

EXHIBIT 3

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



130

STATE OF MAINE
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

U.S. ARMY CORPS OF ENGINEERS	)	FEDERAL CONSISTENCY REVIEW
ARROWSIC, BATH, GEORGETOWN & PHIPPSBURG	)	WATER QUALITY CERTIFICATION
MAINTENANCE DREDGING)	
#L-16281-4E-D-N (APPROVAL)	)	FINDINGS OF FACT AND ORDER

Pursuant to the provisions of Section 307 of the Coastal Zone Management Act and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the Federal Consistency Determination request of the U.S. ARMY CORPS OF ENGINEERS (CORPS) with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. BACKGROUND:

- A. The Maine Coastal Program was approved on September 30, 1978 by the Federal Office of Coastal Zone Management under Section 307 of the Coastal Zone Management Act, as amended. Federal activities which affect land or water resources in the Coastal Zone must be undertaken in a manner consistent, to the maximum extent practicable, with the requirements of Maine's approved Coastal Zone Management Program.
- B. This project must also receive Water Quality Certification pursuant to Section 401 of the Federal Water Pollution Control Act prior to beginning work.

2. SUMMARY:

- A. Request: The Corps submitted a request for a consistency determination dated February 4, 2002 for maintenance dredging of two areas in the Kennebec River. These two areas are Doubling Point, south of Bath, and North Sugarloaf Island reach at the mouth of the river in Phippsburg.
- B. History: The authorized federal navigation project is a channel 27 feet deep and 500 feet wide extending approximately 13 miles upstream from the Kennebec River's mouth near Popham Beach to the City of Bath. Historically, maintenance dredging is required at Doubling Point and North Sugarloaf Island reach every 2 to 5 years. The Corps last dredged them in 2000. The Corps recently completed a hydrographic survey of the two areas which shows that Doubling Point has shoaled to 21.6 feet below Mean Lower Low Water (MLLW) and North Sugarloaf Island reach has shoaled to 18.2 feet below MLLW. Maintaining the design depths at these two locations insures the safe passage of U.S. Navy vessels to and from Bath Iron Works (BIW).

- C. Summary of Proposal: The Corps is now proposing to dredge both locations in April 2002 to allow the safe passage of a U.S. Navy ship in early May. The Corps is proposing to dredge a total of 25,000 cubic yards of clean sand from the two locations using a hopper dredge. Approximately 10,000 cubic yards of material will be dredged from Doubling Point and placed in a previously used in-river disposal area at Bluff Head. Material from the North Sugarloaf Island area will be placed in a previously used nearshore disposal site located 0.4 nautical miles south of Jackknife Ledge. A copy of disposal area maps and haul routes is included in the application.

Based on the unpredictable nature of the shoaling in the Kennebec River, the Corps is also requesting long-term approval for this maintenance dredging. In its February request, the Corps stated that long-term approvals will allow it to more efficiently schedule and perform maintenance dredging to serve the operational needs of BIW and the U.S. Navy.

3. GEOLOGICAL CONSIDERATIONS:

The Maine Geological Survey (MGS) has routinely reviewed maintenance dredging projects in the Kennebec River for both the Corps and Bath Iron Works. MGS favors the in-river disposal of sand at Bluff Head since it keeps this important resource within the riverine system. In commenting on a BIW application earlier this year that proposed placing clean sand at Bluff Head from its dry dock sinking hole, MGS stated that the sand will disperse in less than a year and remain part of the natural river bedload. MGS further stated that the mobile sand in the Kennebec River is a resource that has an important role in maintaining sandy estuarine habitats as well as the sand bars, beaches and dunes at the river mouth. MGS also has no concerns about using Jackknife Ledge as a disposal site.

4. MARINE RESOURCES AND WATER QUALITY:

The Department of Marine Resources (DMR) reviewed the proposed project and the applicant's request for long-term approval, and provided comments dated March 12, 2002. DMR recognizes the emergency nature of the request to dredge in April 2002, but it is concerned about the potential to entrain shortnose or Atlantic sturgeon using a hopper dredge based on shortnose sturgeon data from April, 1998. Shortnose sturgeon was collected by environmental consultant Normandeau Associates in the vicinity of Doubling Point on April 1 and April 23, 1998. Therefore, DMR recommends that a qualified observer be onboard the hopper dredge to monitor and report the capture of shortnose or Atlantic sturgeon for the proposed dredge in April.

Regarding long-term approval over a ten-year period for the proposed maintenance dredging, DMR recommends that the Army Corps limit hopper dredging to a work window from December 1 to March 15 to minimize the impact to shortnose or Atlantic sturgeon. If the applicant chooses to use a mechanical dredge with a clamshell bucket, which is less likely to capture sturgeon, the DMR recommends a work window from November 1 to

132

April 1. DMR also recommends that a qualified observer be employed by the applicant to monitor and record the capture of sturgeon when dredging occurs either in November or from March 15 to April 1.

The Department finds that, in addition to complying with the above recommendations as required by Section 480-D(9), the applicant or its contractor must, prior to each dredging event, publish in a local paper the proposed barge route to the disposal sites at Bluff Head and Jackknife Ledge. This notice must also identify a procedure for responding to inquiries regarding the loss of fishing gear during dredging operations. To document and record maintenance dredging in the river during the 10 year permit period, the Department finds that the applicant must submit an annual report to the Department documenting: a pre-dredge bathymetric survey, the period of dredging, volume of material dredged, and record of any capture or catch of Atlantic or shortnose sturgeon. Annual reports shall be submitted by January 15 for the previous year.

Based on past water quality monitoring by the applicant during the disposal of material at Bluff Head, the Department does not anticipate that the proposed dredging or disposal of material will degrade water quality in the Kennebec River.

The Department reserves the right to reopen the review of this project or reconsider the 10-year approval period if new information warrants a change in the findings of fact.

5. OTHER CONSIDERATIONS:

The Department has not identified any issues involving existing scenic, aesthetic, or navigational uses, soil erosion, the natural transfer of soil, natural flow of water, or flooding.

Based on the above finding of fact, the Department makes the following conclusions:

- A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.
- B. The proposed activity will not cause unreasonable erosion of soil or sediment.
- C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.
- D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, aquatic habitat, travel corridor, freshwater fisheries or other aquatic life.
- E. The proposed activity will not unreasonably harm any estuarine or marine fisheries provided that: the applicant employs a qualified observer to monitor and record the capture of Atlantic or shortnose sturgeon as discussed in Finding 4; long term dredging using a hopper dredge is limited to the period from December 1 to March 15, long term dredging using a mechanical dredge is limited to the period from

November 1 to April 1; and an annual report as discussed in Finding 4 is submitted to the Department.

- E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.
- F. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.
- G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.
- H. The proposed activity is not on or adjacent to a sand dune.
- I. The proposed activity is not on an outstanding river segment as noted in Title 38 M.R.S.A., Section 480-P.

THEREFORE, the Department concurs with the ARMY CORPS OF ENGINEERS' consistency determination dated February 4, 2002 and grants Water Quality Certification for maintenance dredging in the Kennebec River, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. Standard Conditions of Approval, a copy attached.
2. The applicant shall employ a qualified observer to monitor and report the capture of Atlantic or shortnose sturgeon during the April, 2002 dredge and during dredges occurring in the month of November or between March 15 and April 1.
3. Dredging with a hopper dredge shall be limited to the period from December 1 to March 15.
4. Dredging with a clamshell bucket shall be limited to the period from November 1 to April 1.
5. Prior to each dredging event, the applicant shall publish, in a local newspaper, the disposal route to Bluff Head and identify the procedure for responding to inquiries regarding the loss of fishing gear.
6. By January 15 each year, the applicant shall submit a report to the Department documenting dredging activity undertaken during the previous year. This report shall include a pre-dredge bathymetric survey, the period of dredging, the volume of material dredged, and a record of any capture of Atlantic or shortnose sturgeon. Reports of no dredging activity shall also be submitted.

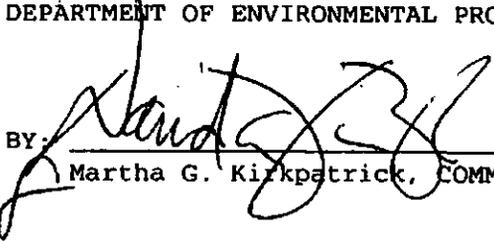
134

- 7. This permit shall expire ten years after the approved date unless the Department reopens the review of this project based on new information.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED AT AUGUSTA, MAINE, THIS 15 DAY OF March, 2002.

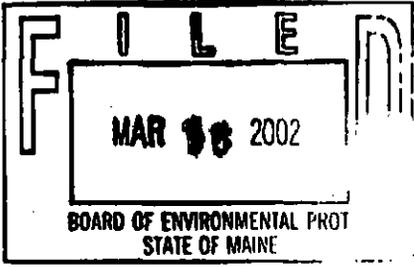
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
 Martha G. Kirkpatrick, COMMISSIONER

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES....

Date of initial receipt of application 02/06/2002
 Date of application acceptance 02/11/2002

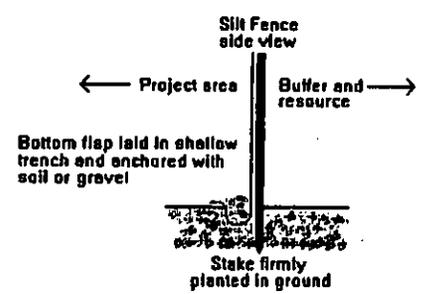
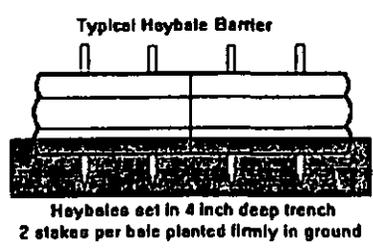
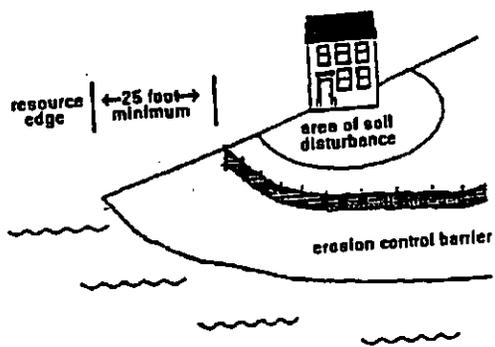
Date filed with Board of Environmental Protection
 DBB/L16281DN



Erosion Control

Before Construction

1. If you have hired a contractor, make sure you have discussed your permit with them. Talk about what measures they plan to take to control erosion. Everybody involved should understand what the resource is and where it is located. Most people could identify the edge of a lake or a river. The edges of wetlands, however, are often not obvious. Your contractor may be the person actually pushing dirt around but you are both responsible for complying with the permit.
2. Call around and find sources for your erosion controls. You will probably need silt fence, hay bales and grass seed or conservation mix. Some good places to check are feed stores, hardware stores, landscapers and contractor supply houses. It is not always easy to find hay or straw during late winter and early spring. It may also be more expensive during those times of year. Plan ahead. Purchase a supply early and keep it under a tarp.
3. Before any soil is disturbed, make sure an erosion control barrier has been installed. The barrier can be either a silt fence, a row of staked hay bales, or both. Use the drawings below as a guide for correct installation and placement. The barrier should be placed as close as possible to the activity.
4. If a contractor is installing the barrier, double check it as a precaution. Erosion control barriers should be installed "on the contour", meaning at the same level along the land slope, whenever possible. This keeps stormwater from flowing to the lowest point of the barrier where it builds up and overflows or destroys it.



During Construction

1. Use lots of hay or straw mulch on disturbed soil. The idea behind mulch is to prevent rain from striking the soil directly. It is the force of raindrops striking the soil that causes a lot of erosion. More than 90% of erosion is prevented by keeping the soil covered.
2. Inspect your erosion control barriers frequently. This is especially important after a rainfall. If there is muddy water leaving the project site, then your erosion controls are not working as intended. In that situation, stop work and figure out what can be done to prevent more soil from getting past the barrier.

After Construction

1. After the project is complete, replant the area. All ground covers are not equal. For instance, a mix of creeping red fescue and Kentucky bluegrass is a good choice for lawns and other high maintenance areas. The same mix would not be a good choice for stabilizing a road shoulder or a cut bank that you don't intend to mow.
2. If you finish your project after September 15, then do not spread grass seed. There is a very good chance that the seed will germinate and be killed by a frost before it has a chance to become established. Instead, mulch the site with a thick layer of hay or straw. In the spring, rake off the mulch and seed the area. Don't forget to mulch again to hold in moisture and prevent the seed from washing away.
3. Keep your erosion control barrier up and maintained until the area is permanently stabilized.



STATE OF MAINE
 DEPARTMENT OF
 ENVIRONMENTAL PROTECTION
 17 STATE HOUSE STATION
 AUGUSTA, MAINE
 04333

2000

137

ANGUS S. KING, JR.
 GOVERNOR

DEPARTMENT ORDER

IN THE MATTER OF

U.S. ARMY CORPS OF ENGINEERS	)	FEDERAL CONSISTENCY REVIEW
Arrowsic, Bath, Georgetown, & Phippsburg	)	AND
Sagadahoc, County)	
MAINTENANCE DREDGING	)	WATER QUALITY CERTIFICATION
L-16281-4E-C-N (approval)	)	FINDINGS OF FACT AND ORDER

Pursuant to the provisions of Title 38 M.R.S.A. Section 480-A et seq., the Coastal Zone Management Act, and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of the U.S. ARMY CORPS OF ENGINEERS with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. Background: The Maine Coastal Program was approved on September 30, 1978 by the Federal Office of Coastal Zone Management under Section 307 of the Coastal Management Act, as amended. Federal activities which affect land or water resources in the Coastal Zone must be undertaken in a manner consistent, to the maximum extent practicable, with the requirements of Maine's approved Coastal Zone Management Program. This project must also receive Water Quality Certification pursuant to Section 401 of the Federal Water Pollution Control Act prior to beginning work.

B. Summary of Proposal: On November 2, 2000, the Army Corps of Engineers submitted a request for a consistency determination to dredge two portions of the Federal navigation channel in the Kennebec River. This emergency maintenance dredging must be completed prior to the transit of a Navy destroyer from Bath Iron Works (BIW) in mid-December. The applicant is proposing to dredge approximately 25,000 cubic yards of clean sand from two areas which shoal and require maintenance dredging every 3-5 years. The project will begin in early December and should be completed in a week using a hopper dredge. These two areas are at the mouth of the river, adjacent to North Sugarloaf Island, and at Doubling Point, which is south of Bath. Material dredged from Doubling Point will be dumped in the previously used in-river disposal site north of Bluff Head in 95-100 feet of water. Material from the mouth of the river will be dumped at the previously used nearshore site located about 0.4 nautical miles south of Jackknife Ledge in depths of 40 to 50 feet. These two areas were last dredged in 1997. Maps of dredging and disposal areas were attached to the consistency request.



138

C. Site Description: The applicant recently completed hydrographic surveys of Doubling Point and the channel next to North Sugarloaf Island. These surveys indicate that the Doubling Point reach has shoaled to 20.9 feet below Mean Lower Low Water (MLLW) in the left inside quarter, and the North Sugarloaf reach has shoaled to 18.3 feet below MLLW along the north limit of the channel and to 24.6 feet in the left inside quarter. In a letter to the Army Corps, dated October 17, 2000, BIW stated that Navy ships with sonar domes cannot transit the channel safely even during extreme high tides. These ships draw approximately 30 feet.

2. MARINE RESOURCES AND WATER QUALITY CONSIDERATIONS:

The Department of Marine Resources (DMR) held a public meeting in Phippsburg on November 28, 2000 to gather information and hear concerns about the proposed project. In comments dated November 29, 2000, DMR stated that no significant concerns were raised at this meeting. Phippsburg shellfish harvesters mentioned that no adverse impacts to shellfish areas south of the Bluff Head disposal area were observed during or after the dredging in 1997. A lobster fisherman at this meeting stated that no fishing gear was now in the water at the mouth of the river or along the transportation route to the disposal site at Jackknife Ledge, nor would it be there during December. DMR further stated that dredging these two areas in December should minimize potential adverse impacts to migrating anadromous fish, shellfish spawning in the river, and lobstering activity near the mouth of the river.

3. DREDGE SPOILS TRANSPORTATION CONSIDERATIONS:

As required by 38 M.R.S.A. Section 480-D (9), DMR has provided an assessment of the proposed project and the transportation of dredge material on the fishing industry as stated in Finding 2. To minimize any impacts on the fishing industry, the Department finds that the applicant or sponsor must:

- a. Clearly mark or designate the dredging area, the spoils disposal route and the transportation route;
- b. Publish in a newspaper of general circulation in the area adjacent to the dredging, the approved transportation route of the dredge spoils; and
- c. Publish in a newspaper of general circulation in the area adjacent to the route, a procedure that the applicant will use to respond to inquiries regarding the loss of fishing gear during the dredging operation.

4. OTHER CONSIDERATIONS:

The Department has not identified any other issues involving existing scenic or aesthetic uses, soil erosion, the natural transfer of soil, natural flow of water, water quality, or flooding.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions:

- A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.
- B. The proposed activity will not unreasonably interfere with existing navigational uses provided that the applicant or sponsor complies with the requirements of 38 M.R.S.A 480-D (9).
- C. The proposed activity will not cause unreasonable erosion of soil or sediment.
- D. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.
- E. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, aquatic habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life.
- F. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.
- G. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.
- H. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.
- I. The proposed activity is not on or adjacent to a sand dune.
- I. The proposed activity is not on an outstanding river segment as noted in Title 38 M.R.S.A. Section 480-P.

THEREFORE, the Department APPROVES the above noted application of the U.S. ARMY CORPS OF ENGINEERS SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

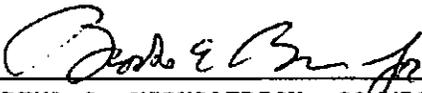
- 1. Standard Conditions of Approval, a copy attached.
- 2. The applicant or sponsor shall comply with the provisions of 38 M.R.S.A. 480-D (9) and shall:
 - a. Clearly mark or designate the dredging area, the spoils disposal route and the transportation route;
 - b. Publish in a newspaper of general circulation in the area adjacent to the dredging, the approved transportation route of the dredge spoils; and

140

c. Publish in a newspaper of general circulation in the area adjacent to the route, a procedure that the applicant will use to respond to inquiries regarding the loss of fishing gear during the dredging operation.

DONE AND DATED AT AUGUSTA, MAINE, THIS 30th DAY OF November, 2000.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

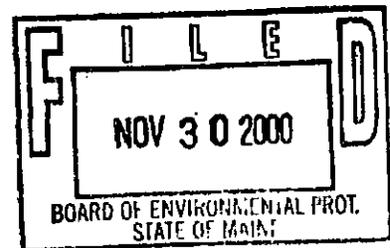
By: 
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES...

Date of initial receipt of application 11/02/2000

Date of application acceptance 11/03/2000

Date filed with Board of Environmental Protection
DBB/L16281CN



STANDARD CONDITIONS

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCE PROTECTION ACT, TITLE 38, M.R.S.A. SECTION 480-A ET.SEQ. UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

- A. **Approval of Variations From Plans.** The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation form these plans, proposals, and supporting documents is subject to review and approval prior to implementation.
- B. **Compliance With All Applicable Laws.** The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.
- C. **Erosion Control.** The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.
- D. **Compliance With Conditions.** Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.
- E. **Initiation of Activity Within Two Years.** If construction or operation of the activity is not begun within two years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits shall state the reasons why the applicant will be able to begin the activity within two years form the granting of a new permit, if so granted. Reapplications for permits may include information submitted in the initial application by reference.
- F. **Reexamination After Five Years.** If the approved activity is not completed within five years from the date of the granting of a permit, the Board may reexamine its permit approval and impose additional terms or conditions to respond to significant changes in circumstances which may have occurred during the five-year period.
- G. **No Construction Equipment Below High Water.** No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.
- H. **Permit Included In Contract Bids.** A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.
- I. **Permit Shown To Contractor.** Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

142



DEPARTMENT ORDER
IN THE MATTER OF

U.S. ARMY CORPS OF ENGINEERS	) FEDERAL CONSISTENCY REVIEW
ARROWSIC, BATH, GEORGETOWN, & PHIPPSBURG	) AND
Sagadahoc County)
MAINTENANCE DREDGING	) WATER QUALITY CERTIFICATION
L-16281-4E-B-N	) FINDINGS OF FACT AND ORDER
(Approval with Conditions)	

Pursuant to the provisions of Section 307 of the Coastal Zone Management Act and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the Federal Consistency Determination request of the U.S ARMY CORPS OF ENGINEERS with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. BACKGROUND

- a. The Maine Coastal Program was approved on September 30, 1978 by the Federal Office of Coastal Zone Management under Section 307 of the Coastal Zone Management Act, as amended. Federal activities which affect land or water resources in the Coastal Zone must be undertaken in a manner consistent, to the maximum extent practicable, with the requirements of Maine's approved Coastal Zone Management Program.
- b. This project must also receive Water Quality Certification pursuant to Section 401 of the Federal Water Pollution Control Act prior to beginning work.

2. SUMMARY

- a. Request: The Army Corps of Engineers has submitted a request for a consistency determination for maintenance dredging of two portions of the Federal navigation project in the Kennebec River.
- b. History: The authorized federal navigation project consists of a channel 27 feet deep and 500 feet wide extending from the River mouth near Popham Beach to a point about 13 miles upstream to the City of Bath. The Army Corps has dredged the lower Kennebec River eleven times since 1950. Historically, shoaling occurs at two locations that require maintenance dredging every 3-5 years. These two areas are at the mouth of the River at Popham Beach and from Doubling Point to the Carlton Bridge in Bath. The Army Corps last dredged the Popham Beach area in 1989 and the Doubling Point area in 1991. The government owned hopper dredge MCFARLAND dredged both areas.

On 14 August 1997, a Navy destroyer grounded in a shoaled area in the Doubling Point. After this incident, Bath Iron Works wrote to the Army

144

Corps of Engineers requesting that the River be dredged as soon as possible to allow the safe transit of Navy vessels to and from the Bath Iron Works. A survey of this area revealed shoaling to a depth of 21 feet below Mean Lower Low Water (MLLW) in the Doubling Point area.

c. Summary of Proposal

1) The Army Corps of Engineers proposes to dredge approximately 30,000 cubic yards of clean sand from the Doubling Point area and approximately 20,000 cubic yards of clean sand from the Popham Beach area. This material will be dredged using a hopper or mechanical dredge. Dredged material from Doubling Point will be dumped in the previously used in-River disposal site north of Bluff Head in 95-100 feet of water. Material from Popham will be dumped in the previously used inshore disposal area 0.4 nautical miles south of Jackknife Ledge in 40-50 feet of water. Contingent on the availability of funds and equipment, dredging will begin in November 1997 and be completed in 3-4 weeks.

2) Specific construction details with a map showing the dredging and disposal locations can be found in Department file # L-16281-4E-B-N.

3. GEOLOGICAL ENVIRONMENT

The Maine Geological Survey (MGS) reviewed the proposed project. The MGS commented that staff investigated concerns raised after an earlier maintenance dredge. These concerns alleged that material dumped at Bluff Head migrated to and filled in clam flats in Phippsburg. The MGS could not document that allegation but did document the fact that the Bluff Head disposal site contained no spoils less than one year after the dredging. Subsequent observations by the MGS suggest that the material was moved upstream by tidal currents and was then flushed from the estuary by the spring freshet.

The MGS also commented that rapid erosion occurred at Coast Guard Beach at the mouth of the River following maintenance dredging in 1989. Again, observations by the MGS failed to find any connection between the dredging and beach erosion. The MGS has no concerns about using Jackknife Ledge as a disposal site.

4. MARINE RESOURCES AND WATER QUALITY

The Department of Marine Resources (DMR) held a public hearing in Phippsburg on 9 October 1997 to gather information and hear concerns from the public about the proposed maintenance dredging project. Commercial harvesters of soft-shell clams expressed concerns that the dredging and disposal activity would increase the level of bacterial contamination in the water column resulting in the closing of areas to harvesting. The DMR states that there is the potential that increased levels of bacteria in the water column due to disposal activities north of the Bluff Head could necessitate the closing of shellfish harvesting areas down-river. The DMR recommends that bacterial levels should be monitored just south of this disposal site immediately before and soon after disposal episodes. This could help document any casual relation. The Department finds that the

applicant or sponsor must monitor bacterial levels just south of the Bluff Head disposal site immediately before and soon after disposal episodes.

Clam harvesters also raised a concern that newly opened flats could be covered with sand, and clams smothered at a time of the year when they were vulnerable. When asked if they had any evidence that flats were covered with sand dredged during past dredging events, the clam harvesters stated that they did not. The Army Corps stated at the hearing that the sandy material would settle out very rapidly at the disposal site and remain in the 500 foot wide channel. However, to minimize any potential siltation of clamflats downriver, the DMR recommends that, if practicable, disposal north of Bluff Head should be timed to coincide with incoming or slack tides. To document the level of siltation from in-River disposal, the DMR also recommends monitoring turbidity before and after disposal events. The Department finds that the applicant or sponsor must document turbidity before and after disposal events at Bluff Head and submit the results to the Department.

The DMR also commented that dredging in November should minimize adverse impacts to migrating anadromous fish, shellfish spawning in the River, and lobstering at the mouth of the River. However, there is a reasonable expectation that some shortnose sturgeon, a federally listed endangered species, will be found in the vicinity of the Bluff Head disposal area during the first two weeks in November. These fish should be moving upstream after mid-November. Unless the applicant provides evidence that there are no shortnose sturgeon at the disposal site, the Department finds that dredge spoils must be dumped at the in-River site near Bluff Head after mid-November.

5. DREDGE SPOILS TRANSPORTATION & DISPOSAL

As required by 38 MRSA 480-D (9), the Department finds that the applicant or sponsor must:

- a. Clearly mark or designate the dredging area, the spoils disposal route and the transportation route;
- b. Publish in a newspaper of general circulation in the area adjacent to the dredging, the approved transportation route of the dredge spoils; and
- c. Publish in a newspaper of general circulation in the area adjacent to the route, a procedure that the applicant will use to respond to inquiries regarding the loss of fishing gear during the dredging operation.

6. OTHER CONSIDERATIONS

The Department has identified no other issues affecting: existing scenic, aesthetic, recreational, or navigational uses; natural transfer of soil; significant wildlife habitat; aquatic habitat; travel corridors; aquatic life; natural flow of surface or subsurface waters; or flooding.

146

BASED on the above Findings of Fact, and subject to the Conditions listed below, the Department makes the following CONCLUSIONS:

1. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses provided the applicant or sponsor complies with the requirements of 38 M.R.S.A. 480-D (9), as amended.
2. The proposed activity will not cause unreasonable erosion of soil or sediment.
3. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.
4. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, aquatic habitat, travel corridor, or freshwater fisheries.
5. The proposed activity will not unreasonably harm any estuarine or marine fisheries or other aquatic life provided that dredge spoils are dumped at Bluff Head after mid-November, and bacterial levels and turbidity is monitored before and after disposal events at Bluff Head.
6. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.
7. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.
8. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.
9. The proposed activity is not within a sand dune system.
10. The proposed activity is not on an outstanding river segment as noted in Title 38 M.R.S.A., Section 480-P.

THEREFORE, the Department concurs with the ARMY CORPS OF ENGINEERS consistency determination dated 10 September 1997 and grants Water Quality Certification to SUBJECT TO THE ATTACHED CONDITIONS:

1. The Standard Conditions of Approval, a copy attached as Appendix A.
2. The applicant or sponsor shall comply with the provisions of 38 M.R.S.A. 480D(9), as amended and shall:
 - a. Clearly mark or designate the dredging area, the spoils disposal route and the transportation route;
 - b. Publish in a newspaper of general circulation in the area adjacent to the route, the approved transportation route; and

- c. Publish in a newspaper of general circulation in the area adjacent to the route, a procedure that the applicant will use to respond to inquiries regarding the loss of fishing gear during the dredging operation.
- 3. The applicant or sponsor shall monitor turbidity at the Bluff Head disposal site before and after disposal events and submit the results to the Department within 14 days of receipt.
- 4. The applicant or sponsor shall monitor bacterial levels just south of the Bluff Head disposal site immediately before and soon after disposal episodes and submit the results to the Department within 14 days of receipt.
- 5. Disposal of spoils at the in-River site near Bluff Head shall be limited to the period after mid-November.

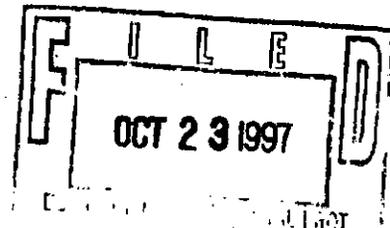
DONE AND DATED AT AUGUSTA, MAINE, THIS 22nd DAY OF October, 1997.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *Edward O. Sullivan*
 EDWARD O. SULLIVAN, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application 9/15/97
 Date application accepted for processing 9/22/97
 Date filed with Board of Environmental Protection
 L16281BN/dbb



STANDARD CONDITIONS

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCE PROTECTION ACT, TITLE 38, M.R.S.A. SECTION 480-A ET.SEQ. UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

- A. **Approval of Variations From Plans.** The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.
- B. **Compliance With All Applicable Laws.** The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.
- C. **Erosion Control.** The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.
- D. **Compliance With Conditions.** Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.
- E. **Initiation of Activity Within Two Years.** If construction or operation of the activity is not begun within two years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits shall state the reasons why the applicant will be able to begin the activity within two years from the granting of a new permit, if so granted. Reapplications for permits may include information submitted in the initial application by reference.
- F. **Reexamination After Five Years.** If the approved activity is not completed within five years from the date of the granting of a permit, the Board may reexamine its permit approval and impose additional terms or conditions to respond to significant changes in circumstances which may have occurred during the five-year period.
- G. **No Construction Equipment Below High Water.** No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.
- H. **Permit Included In Contract Bids.** A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.
- I. **Permit Shown To Contractor.** Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

STATE OF MAINE
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

149

DEPARTMENT ORDER
 IN THE MATTER OF

U.S. ARMY CORPS OF ENGINEERS	)	FEDERAL CONSISTENCY REVIEW AND
PHIPPSBURG, GEORGETOWN, ARROWSIC & BATH, MAINE	)	CONCURRENCE AND WATER QUALITY
DREDGING AND SPOILS DISPOSAL	)	CERTIFICATION
L-16281-4E-A-N (CORRECTED COPY)	)	FINDINGS OF FACT AND ORDER

After reviewing the project file which includes an application for a consistency determination under 38 M.R.S.A., Section 480-C of the Natural Resource Protection Act and an application for a Water Quality Certification under Title IV, Section 401 of the Federal Water Pollution Control Act, the staff summary, and other related materials on file with regard to the above noted project, the Department finds the following facts:

PROJECT HISTORY

1. The Maine Coastal Zone Program was approved on September 30, 1978 by the Federal Office of Coastal Zone Management under Section 307 of the Coastal Zone Management Act, as amended. Federal activities which affect land or water resources in the Coastal Zone must be undertaken in a manner consistent, to the maximum extent practicable, with the requirements of Maine's approved Coastal Zone Management Program.
2. In a letter dated April 20, 1989, with an enclosed application, the New England Division Corps of Engineers has requested the Department's concurrence with their Consistency Determination pursuant to Maine's Coastal Zone Plan for maintenance dredging of the Lower Kennebec River Navigation Project.
3. This project also requires Water Quality Certification pursuant to Section 401 of the Federal Water Pollution Control Act.

PROJECT DESCRIPTION

4. The Corps of Engineers proposes to dredge 150,000 cubic yards of material from two sections of the Navigation Project to restore the channel to authorized dimensions. Authorized dimensions of the Navigation Project includes a channel 27 feet deep at Mean Low Water (MLW) and at least 500 feet wide, extending from the river mouth to a point adjacent to the Bath Bridge. The proposed work consists of:
 - (A) Dredging of a portion of the channel from the City of Bath to Doubling Point. This Doubling Point Reach is about 2,500 feet long and 500 feet wide. Dredging was last performed at this location in 1986.
 - (B) Disposal of the dredged material from the Doubling Point Reach at the previously used disposal site north of Bluff Head. This disposal area is 1.7 nautical miles downstream of the dredging site. It is 0.1 nautical mile long with depths of 80 to 100 feet below MLW.



(C) Dredging of the mouth of the River portion along Popham Beach (locally known as Coast Guard Beach), which is about 3,600 feet long and 500 feet wide except widening to 650 feet at the change in course of the navigation channel. Dredging was last performed at this location in 1971.

(D) Disposal of the dredged material from the mouth of the River at a 500 yard diameter circular nearshore disposal site. The disposal site is about 0.4 nautical miles south of Jackknife Ledge in depths of 40 to 50 feet below MLW. A buoy will be placed in the center (69 degrees 46.8 minutes west; 43 degrees 42.9 minutes north) at least two weeks prior to start of work.

5. The work will be performed by the Government owned hopper dredge McFARLAND during a proposed two to three week period in September to October of the year that funds and the dredge become available.
6. A hopper dredge removes material from the bottom by suction, lifting sediments through dragarms connected to the side of the vessel. At the end of the dragarms are dragheads which draw a slurry of bottom material and water to the surface where it is discharged into the hopper. As pumping continues, the solid particles settle into the hopper while the excess water passes overboard through overflow troughs. After the hoppers are full the dragarms are raised and the dredge proceeds to the disposal site where the loaded hopper is emptied through bottom opening doors. The doors are then closed and the dredge returns to the dredging area to repeat the cycle.
7. The Corps of Engineers has not indicated at what speed the barge or dredge will be operated during dredge spoil disposal operations or at what location within the disposal areas the barge or dredge will commence disposal operations. The Department has found in the past on similar types of projects that in order to avoid a wide dispersal of spoils and widespread sedimentation that barges or dredges should be at complete stop at the center of the disposal area prior to disposal operations, and remain there until all material has been offloaded.

EXISTING SITE CONDITIONS

8. The proposed dredging and disposal areas are all below Mean Low Water. At the Doubling Point Reach the shoreline along the western side is the developed City of Bath; the eastern side is the undeveloped northern tip of Arrowsic Island. The shoreline along the disposal site for this dredging area is heavily wooded and undeveloped.
9. At the dredging area in the vicinity of the mouth of the River the shoreline along the western side is Popham Beach; the eastern side is the undeveloped North and South Sugarloaf Islands.

SAND SUPPLY AND MOVEMENT

10. The Phippsburg Conservation Commission, Popham Beach Association and numerous residents have submitted letters outlining their concern that adverse erosional affects to Popham Beach may result from moving the dredge spoils from the mouth of the River to the Jackknife Ledge disposal site.

11. Dr. Ken Fink, Oceanographic Coordinator at the University of Maine-Darling Marine Center, has submitted comments expressing concern that removal of sand from the channel adjacent to the shoreline may exacerbate the present erosional cycle there. Transporting the dredged sand from that section of the Kennebec River to an area south of Jackknife Ledge may remove too much sand from the active nearshore sand redistribution pathways. Dr. Fink notes that the sand may be too far away for transport back onto the beaches of Popham within a reasonable amount of time, or, the sand may move offshore by storm events and be lost entirely from the system.
12. The Maine Geological Survey (MGS) has reviewed the project and Dr. Fink's comments and comments that the strongest river currents are north-south parallel to the river axis. Since the river bed will be leveled rather than excavated, what 'energy sink' that is created will most probably be filled with river bottom sands rather than beach sands. Processes moving sand on the river bed are not directly linked (in space and time) to those causing beach and dune erosion near the high water mark. Based on side scan and grain size data, MGS suspects that the disposed sand will stay in the 'sand system' following disposal. It is the opinion of MGS that the dredging will not significantly increase the erosion of Popham Beach.
13. MGS quotes Fitzgerald and Fink (1987) that "Man-made causes of shoreline change such as the building of coastal structures and dredging activity appear to be minimal." MGS notes that because the Popham Beach system is highly dynamic, shoreline changes are very difficult to predict. The natural variability of this system is so large that in the future it will be difficult to draw conclusions about the relationship between dredging and shoreline changes on the adjacent beach. No direct environmental degradation or shoreline erosion which may have resulted from previous episodes of dredging at this location, is known to MGS.

HABITAT/MARINE RESOURCES

14. The Department of Marine Resources (DMR) comments that:

(A) Dredging has a variety of short term and long term effects including: water quality degradation through an increase in total suspended solids and biological/chemical oxygen demand; marine animals and plants are lost through physical removal, stress induced mortality and decreased productivity; most dredged areas require periodic maintenance adding to cumulative impact. Dredging also results in direct impacts on marine fisheries when it occurs at a time and place coinciding with: (1) anadromous fish runs; (2) lobster migration and shedding; (3) shellfish spawning; and (4) inshore feeding of schooling fishes.

(B) DMR's Anadromous Fish Division has reviewed the project and notes that there are three species of fish that will be affected by the dredging and spoils disposal in the Doubling Point Reach:

15a

(1) Shortnose Sturgeon overwinter in deep areas of this section of the River from early October to April, including the proposed riverine disposal site (north of Bluff Head). DMR notes that disposal of dredged material during November 1st to March 1st at the proposed riverine disposal area (Doubling Point Reach, north of Bluff Head) would negatively affect Shortnose sturgeon. The Division comments that it would have no objection to dredging the Doubling Point Reach from November 1st to March 1st provided that, during this time, the dredged material is disposed of at the nearshore disposal site (south of Jacknife Ledge) and not at the riverine disposal site.

(2) Smelt colonies exist in this section of the river from December 31st to the end of February and may be negatively affected if dredging occurs during that time.

(3) Bluefish are usually present during August through early September and that fish runs occur from January through February.

(4) DMR notes that in order to avoid impacts on anadromous fisheries, dredging and spoils disposal should only occur in this Doubling Point Reach section of the River between September 10th to October 10th or March 1st and April 30th. Dredging in the Doubling Point Reach may occur between November 1st to March 1st provided that dredge spoils are disposed of only at the Jacknife Ledge Disposal Site and not at the riverine disposal site during this time.

(C) DMR's Area Biologist has reviewed the project and believes the impact of the dredging at the mouth of the River will impact on lobster migration and fishing. The adverse impacts on the lobster fishery can be avoided by dredging there between November 1st and April 30th.

Based on the above finding of fact, the Department makes the following conclusions:

- A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses.
- B. The proposed activity will not cause unreasonable erosion of soil or sediment provided that during dredge spoil disposal operations the barge or dredge vessel will come to and stay at a complete dead stop at the center of the disposal area until all materials are off loaded.
- C. The proposed activity will not inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.
- D. The proposed activity will not unreasonably harm any estuarine or marine fisheries or other aquatic life provided that the dredging and spoils disposal occurs only at specific locations during the recommended time of work windows as suggested by the Department of Marine Resources, and provided that dredged material from the Doubling Point Reach is disposed of at the Jacknife Ledge Disposal Site from November 1st to March 1st.

U.S. ARMY CORPS OF ENGINEERS
PHIPPSBURG, GEORGETOWN, ARROWSIC & BATH, MAINE)
DREDGING AND SPOILS DISPOSAL)
L-16281-4E-A-N (CORRECTED COPY)

5 FEDERAL CONSISTENCY REVIEW AND
CONCURRENCE AND WATER QUALITY)
CERTIFICATION)
FINDINGS OF FACT AND ORDER)

153

- E. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, aquatic habitat, freshwater fishery or other aquatic life.
- F. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.
- G. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters in that the dredged material is primarily coarse sand, having low probability of containing toxic contaminants.
- H. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.
- I. The proposed activity will not unreasonably interfere with the natural supply or movement of sand within or to the sand dune system in that the river bed will be leveled rather than excavated, such that beach sand will not be carried offshore. The Jacknife Ledge disposal site is in the sand system, which extends seaward of the disposal site.
- J. The proposed activity will not unreasonably increase the erosion hazard to the sand dune system in that processes moving sand on the river bed are not directly linked (in space and time) to those causing beach and dune erosion near the high water mark.
- K. The activity is not on an outstanding river segment as noted in Title 38 M.R.S.A., Section 480-P.

THEREFORE, the Department CONCURS WITH THE CONSISTENCY DETERMINATION application by letter dated April 20, 1989. The Department also APPROVES the request for a Water Quality Certification by the U.S. Army Corps of Engineers to dredge two sections of the Kennebec River Federal Navigation Project WITH THE ATTACHED CONDITIONS.

- 1. Standard Conditions of Approval, a copy attached.
- 2. Dredging and dredged spoils disposal at the Doubling Point Reach may only occur during the period between September 10th and October 10th or March 1st and April 30th. From November 1st to March 1st, dredging may occur at the Doubling Point Reach, however, dredge spoils must be disposed of at the Jacknife Ledge nearshore disposal site.
- 3. Dredging at the mouth of the River will only occur during the period between November 1st and April 30th. Dredged material from this mouth of the River section will be disposed of at the Jacknife Ledge nearshore disposal site.
- 4. During disposal of dredged materials, barges or dredges will remain at full stop at the center of the disposal area, until all material is released from the vessel.

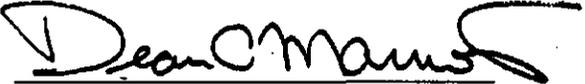
154

U.S. ARMY CORPS OF ENGINEERS
PHIPPSBURG, GEORGETOWN, ARROWSIC & BATH, MAINE)
DREDGING AND SPOILS DISPOSAL
L-16281-4E-A-N (CORRECTED COPY)

6 FEDERAL CONSISTENCY REVIEW AND
CONCURRENCE AND WATER QUALITY
) CERTIFICATION
) FINDINGS OF FACT AND ORDER

DONE AND DATED AT AUGUSTA, MAINE, THIS 30th DAY OF November, 1989.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
Dean C. Marriott, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR APPEAL PROCEDURES....

Date of initial receipt of application 4/24/89

Date of application acceptance 4/24/89

Date of delegation to the Commissioner 8/22/89

DSPOPHAM2 (CDSPOPHAM)

****STANDARD CONDITIONS****

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE COASTAL WETLANDS LAW, UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

- A. Approval of Variations From Plans. The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.
- B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.
- C. Compliance With All Permit Terms and Conditions. The applicant shall submit all reports and information requested by the Board or the Department demonstrating that the applicant has complied or will comply with all terms and conditions of this permit. All preconstruction terms and conditions must be met before construction begins.
- D. Initiation of Activity Within Two Years. If construction or operation of the activity is not begun within two years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits shall state the reasons why the activity was not begun within two years from the granting of the initial permit and the reasons why the applicant will be able to begin the activity within two years from the granting of a new permit, if so granted. Reapplications for permits may include information submitted in the initial application by reference.
- E. Reexamination After Five Years. If the approved activity is not completed within five years from the date of the granting of a permit, the Board may reexamine its permit approval and impose additional terms or conditions to respond to significant changes in circumstances which may have occurred during the five-year period.
- F. No Construction Equipment Below High Water. No construction equipment being used in the undertaking of an approved activity is allowed below the mean high water line.
- G. Permit Included In Contract Bids. A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.
- H. Permit Shown To Contractor. Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

156

STATE OF MAINE
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

157

DEPARTMENT ORDER
 IN THE MATTER OF

U.S. ARMY CORPS OF ENGINEERS	)	FEDERAL CONSISTENCY REVIEW AND
PHIPPSBURG, GEORGETOWN, ARROWSIC & BATH, MAINE	)	CONCURRENCE AND WATER QUALITY
DREDGING AND SPOILS DISPOSAL	)	CERTIFICATION
L-16281-4E-A-N	)	FINDINGS OF FACT AND ORDER

After reviewing the project file which includes an application for a consistency determination under 38 M.R.S.A., Section 480-C of the Natural Resource Protection Act and an application for a Water Quality Certification under Title IV, Section 401 of the Federal Water Pollution Control Act, the staff summary, and other related materials on file with regard to the above noted project, the Department finds the following facts:

PROJECT HISTORY

1. The Maine Coastal Zone Program was approved on September 30, 1978 by the Federal Office of Coastal Zone Management under Section 307 of the Coastal Zone Management Act, as amended. Federal activities which affect land or water resources in the Coastal Zone must be undertaken in a manner consistent, to the maximum extent practicable, with the requirements of Maine's approved Coastal Zone Management Program.
2. In a letter dated April 20, 1989, with an enclosed application, the New England Division Corps of Engineers has requested the Department's concurrence with their Consistency Determination pursuant to Maine's Coastal Zone Plan for maintenance dredging of the Lower Kennebec River Navigation Project.
3. This project also requires Water Quality Certification pursuant to Section 401 of the Federal Water Pollution Control Act.

PROJECT DESCRIPTION

4. The Corps of Engineers proposes to dredge 150,000 cubic yards of material from two sections of the Navigation Project to restore the channel to authorized dimensions. Authorized dimensions of the Navigation Project includes a channel 27 feet deep at Mean Low Water (MLW) and at least 500 feet wide, extending from the river mouth to a point adjacent to the Bath Bridge. The proposed work consists of:
 - (A) Dredging of a portion of the channel from the City of Bath to Doubling Point. This Doubling Point Reach is about 2,500 feet long and 500 feet wide. Dredging was last performed at this location in 1986.
 - (B) Disposal of the dredged material from the Doubling Point Reach at the previously used disposal site north of Bluff Head. This disposal area is 1.7 nautical miles downstream of the dredging site. It is 0.1 nautical mile long with depths of 80 to 100 feet below MLW.



154

(C) Dredging of the mouth of the River portion along Popham Beach (locally known as Coast Guard Beach), which is about 3,600 feet long and 500 feet wide except widening to 650 feet at the change in course of the navigation channel. Dredging was last performed at this location in 1971.

(D) Disposal of the dredged material from the mouth of the River at a 500 yard diameter circular nearshore disposal site. The disposal site is about 0.4 nautical miles south of Jackknife Ledge in depths of 40 to 50 feet below MLW. A buoy will be placed in the center (69 degrees 46.8 minutes west; 43 degrees 42.9 minutes north) at least two weeks prior to start of work.

5. The work will be performed by the Government owned hopper dredge McFARLAND during a proposed two to three week period in September to October of the year that funds and the dredge become available.
6. A hopper dredge removes material from the bottom by suction, lifting sediments through dragarms connected to the side of the vessel. At the end of the dragarms are dragheads which draw a slurry of bottom material and water to the surface where it is discharged into the hopper. As pumping continues, the solid particles settle into the hopper while the excess water passes overboard through overflow troughs. After the hoppers are full the dragarms are raised and the dredge proceeds to the disposal site where the loaded hopper is emptied through bottom opening doors. The doors are then closed and the dredge returns to the dredging area to repeat the cycle.
7. The Corps of Engineers has not indicated at what speed the barge or dredge will be operated during dredge spoil disposal operations or at what location within the disposal areas the barge or dredge will commence disposal operations. The Department has found in the past on similar types of projects that in order to avoid a wide dispersal of spoils and widespread sedimentation that barges or dredges should be at complete stop at the center of the disposal area prior to disposal operations, and remain there until all material has been offloaded.

EXISTING SITE CONDITIONS

8. The proposed dredging and disposal areas are all below Mean Low Water. At the Doubling Point Reach the shoreline along the western side is the developed City of Bath; the eastern side is the undeveloped northern tip of Arrowsic Island. The shoreline along the disposal site for this dredging area is heavily wooded and undeveloped.
9. At the dredging area in the vicinity of the mouth of the River the shoreline along the western side is Popham Beach; the eastern side is the undeveloped North and South Sugarloaf Islands.

SAND SUPPLY AND MOVEMENT

10. The Phippsburg Conservation Commission, Popham Beach Association and numerous residents have submitted letters outlining their concern that adverse erosional affects to Popham Beach may result from moving the dredge spoils from the mouth of the River to the Jackknife Ledge disposal site.

11. Dr. Ken Fink, Oceanographic Coordinator at the University of Maine-Darling Marine Center, has submitted comments expressing concern that removal of sand from the channel adjacent to the shoreline may exacerbate the present erosional cycle there. Transporting the dredged sand from that section of the Kennebec River to an area south of Jacknife Ledge may remove too much sand from the active nearshore sand redistribution pathways. Dr. Fink notes that the sand may be too far away for transport back onto the beaches of Popham within a reasonable amount of time, or, the sand may move offshore by storm events and be lost entirely from the system.
12. The Maine Geological Survey (MGS) has reviewed the project and Dr. Fink's comments and comments that the strongest river currents are north-south parallel to the river axis. Since the river bed will be levelled rather than excavated, what 'energy sink' that is created will most probably be filled with river bottom sands rather than beach sands. Processes moving sand on the river bed are not directly linked (in space and time) to those causing beach and dune erosion near the high water mark. Based on side scan and grain size data, MGS suspects that the disposed sand will stay in the 'sand system' following disposal. It is the opinion of MGS that the dredging will not significantly increase the erosion of Popham Beach.
13. MGS quotes Fitzgerald and Fink (1987) that "Man-made causes of shoreline change such as the building of coastal structures and dredging activity appear to be minimal." MGS notes that because the Popham Beach system is highly dynamic, shoreline changes are very difficult to predict. The natural variability of this system is so large that in the future it will be difficult to draw conclusions about the relationship between dredging and shoreline changes on the adjacent beach. No direct environmental degradation or shoreline erosion which may have resulted from previous episodes of dredging at this location, is known to MGS.

HABITAT/MARINE RESOURCES

14. The Department of Marine Resources (DMR) comments that:

(A) Dredging has a variety of short term and long term effects including: water quality degradation through an increase in total suspended solids and biological/chemical oxygen demand; marine animals and plants are lost through physical removal, stress induced mortality and decreased productivity; most dredged areas require periodic maintenance adding to cumulative impact. Dredging also results in direct impacts on marine fisheries when it occurs at a time and place coinciding with: (1) anadromous fish runs; (2) lobster migration and shedding; (3) shellfish spawning; and (4) inshore feeding of schooling fishes.

(B) DMR's Anadromous Fish Division has reviewed the project and notes that there are three species of fish that will be affected by the dredging and spoils disposal in the Doubling Point Reach:

165

(1) Shortnose Sturgeon overwinter in deep areas of this section of the River from mid-September to April, including the proposed riverine disposal site (north of Bluff Head). DMR notes that disposal of dredged material at the proposed riverine disposal area (north of Bluff Head) would negatively affect Shortnose sturgeon. The Division comments that it would have no objection to dredging the Doubling Point Reach (during a time of work window suggested by DMR) provided that the dredged material is disposed of at the nearshore disposal site (south of Jackknife Ledge) and not at the riverine disposal site.

(2) Smelt colonies exist in this section of the river from December 31st to the end of February and may be negatively affected if dredging occurs during that time.

(3) Bluefish are usually present during August through early September and that fish runs occur from January through February. DMR notes that in order to avoid impacts on anadromous fisheries, dredging should only occur in this Doubling Point Reach section of the River between September 10th and December 31st or March 1st and April 30th with disposal of dredged material only at the Jackknife Ledge disposal site, and not at the riverine disposal site.

(C) DMR's Area Biologist has reviewed the project and believes the impact of the dredging at the mouth of the River will impact on lobster migration and fishing. The adverse impacts on the lobster fishery can be avoided by dredging there between November 1st and April 30th.

Based on the above finding of fact, the Department makes the following conclusions:

- A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses.
- B. The proposed activity will not cause unreasonable erosion of soil or sediment provided that during dredge spoil disposal operations the barge or dredge vessel will come to and stay at a complete dead stop at the center of the disposal area until all materials are off loaded.
- C. The proposed activity will not inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.
- D. The proposed activity will not unreasonably harm any estuarine or marine fisheries or other aquatic life provided that the dredging occurs only during the recommended time of work windows as suggested by the Department of Marine Resources, and provided that dredged material from the Doubling Point Reach is disposed of at the Jackknife Ledge Disposal Site.
- E. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, aquatic habitat, freshwater fishery or other aquatic life.
- F. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

- G. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters in that the dredged material is primarily coarse sand, having low probability of containing toxic contaminants.
- H. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.
- I. The proposed activity will not unreasonably interfere with the natural supply or movement of sand within or to the sand dune system in that the river bed will be levelled rather than excavated, such that beach sand will not be carried offshore. The Jackknife Ledge disposal site is in the sand system, which extends seaward of the disposal site.
- J. The proposed activity will not unreasonably increase the erosion hazard to the sand dune system in that processes moving sand on the river bed are not directly linked (in space and time) to those causing beach and dune erosion near the high water mark.
- K. The activity is not on an outstanding river segment as noted in Title 38 M.R.S.A., Section 480-P.

THEREFORE, the Department CONCURS WITH THE CONSISTENCY DETERMINATION application by letter dated April 20, 1989. The Department also APPROVES the request for a Water Quality Certification by the U.S. Army Corps of Engineers to dredge two sections of the Kennebec River Federal Navigation Project WITH THE ATTACHED CONDITIONS.

- 1. Standard Conditions of Approval, a copy attached.
- 2. Dredging at the Doubling Point Reach will only occur during the period between September 10th and December 31st or March 1st and April 30th. Material from this Doubling Point Reach will be disposed of only at the Jackknife Ledge nearshore disposal site.
- 3. Dredging at the mouth of the River will only occur during the period between November 1st and April 30th. Dredged material from this mouth of the River section will be disposed of at the Jackknife Ledge nearshore disposal site.
- 3. During disposal of dredged materials, barges or dredges will remain at full stop at the center of the disposal area, until all material is released from the vessel.

DONE AND DATED AT AUGUSTA, MAINE, THIS 14th DAY OF September, 1989.
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
Dean C. Marriott, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR APPEAL PROCEDURES....
Date of initial receipt of application 4/24/89
Date of application acceptance 4/24/89
Date of delegation to the Commissioner 8/22/89
CDSPOPHAM

NOVEMBER 15, 1982

162

STANDARD CONDITIONS

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL CONSISTENCY DETERMINATIONS GRANTED UNDER THE COASTAL WETLANDS LAW, UNLESS OTHERWISE SPECIFICALLY STATED IN THE CONSISTENCY DETERMINATION.

- A. Approval of Variations from Plans. The granting of this consistency determination is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.
- B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, consistency determinations, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.
- C. Compliance With All Consistency Determinations Terms and Conditions. The applicant shall submit all reports and information requested by the Board or the Department demonstrating that the applicant has complied or will comply with all terms and conditions of this consistency determination. All preconstruction terms and conditions must be met before construction begins.
- D. Initiation of Activity Within Two Years. If construction or operation of the activity is not begun within two years, this consistency determination shall lapse and the applicant shall reapply to the Board for a new consistency determination. The applicant may not begin construction or operation of the activity until a new consistency determination is granted. Reapplications for consistency determinations shall state the reasons why the activity was not begun within two years from the granting of the initial consistency determination and the reasons why the applicant will be able to begin the activity within two years from the granting of a new consistency determination, if so granted. Reapplications for consistency determinations may include information submitted in the initial application by reference.
- E. Reexamination After Five Years. If the approved activity is not completed within five years from the date of the granting of a consistency determination, the Board may reexamine its consistency determination approval and impose additional terms or conditions to respond to significant changes in circumstances which may have occurred during the five-year period.
- F. No Construction Equipment Below High Water. No construction equipment being used in the undertaking of an approved activity is allowed below the mean high water line.
- G. Consistency Determination Included in Contract Bids. A copy of this consistency determination must be included in or attached to all contract bid specifications for the approved activity.
- H. Consistency Determination Shown to Contractor. Work done by a contractor pursuant to this consistency determination shall not begin before the contractor has been shown by the applicant a copy of this consistency determination.