habitat, as defined by IFW, for certain species, including species appearing on the state or federal endangered or threatened species lists. 38 M.R.S.A § 480-B(10)(A).

The Kennebec River estuary meets both requirements.

Regarding the first requirement, the Kennebec estuary meets the "areas" definition of the statute, which includes habitat "within any other protected natural resource." *Id.* § 480-B(10)(A). The definition of a protected natural resource includes "coastal wetlands" and "rivers", *id.* § 480-B(8), both of which will be affected by the proposed project.

Regarding the second requirement, IFW has, to date, expressly reserved the definition of "[h]abitat for species appearing on the official state or federal lists of endangered and threatened species" for future rulemaking. 09-137 CMR ch. 10, § 10.02(1). That does not end the story, however. The federal, not state government has jurisdiction over migratory and federally endangered species, including habitat designations for those species. The National Marine Fisheries Service ("NMFS") has defined critical habitat for GOM salmon, and that designation includes the entire Kennebec River estuary. *See* NMFS, *Designation of Critical Habitat for Atlantic Salmon (Salmo salar) in the Gulf of Maine Distinct Population Segment, Final ESA Section 4(b)(2) Report*, at App. A (2009).[32] That listing was based, in part, on habitat rankings provided by Maine IFW and DMR biologists. *Id.* at 19. The Kennebec Estuary received the highest possible score for habitat, based on "qualitative features including temperature, biological communities, water quality, and substrate and cover, as being highly suitable ("3"), suitable ("2"), marginally suitable ("1") or not suitable ("0") for supporting Atlantic salmon spawning, rearing and migration activities." *Id.*[33] The federal critical habitat listing has since been adopted as the basis for the portions of the GOM salmon recovery plan by Maine DMR as

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[31] Sedimentation of riverbanks, marshes and flats will also affect listed significant wildlife habitat for endangered shorebirds. *See* maps at Ex. 12.

[32] Available at http://www.nero.noaa.gov/prot_res/altsalmon/4(b)(2) Report Final.pdf.

[33] Section 3(5)(A) of the federal Endangered Species Act, 16 U.S.C. 1532(5), defines critical habitat for a threatened or endangered species as:

> (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of [section 4 of the Act], on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection...

part of the joint Atlantic Salmon Recovery Framework sponsored by NMFS, DMR, the U.S. Fish and Wildlife Service and the Penobscot Indian Nation.[34]

Under the Supremacy Clause of the U.S. Constitution, states may not override federal determinations of critical habitat or other protections for federally endangered species – either expressly or by failure to act, as here. Thus, any definition of significant wildlife habitat for federally endangered species when adopted by IFW[35] must at a minimum include federally designated critical habitat for the endangered GOM salmon. This is particularly true in this case since the habitat designation was jointly developed by state and federal biologists. It would be arbitrary and capricious for Maine DMR to recommend inclusion of habitat as "critical" under a federal program yet exclude the same habitat as "significant" under a state program.

Finally, given the clear designation of critical habitat by NMFS with the express support, cooperation, and concurrence by Maine DMR, it is immaterial that Maine IFW has yet to designate significant wildlife habitat for endangered species. The Legislature has clearly and expressly indicated its intent that significant habitat for endangered species be protected under NRPA. IFW may not defeat this clear legislative purpose through inaction. Accordingly, the Order must be revised to evaluate impacts to significant habitat for endangered GOM salmon.

The Order is also in error because it completely omitted *any consideration* of whether the proposed action would cause "unreasonable harm . . . to marine fisheries." 38 M.R.S.A § 480-D(3). As noted above, longstanding Department guidance prohibits dredging in summer in order to minimize impacts to anadromous fish and other marine species. DEP Issue Profile, *Applications to Dredge or to Dispose of Dredged Material in Coastal Waters* (March 1997)("Timing of the project must coincide with the time of year that will minimize impacts on marine resources.")[36]

There can be no dispute that GOM salmon are a marine fish that occupy the affected area during August. Thus, the Department's failure to consider the impacts to GOM salmon is error for this reason as well, and the permit must be revoked unless and until the applicant can affirmatively demonstrate that there will be no unreasonable harms pursuant to §480-D(3).

Additionally, as noted in the draft EA, other marine fisheries subject to this same analysis include, Atlantic sturgeon, shortnose sturgeon, Atlantic cod, pollock, whiting, red hake, white hake, winter flounder, yellowtail flounder, windowpane flounder, American plaice, ocean pout, Atlantic halibut, Atlantic sea herring, bluefish, and Atlantic mackerel. (Draft EA at App. 6.) Additional diadromous species using the estuary include: alewives, American shad striped bass,

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[34] *See* Draft Atlantic Salmon Recovery Framework: Implementation Plan, at 5 (March 2011), available at http://www.maine.gov/dmr/searunfish/FrameworkImplementationPlanMarch2011Coverrev.pdf.

[35] Since GOM salmon are migratory, IFW (nor for that matter the Maine Department of Marine Resources) has no jurisdiction to alter the designation of critical habitat for this species.

[36] *See* above at note 2.

American eel, and blueback herring. In considering impacts to all of these species the Department must requiring timing of construction activities to occur where it will cause the least disturbance to fisheries. *See* 06-096 CMR ch. 335, § 3(C) (activity may not unreasonably disturb fisheries; Department may require activities to occur during period of least impact unless impracticable).

In Order # L-16281-4E-D-N (March 15, 2001) the Department previously limited the Corps legal dredging window to winter months in order to minimize impacts to marine fisheries (sturgeon). Given that determination, the Department cannot reverse its findings now unless it provides compelling new information showing that the impacts of summertime dredging are suddenly no longer "unreasonable." Moreover, because the Corps has a permit to conduct dredging in winter and normally conducts dredging at that time, by definition, wintertime dredging is practicable. The Corps' failure to meet he time constraints in its existing permit obligations does not magically render wintertime dredging impracticable.

5. INTERFERENCE WITH RECREATION, TOURISM, AND EXISTING USES

The Order omits any mention of the incredible recreation and historic resources on the Phippsburg peninsula. Popham Beach State Park is one of the crown jewels of the Maine Park's system, and is among the most heavily visited parks in the entire state. Together with Fort Popham, the Popham Colony historic site, Fort Baldwin, the Seguin Island Lighthouse, the Bates-Morse Mountain Conservation Area, and Seawall Beach, the project area offers some of the best recreation opportunities in Maine. Visitors and locals alike come to enjoy the spectacular beaches, swimming, surf kayaking, fishing, sailing, motor boating, clamming, hiking, nature trails, historic sites, scenic ocean views and more. The tourism and recreation business is a mainstay of the local economy and supports a wide range of businesses including restaurants, gifts shops, hotels, B&B's, vacation cottages, campgrounds, retail outlets, water sports, boat tours, fishing charters, etc. August is the key month for each and every one of these businesses, and accounts for the bulk of their annual income.

The proposed action would involve three to five weeks of day and night operations beginning Aug. 1, 2011, using massive hopper dredges – essentially giant vacuums – located a just few hundred feet offshore of Popham Beach, and in the Kennebec River downstream from Bath. Hopper dredging uses suction to lift material off the bottom, pumps it to the surface in slurry form, and then filters the slurry in floating barges. This activity will result in constant noise, visual impacts, air pollution, water quality impacts (both at the bottom and at the surface), disturbance of fish and wildlife, loss of habitat, take of endangered species, destruction of fishing gear, and a hazard to fishermen and boaters. All of these harms will occur immediately offshore of some of the most popular and scenic beaches in Maine and in some of the most heavily fished and recreated waters on the Maine Coast. Disposal of dredge spoils at Jackknife Ledge (JKL) will result in total suspended solids dispersed throughout the water column and surrounding areas, and will likely also impact nearby swimming areas, beaches, and mudflats in the Popham, Small Point, Morse River and Sprague River Marsh.

At the upstream Doubling Point dredge site and Bluff Head disposal site, kayakers, canoers, motor boaters, anglers, fishing guides, nature lovers, homeowners and tourists will be

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displaced by a massive dredging operation that will dominate the narrow river channel and make other uses difficult and dangerous – again operating day and night during the height of the season. Further, dredging operations will cause noise, air quality and water quality impacts that will harm and detract from all other uses of the river. Noise from similar operations has, in the past awakened nearby residents, yet the Order provides no analysis of decibel levels. Nor does it consider imposing conditions to minimize noise impacts late at night.

Clearly, the proposed action will have severe and intensive negative impacts upon all aspects of the recreational experience – swimming, boating, aesthetics, view, sound, air quality, wildlife, etc. – for virtually all visitors, in violation of 38 M.R.S.A § 480-D(1). One visits the shore to hear the sound of the surf and wind, not massive vacuum barges operating day and night. One buys the services of a fishing guide as much for the aesthetic experience as the fish. Clearly, many people will lbe detred from these activities by the presence of a major dredging operation.

Coming during the most important month of a very short summer tourism season (which lasts all of two months) the economic impacts could well be devastating to many businesses that rely upon summer visitation. The degree of impact within this context is local but extreme: it will significantly impact the entire local economy, and consequently rises to the level of unreasonable interference under NRPA, 38 M.R.S.A § 480-D(1).

Conclusion

For the above reasons, Order should be modified to authorize only minimal dredging necessary, if at all to enable the U.S.S. Spruance to exit the Kennebec River and to prohibit discharge of dredge spoils in-river or near-shore. In the alternative, the Board should impose conditions requiring monitoring of water quality impacts, provisions to stop dredging if water quality impacts threaten open clam flats, provisions to compensate fishing and tourism industries for lost revenue, and requirements to protect endangered species.

Sincerely,

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List of Exhibits

1. Army Corps of Engineers, Public Notice of Maintenance and Advanced Maintenance Dredging of the Federal Navigation Project in the Kennebec River, Maine.

2. DEP Issue Profile, *Applications to Dredge or to Dispose of Dredged Material in Coastal Waters* (March 1997).

3. Kennebec River Dredging permits for the years 2002, 2000, 1997, 1989 (corrected) 1989 (original), Project No. L-16281-4E.

4. Email from Bob Herman, BIW, to Bob Green, DEP, April 7, 2011, 1:47 pm.

5. Letter from Bill Kavanaugh, Army Corps, to Kathleen Leyden, Maine Coastal Program, (Feb. 16, 2011).

6. Email from Bill Kavanaugh, Army Corps, to Brian Swan, DMR, and Bob Green, DEP, at 1, April 5, 2011, 10:15 a.m.

7. Comments of the Phippsburg Commenters to the Army Corps of Engineers and Maine DEP (March 30, 2011).

8. Map of U.S. Army Corps of Engineers, Disposal Area Monitoring System, Portland, Maine.

9. Comments of Dot Kelly to Army Corps (March 30, 2011); Comments of Dot Kelly to Maine DEP (March 20, 2011).

10. Email from Brian Swan, DMR, to Bob Green, DEP, Feb. 1, 2011 at 5 p.m; Email from Bob Green, DEP to Marybeth Richardson, DEP, Feb. 2, 2011, at 9:35 a.m.

11. Dean Doyle, Chair, Phippsburg Shellfish Committee, Comments the Phippsburg Shellfish Committee (March 25, 2011).

12. U.S. Fish and Wildlife Service, Map of Essential Habitat for Bald Eagles, Roseate Terns, and Piping Plover (1994).

13. M. Bowne, Office Manager, Normandeau Associates, Dec. 5, 1997 letter to Bob Herman, Bath Iron Works.

14. Patrick Keliher, Acting Deputy Commissioner of DMR, *Additional Comments*, April 11, 2011; Patrick Keliher, Acting Deputy Commissioner of DMR, *Comments*, March 10, 2011