

---

**EXHIBIT B**

**SCOPING DOCUMENTATION**

---

---





DEPARTMENT OF THE ARMY  
PORTLAND DISTRICT, CORPS OF ENGINEERS  
P. O. BOX 2946  
PORTLAND, OREGON 97208-2946

16 1994

Reply to  
Attention of:  
Planning and Engineering Division

COLUMBIA RIVER  
CHANNEL DEEPENING FEASIBILITY STUDY

EIS SCOPING LETTER

TO ALL INTERESTED PARTIES:

Portland District, U.S. Army Corps of Engineers, is preparing a study to determine the feasibility of improving navigation in the existing Columbia and Lower Willamette Rivers Federal navigation project. Several potential modifications, including deepening of up to 3 feet, will be considered. The feasibility study has been authorized by Congress pursuant to appeals by local port authorities for navigation assistance. An Environmental Impact Statement (EIS) is being prepared to address the environmental effects of alternatives proposed by the study. The Environmental Protection Agency, Region 10, has agreed to assist in the EIS preparation as a Cooperating Agency.

The purpose of this letter is to initiate the scoping process for the EIS in accordance with the regulations of the Council on Environmental Quality (40 CFR 1501.7). This letter describes the study, preliminary outline of the EIS scope, and schedule for completion of the EIS. Comments on the scope of the EIS are invited from all interested persons and organizations.

THE EXISTING FEDERAL NAVIGATION PROJECT

The Columbia River navigation channel was first authorized in 1877, and the channel has been deepened at various times since then as economic demand and technology in vessel design progressed. The existing channel was authorized in 1962 and was completed in 1973. The project is a 40 feet deep by 600 feet wide navigation channel from River Mile (RM) 3 upstream to RM 106.5, near the I-5 bridge, and to RM 11.6 on the Willamette River, near the Broadway Bridge.

Historically, between four and six million cubic yards of clean sand are dredged from the Columbia River portion of the project annually and placed at upland and in-water disposal sites. In addition, 500-750 thousand cubic yards of silty sand and sandy silts are dredged from the Lower Willamette River on a three to five year interval.

## PREVIOUS STUDIES

A reconnaissance-level study, completed in 1991, evaluated engineering, economic and environmental data related to navigation channel modifications and identified alternatives which may provide solutions to the navigation problems and needs of the existing project. During preparation of this study, the public and agencies were invited to comment and identify significant issues and potential alternatives. Information obtained from this study provides the basis for the issues and alternatives described in this scoping letter.

## PREVIOUS ENVIRONMENTAL DOCUMENTS

Previous environmental documentation addressing the impacts of the existing project have been prepared in response to project changes and focus studies in critical reaches of the project. Environmental assessments were also prepared periodically to update the 1975 EIS. These documents include:

Columbia and Lower Willamette River Environmental Impact Statement, July 1975. Prepared by the U.S. Army Corps of Engineers, this environmental impact statement (EIS) was published in conjunction with completion of the existing 40-foot channel.

Long Term Management Strategy. In July, 1992, the Portland District completed development of a Long Term Management Strategy (LTMS) for the portion of the channel within the Columbia River Estuary, River Miles 3-28. The estuary is an environmentally critical region in the Columbia River project and the LTMS document presents a set of alternatives for 50-year management of dredged sands from this portion of the project. Environmental documentation and public notice coordination has continued, since completion of the LTMS, as part of the plans to implement portions of the strategies.

Environmental Assessments. Environmental Assessments were prepared in conjunction with continued maintenance dredging on the Columbia River from RM 3 to RM 106. These assessments were prepared in 1983, 1989, and 1994 as periodic updates to the 1975 EIS. There were no findings of significant impact associated with these assessments.

## OTHER CURRENT STUDIES

Congress has directed that a dredged material management study (DMMS) be prepared under the Portland District operations and maintenance program to develop a 20-year dredged material management plan for the existing, authorized 40-foot channel. A supplemental environmental impact statement (SEIS) is being prepared for this study.

The DMMS will examine potential operational efficiencies; dredging reduction methods; new beneficial uses of maintenance dredged material; and development of new disposal sites. Research will be conducted on the potential for impacts of the various management options on fisheries resources, especially threatened and endangered salmon.

Information, environmental considerations, and solutions developed in the DMMS and SEIS will be incorporated into this feasibility study and EIS. The preferred alternative developed in the DMMS will serve as the without-project (Base) condition for the channel deepening feasibility study.

#### ALTERNATIVES CURRENTLY BEING CONSIDERED

The recommendations of the Channel Deepening Reconnaissance Study, comments received from the public and agencies and discussions with the Columbia River port authorities identified the following alternatives to be considered in the feasibility study:

- (1) Channel deepening ranging from 1 to 3 feet;
- (2) Deepening selected reaches by increments ranging from 1 to 3 feet;
- (3) One-way channel;
- (4) Tiered channel with an outbound lane deeper than the inbound lane;
- (5) Development of a regional port closer to the mouth of the Columbia River;
- (6) No action.

Existing upland and in-water disposal sites would be used for disposal of a large portion of material that would be dredged for any channel deepening. New upland and in-water sites will be investigated for disposal of any deepening and future maintenance dredging material.

#### TOPICS TO BE ADDRESSED IN THE EIS

Physical, biological, and cultural elements of the environment will be addressed. Existing conditions and the effects of alternatives and related subsequent actions will be described.

##### Physical Environment

- Hydraulic conditions
- Water Quality
- Salinity
- Erosion and sedimentation

##### Biological Environment

- Fisheries
- Vegetation

Wildlife

Threatened and Endangered Species:

Columbian White Tailed Deer; Peregrine Falcon; Bald Eagle; Aleutian Canada Goose; Snake River Salmon

Cultural Environment

Commercial

Recreational

Visual

Land Use

Historic and Archaeologic Resources

POTENTIALLY SIGNIFICANT EFFECTS TO BE ADDRESSED

An analysis of the potential effects of alternatives will be identified during development of the feasibility study and EIS. Preliminarily identified significant environmental effects that will be evaluated and described in detail in the EIS include:

(1) Dredging Impacts

Turbidity and water quality  
Entrainment of benthic organisms  
Aquatic populations: resident and migratory fish, waterfowl, marine mammals

(2) Disposal Impacts

Wetlands and Vegetation  
Fisheries  
Benthic and nektonic communities  
Turbidity and water quality  
Wildlife

(3) Impacts from channel modification

Salinity intrusion  
Hydraulic changes  
Indirect effects from modifications to commercial port facilities

EIS SCHEDULE

The Draft EIS is scheduled to be published and distributed for public review and comment in October 1998. The final EIS is scheduled for publication June 1999.

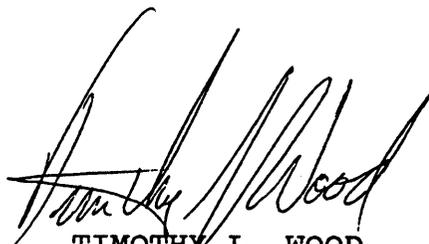
QUESTIONS AND COMMENTS

Questions regarding the EIS can be directed to Steve Stevens, (503) 326-6094.

Written comments on the scope of this EIS should be mailed to:

District Engineer  
U.S. Army Engineer District, Portland  
Attn: Steve Stevens, CENPP-PE-E  
P.O. Box 2946  
Portland, Oregon 97208-2946

Scoping comments should be received by Portland District no later than January 6, 1995.

A handwritten signature in black ink, appearing to read "Timothy L. Wood", is written over a faint, illegible stamp or background.

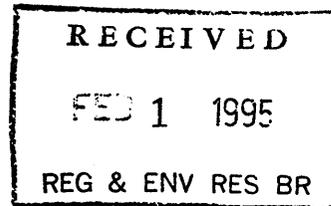
TIMOTHY L. WOOD  
Colonel, EN  
Commanding





# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
911 NE 11th Avenue  
Portland, Oregon 97232-4181



JAN 18 1995

PER TO:

Mr. J. Stevens  
U.S. Army Corps of Engineers  
Portland District, Environmental Resources Branch  
Box 2946  
Portland, Oregon 97206-2946

Mr. Stevens:

U.S. Fish and Wildlife Service (Service) has reviewed the Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for the Columbia River Channel Deepening Feasibility Study, Oregon and Washington. The NOI provides adequate information on the scope of the proposed project and includes a list of alternatives. The Service is pleased to note the consideration of a regional port as an alternative to dredging the entire length of the river from the estuary to the Portland Harbor. To make the EIS more comprehensive, it should also include a discussion of mitigation for project impacts. Water quality problems associated with the increased probability of oil spills in the main stem river due to increased shipping activity should also be discussed in the EIS. A potentially significant effect associated with ocean disposal of dredged material relates to how the placement of the material in offshore disposal areas can have an adverse effect on littoral drift. The question of how dredged material can be managed so as to contribute to ocean beach nourishment also needs to be addressed in the EIS.

For any questions or clarifications, please refer them to Merle Richmond of my Regional Office staff at (503) 231-2068.

Sincerely,

Thomas L. Sawyer

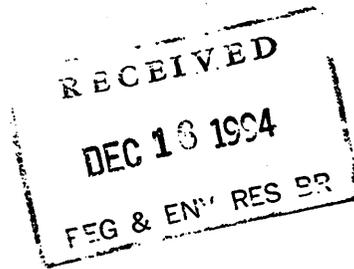
Acting Regional Director

STATE LAND BOARD

BARBARA ROBERTS  
Governor

PHIL KEISLING  
Secretary of State

JIM HILL  
State Treasurer



December 12, 1994

District Engineer  
U.S. Army Engineer District, Portland  
Attn: Steve Stevens, CE NPP-PE-E  
PO Box 2946  
Portland OR 97208-2946

Re: Columbia River Channel Deepening Feasibility Study

Dear Sirs:

I have reviewed the proposed scoping notice. It appears that a detailed model of the hydrodynamics will be crucial to effectively evaluate the alternatives effects or the physical and biological environment. We would strongly encourage the evaluation of dike breaching in the lower estuary as a mitigating measure for salt wedge intrusion effects.

Please keep this agency informed as the EIS process goes forward. Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in cursive script that reads "Kenneth F. Bierly".

Kenneth F. Bierly  
Wetlands Program Manager

KFB/sz  
ken:1141

c: Steve Purchase, DSL  
Earle Johnson, DSL





State of Washington  
**DEPARTMENT OF FISH AND WILDLIFE**

48 Devonshire Road, Montesano, WA 98563 - (206) 249-4628, TDD (206) 902-2207, Fax (206) 249-5484

December 12, 1994

United States Army Corps of Engineers  
Portland District  
Operations Division, Navigation Branch  
ATTENTION: Steve Stevens, CENPP-PE-E  
Post Office Box 2946  
Portland, Oregon 97208-2946



**SUBJECT: Scoping Notice - U.S. Army Corps of Engineers Proponent - Columbia River Channel Deepening Feasibility Study - Columbia River, Tributary to Pacific Ocean, Pacific, Wahkiakum, Cowlitz, and Clark Counties, WRIAs 24-28.0000**

Dear Mr. Stevens:

The Washington Department of Fish and Wildlife (WDFW) has reviewed the above-referenced Scoping Notice received on November 22, 1994 and offers the following comments at this time. Other comments may be offered as the project progresses.

WDFW has made numerous recommendations in the past in written responses and during meetings on the feasibility study for deepening the Columbia River. We are pleased to see some of our comments reflected in the Scoping Notice for this project.

The **Alternatives Currently Being Considered** appear to accurately reflect the range of alternatives necessary to consider for this project. Similarly, we have no additions to make to the list of **Topics To Be Addressed In The EIS**.

In the section on **Potentially Significant Effects To Be Addressed**, however, we would like to see the following additional potential environmental impacts evaluated in the EIS:

Under **(2) Disposal Impacts** we would like to see the impacts of proposed disposal practices on the accretion of dredged material into the littoral drift process northward of the mouth of the Columbia examined in detail. Studies have indicated that current sediment management practices may be responsible for net erosion experienced along the coast of Washington **(1)**.

Under **(3) Impacts from Channel Modification** we would like to see the impacts upon the shoreline from increased vessel size and increased vessel traffic examined in detail. Shipwash from large vessels both causes and exacerbates erosion problems, leading to increased bulkheading of Columbia River shorelines, and results in hazardous conditions in areas adjacent to the channel, leading to construction of jetties and wave breaks to protect marine facilities. These types of armoring projects cause direct loss of fish habitat. In addition,

Steve Stevens, CENPP-PE-E

December 12, 1994

Page 2

shipwash mobilizes silt, degrading water quality and destabilizing intertidal habitat, causing loss of productivity. Wave action also causes loss of wetland and riparian vegetation. Larger and more heavily loaded vessels allowed into the river by the deepened channel may exacerbate these impacts. This issue needs to be discussed in detail in the EIS.

In addition, oil spills from bunkering of ocean going vessels far upriver have been increasing in frequency and volume in recent years. More and larger vessels means more and larger re-fuelings, leading to the increased chance of oil spills. The increase in fueling upriver as a result of increased vessel sizes and numbers also leads to increased tanker trips, thereby increasing the chances of accidents, leading to spills of disastrous proportions. Incoming tankers have recently been observed passing outbound freighters at distances that would be considered near misses in open waters. These concerns should be examined in detail in the EIS.

We appreciate your cooperation in our efforts to protect, perpetuate and manage the fish resources of the state of Washington. Thank you for the opportunity to provide these comments. If you have any questions please call me at (206) 249-4628.

Sincerely,



Robert Burkle  
Area Habitat Biologist  
Habitat Program

RB:rb: :16

- (1 Phipps, James B., 1990. Coastal accretion and erosion insouthwest Washington: 1977 - 1987. Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, Washington, 33p.

cc: R. Timothy Flint, WDFW  
Barbara Ritchie, DOE  
Tom Elwell, DOE  
Ken Mohoric, WDFW Battleground  
Bryan Cowan, WDFW Region 5  
Dave Gufler, WDFW Region 6



**Washington State  
Department of Transportation**

**Sid Morrison**  
Secretary of Transportation

**District 4**  
4200 Main Street  
P.O. Box 1709  
Vancouver, WA 98668-1709

(206) 905-2000

January 5, 1995

District Engineer  
U. S. Army Engineer District  
Attn.: Steve Stevens, CENPP-PE-E  
P. O. Box 2946  
Portland, OR 97208-2946

Subject: Columbia River Channel Deepening, Feasibility Study

Dear Mr. Stevens:

The Washington State Department of Transportation (WSDOT) staff has reviewed your EIS Scoping Letter for the Columbia River Channel Deepening, Feasibility Study. WSDOT would like to address the following concern.

WSDOT believes that the visual impacts of the dredge spoils should be addressed in your Disposal Impacts Section of the Feasibility Study and the EIS. WSDOT would prefer not to have dredge spoil sites, such as are still located near Castle Rock along SR 5, visible from a scenic route such as SR 4, or SR 401, between Kelso Washington and Chinook, Washington.

Thank you for the opportunity to comment on this EIS Scoping Letter for the above referenced project. If you have need of additional information, please contact Mr. Steve Jacobson, Development Review Engineer, at (206) 905-2050.

Sincerely,

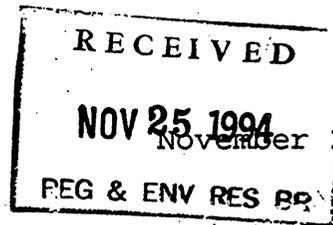
GERALD E. SMITH, P.E.  
Regional Administrator

*Mary Legry*  
By: MARY LEGRY  
Regional Planning Manager

GES:jh  
ML  
cc: Planning

Reference Code:  
Cowlitz, SR 4 and 401, MP All  
Columbia River Channel Deepening  
D:\WINWORD\DVLETTRS\COWLITZ\SR4\CHANDEEP

Lyn Mattei  
522 S.W. Fifth Ave., Suite 1050  
Portland, OR 97204



District Engineer  
U.S. Army Corps of Engineer District, Portland  
ATTN: Steve Stevens, CENPP-PE-E  
P.O. Box 2946  
Portland, Oregon 97208-2946

RE: Scoping Comments  
Columbia River  
Channel Deepening  
Feasibility Study

Dear Mr. Stevens:

This is an inquiry about the connection between the Corps' scoping process for Columbia River Dredged Materials Management Study SEIS and the Columbia River Channel Deepening Feasibility Study.

In the August 8, 1994 scoping comments submitted by the Oregon Natural Resources Council (ONRC), I wrote that limiting the proposed scoping of the DMMS/SEIS solely to future impacts to lay the groundwork for deep water dredging, would eliminate consideration of many past, present, and reasonably foreseeable additional impacts which the original EIS has never addressed. Limiting the scoping of the DMMS/SEIS in this manner would also conflict with CEQ's requirement for an early and open process to determine the scope of issues to be addressed.

As applied to the feasibility study, ONRC and I am concerned that adequate scoping for deepened channel dredging can not be accomplished until impacts from the present dredging program have been fully addressed and mitigated. To that end, I am submitting a copy of our DMMS/SEIS comments for inclusion in the channel deepening scoping process.

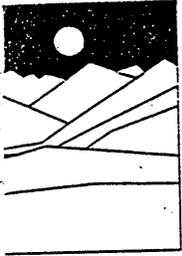
ONRC also submitted a FOIA request dated August 10, 1994, to obtain certain environmental documents relied on by the Corps for the environmental adequacy of both the DMMS and Channel Deepening Feasibility Studies. Any future scoping comments which I am able to submit will include application and critique of those documents- which have only recently become available through the FOIA process.

Please consider the enclosed comments in your Columbia River Deep Water Dredging scoping and feasibility study.

Sincerely Yours,



Lyn Mattei  
223-9007 x 222



OREGON  
NATURAL  
RESOURCES  
COUNCIL

MAIN OFFICE

YEON BUILDING, SUITE 1050  
522 SOUTHWEST FIFTH AVENUE  
PORTLAND, OREGON 97204  
503-223-9001

August 8, 1994

*Protecting Oregon's lands,  
waters and natural resources*

District Engineer  
U.S. Army Engineer District, Portland  
ATTN: CENPP-PE-RPE (J. Anderson)  
P.O. Box 2946  
Portland, Oregon 97208-2946

RE: SEIS Scoping Comments  
Columbia River Dredged  
Materials Management Study

Dear Mr. Anderson;

The Oregon Natural Resources Council (ONRC) has reviewed the Public Notice for initiation of the scoping process to prepare a supplemental environmental impact statement (SEIS) on the Corps' Columbia and Lower Willamette River Environmental Impact Statement, completed July, 1975. We offer the following comments on this endeavor.

1. We find the proposed scoping for the SEIS to be confusing, and inadequate. Although ostensibly to supplement the 1975 EIS, the Corps apparently intends to skip over any actual environmental impacts that have accrued since the EIS issued, in order to address hypothetical future impacts instead. The Corps' proposed scoping is focused on "actions related to" a future-oriented management study (the DMMS) to maintain the Columbia and lower Willamette River channels at existing levels over the next 20 years. Conspicuously missing from this scoping process is any effort to recognize and address present and accrued environmental impacts since 1975; any adverse findings from three environmental assessments (EAs) supposedly prepared in 1983, 1989, and 1994; any adverse findings discussed in a Long Term Management Study; and other new information. Under the proposed scoping, the purpose of the SEIS (read DMMS), is not to review whether the EIS has been successful and how it could be improved in identifying and reducing environmentally significant impacts associated with the dredging program, but is to sweep those issues aside and reclassify the result as a given.

According to an article in the Capitol Press dated June 24, 1994, at page 3, the Ports and the Corps have already agreed to commence studies and plans to deepen the Columbia and Lower Willamette Rivers to accommodate deep draft vessels. The article states that the Corps completed its reconnaissance study in 1991 and is moving ahead with the deep water dredging feasibility and environmental impact study. According to the article, the Lower Columbia River Ports have already entered into cost sharing agreements with the Corps and plan to deepen the river by 2002-

eight years from now. The cost sharing agreements require Federal taxpayers to pick up sixty five percent of the program cost. The ports pay the balance but usually with funds supplied exclusively from state subsidies. This scheme, a pork-barrel freebie, supplies the lucky few with huge incentives to pressure the Corps for early completion.

In the past, individuals and environmental organizations have repeatedly submitted written comments requesting that the Corps perform an SEIS on the impacts of its current dredging practices. I have personally witnessed and written such requests since at least 1987. Yet, throughout this period, the Corps has consistently ignored these pleas and continued with dredging as usual, allowing impacts to compound. But now that the Ports and Corps have solidified plans to deep water dredge the Columbia, the Corps has suddenly decided to perform the SEIS. This coincidence is troubling. Although the Corps asserts that the SEIS tiers to the 1975 EIS, there is little connection since only future impacts will be included.

CEQ scoping regulations, 40 CFR 1501.7, require an early and open process for determining the scope of issues to be addressed and for identifying significant issues related to a proposed action. In limiting the proposed scoping to a future-oriented study that lays the groundwork for deep water dredging, the Corps may have violated these regulations. Limiting the scope of issues to only future impacts eliminates significant issues related to the original EIS which have never been addressed. Limiting the scope of issues to only future impacts may also conflict with the requirement for an early and open process to determine the scope of issues to be addressed.

CEQ scoping regulations, §1501.7 (a)(3), allow the Corps to identify and eliminate for detailed study issues which are not significant or which have been covered by prior environmental review. In this regard, the Corps is allowed to narrow the discussion of these issues to a brief presentation in the SEIS of why they will not have a significant effect on the human environment or by providing a reference to their coverage elsewhere. However, we question whether the Corps' 1975 EIS; Long Term Management Study, and three EAs are sufficient to meet the exemption criteria identified above.

Over the years, through my work with the Northwest Environmental Defense Center, Sierra Club, or ONRC, I have submitted FOIA requests for studies and documentation on the environmental effects of dredging the Columbia River. In response, the Corps has not been able to produce any information or studies that address these concerns. In addition, the Corps did not rely on or even mention the existence of the EAs. In response to a FOIA request submitted last summer, the Corps did produce a report entitled Reports Published by the Environmental Effects of Dredging Programs (sic) (October 1990). Although the Report supposedly contained a definitive list of environmental studies on

the effects of dredging, none of the studies addressed our concerns or referenced any of the previous environmental documentation relied on in the scoping notice. Moreover, to my knowledge, neither ONRC, NEDC, or Sierra Club ever received any notice of the 1989 and 1994 EAs, which raises the issue of proper notice. It would therefore be reasonable to assume that these reports and EAs do not address our environmental concerns with the present dredging program.

2. CEQ scoping regulations §1501.7 (c), require an agency to revise the determinations made under subsections (a) and (b) if substantial changes are made later in the proposed action, or if significant new circumstances or information arise which bear on the proposal or its impacts.

We believe that the ongoing dredging and disposal practices have caused significant damage which has never been adequately addressed or mitigated. Rather than ignoring and canonizing these impacts, the scope of the SEIS should be tailored to include, assess and mitigate them. Some of these circumstances and impacts are as follows:

a. The impacts from placing dredged disposal in the bottomlands along the Columbia River appear to be enormous. According to the many aeriels I have viewed of the Columbia River bottomland areas around Portland, Vancouver, Hayden Island, Rivergate, etc., many of the upland sites used for disposal still contain or until recently did contain large expanses of jurisdictional wetlands which were filled after 1975 with presumably no mitigation. These areas also contain or until recently did contain significant riparian areas, ponds, sloughs, drainages and migratory habitat which were destroyed as well. In addition, many of the sites initially used for dredge disposal prior to 1975, contain reemerging wetlands which are jurisdictional. Yet these areas are being filled with dredged spoils without apparent assessment or mitigation.

b. In addition, we have serious concerns about the legal significance and impact of designating areas as dredged disposal sites under the present dredging program. We have recently submitted two FOIA requests regarding filling of a "dredge disposal site" in Washington at CRM 104. Although this site appears to contain wetlands, it has recently been filled and continues to be filled with no evidence that any "environmental evaluation" was performed or wetland fill permit(s) issued. From the aeriels we have seen, we think this site is typical of other dredged disposal sites used since the 1975 EIS issued. We believe this constitutes significant new information. We need to know whether the Corps requires any additional conditions, evaluations or permits before identified disposal sites may be used for disposing or stockpiling dredged material. We also think that the SEIS should revisit certain dredge disposal sites to investigate the extent of this possible widespread problem.

c. Corps practices currently allow dredging from potentially contaminated or polluted sediment areas without environmental studies and without testing at the front end. The potentially contaminated or polluted spoils may then be disposed of in water quality limited areas. For example, the Corps issued a dredging permit to Shiels and Obletz, Permit # 009940, on April 30, 1993, to fill uplands in the Columbia South Shore (CSS). The CSS, which is connected to the Columbia Slough, is a water quality limited area which contains what is commonly called the most polluted waterway in Oregon. The permit allows, inter alia, dredging miles 0 to 7 of the Columbia River South Channel for disposal in the CSS. In the summer of 1993, Ross Island Sand and Gravel, for the permittees, were hired to fill a 20 acre so-called PCC wetland owned by Art Spada and located just west of N.E. 185. They intended to dredge downstream of the City of Gresham's sewer treatment outfall and just below a score of houseboats discharging directly into the Columbia River (see enclosed map). Testing was not required until after the dredged spoils were dumped and the effluent had reached the Columbia Slough, some twenty five acres to the south. The SEIS needs to address possible impacts from this egregious loophole and how the problem can be mitigated.

d. The present dredging program also lacks proper monitoring and enforcement to ensure that impacts are minimal. Dredge operators often dredge deeper and wider than permits allow. This can increase shoreline slumping, harm fishery resources, increase sedimentation and turbidity, and increase the risk of using or stirring up contaminated or toxic sediments. In addition, dredging companies often apply for new permits that not only exceed depth and width restrictions but also violate in-water timing restrictions required under the ESA. The SEIS needs to address impacts from these situations and the lack of adequate monitoring and enforcement under the present program that has allowed these impacts to arise.

e. In addition to the various enforcement and monitoring issues discussed above, including possible mitigation, the SEIS should include a comprehensive review of the District's dredging and disposal policies. This should include only issuing new permits based on a demonstrated need for the project; a reexamination of "economic need" to include the many diverse economies that are actually affected by dredging and dredged material disposal; a reevaluation of whether the Federal government should continue to subsidize maintenance dredging; address the manner in which fish, marine mammals, water quality, migratory and resident birds, and humans have been impacted by dredging and sediment disposal; and address the current program's compliance with regulations such as the Endangered Species Act, the consistency provision of the Coastal Zone Management Act, the "no significant degradation" provision of the Marine Protection, Research and Sanctuaries Act, and the "fishable, swimmable waters" provision of the Clean Water Act.

We believe that many of the impacts and issues addressed

above constitute significant new information which must be addressed in the SEIS. In addition, Years of failing to address these problems has compounded them and created significant cumulative impact concerns as well. We therefore request that the Corps address the issues and impacts which are related to its ongoing program, before launching itself into an even more intensive dredging program for the 21st century.

Sincerely,



Lyn Mattei for ONRC

C:

USFWS

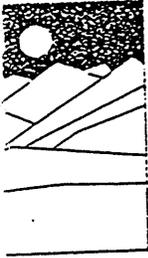
IVEDC

NWEA

P. Loie

✓ PK





OREGON  
NATURAL  
RESOURCES  
COUNCIL

MAIN OFFICE

YEON BUILDING, SUITE 1050  
322 SOUTHWEST FIFTH AVENUE  
PORTLAND, OREGON 97204  
503-223-9001

Protecting Oregon's lands  
waters and natural resources

Exhibit 3  
Pg. 1-3

July 7, 1994

U.S. Army Corps of Engineers  
ATTN: CENPP-PE-RPP (Gresham)  
P.O. Box 2946  
Portland, OR 97206-2946

RE: FREEDOM OF INFORMATION ACT  
REQUEST, COE Action ID 93-651  
Applicant: Columbia River Sand &  
Gravel Company  
Dredge disposal CRM 103.5

Dear Mr. Gresham III:

This is a request for documents pursuant to the Freedom of Information Act, 32 C.F.R. § 516, 5 U.S.C. § 552 (1986). Please send copies of the following:

- (1) All past dredging permits issued by the Corps to Columbia River Sand and Gravel Co., including the decision documents, conditions, and all studies and documentation submitted or relied upon in issuing the permit(s)
- (2) All environmental evaluations, delineations, data sheets wetland assessments, wildlife inventories, habitat assessments, and any other studies and evaluations performed by Columbia River Sand and Gravel or any other entity, to evaluate environmental impacts on the targeted disposal sites authorized by the permits in (1) above.
- (3) All environmental evaluations not included in (2) above, performed for Corps Dredge Placement Areas W-103.6, W-103.7; and all other authorized dredge placement areas within 5 river miles in either direction of CRM 103, as identified in the Corps' 1991 and earlier Columbia River Maintenance Disposal Plan(s).
- (4) A copy of COE permit 071-OYA-1-004159, possibly issued between 2/84 and 10/85, to allow dredged disposal at Columbia River Mile 104. Please include the Decision Document, all conditions of approval, and all related studies and environmental evaluations required or performed.
- (5) Please include portions of the Corps of Engineers, 1991 Columbia River Maintenance Disposal Plan, explaining whether any additional conditions, evaluations or permits are required before identified sites in the Plan may be used for disposal or stockpiling of dredged material.

As provided by the Freedom of Information Act, the Oregon Natural Resources Council (ONRC) requests a waiver of all search

and copying fees. 32 C.F.R. § 518.18(3).

i) Interest in the Requested Documents.

The Oregon Natural Resources Council is committed to the conservation of natural resources, including wetlands, wildlife and water quality. We are interested in understanding the permitting process as it pertains to federally regulated dredge and fill activities in the Columbia basin and specifically along the shoreline of the Columbia River.

ii) How the Public Will Benefit

The public will benefit from this information because it will be used to improve compliance with the Clean Water Act. In addition, the public will gain a better understanding of the role of local, state and Federal agencies in implementing the Clean Water Act.

iii) Use Proposed for the Documents. 33 C.F.R. § 518.18 (ii)

ONRC plans to use these documents in its efforts to improve compliance with the Clean Water Act by polluters and discharges as well as local, state and Federal agencies.

iv) Whether ONRC Will Derive Income From the Information.

ONRC is a non-profit, tax exempt, public interest organization incorporated in Oregon which has been working for natural resource protection in Oregon for the past two decades. Neither ONRC nor its individual members will derive any monetary benefits from the use of this information. Disclosure is in the public interest and will not be used for any commercial gain.

v) How the Information Will Be Disseminated

ONRC will distribute the information through our newsletter, Wild Oregon, which we publish regularly to inform our membership and the general public. It will also be shared with other environmental and conservation groups and neighborhood associations such as: Northwest Environmental Defense Center, Portland Audubon Society, Northwest Environmental Advocates, Columbia Group Sierra Club, Oregon Chapter Sierra Club, Wetlands Conservancy, 1000 Friends of Oregon, Oregon Environmental Council, FAUNA, East Portland District Coalition, and the Blue and Fairview Lake Neighborhood Associations. In addition, the information will be made available to all members of the public.

vi) Fee Waiver Request

Since ONRC falls with FOIA fee waiver provisions, 32 C.F.R. § 518.18 (3), we request a waiver of all fees for this request and look forward to receiving all applied for documents within 10 working days of receipt of this petition. 32 C.F.R. § 518.4 (d)(1), 5 U.S.C. § 552 (2)(6) (1986). If any problems arise in

conjunction with delivering this information in the prescribed time period, please contact us at the number below.

Thank you for your time and consideration and we look forward to hearing from you soon.

Sincerely Yours,

  
Lyn Mattei  
Oregon Natural Resources Council  
State/Private Land Use Director  
223-9007 x 222

C:  
Andy Kerr, ONRC  
Karl Anuca, NEDC  
Steve Willie, USFWS  
Paul King



Reports Published by the Environmental Effects of Dredging Programs

1977

EPA/CE

- \* Environmental Protection Agency/Corps of Engineers Technical Committee on Criteria for Dredged and Fill Material. "Ecological Evaluation of Proposed Discharge of Dredged Material into Ocean Waters; Implementation Manual for Section 103 of Public Law 92-532 (Marine Protection, Research, and Sanctuaries Act of 1972)," July 1977 (Second Printing: April 1978), Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A143 776.

1980

Technical Reports

- \* Perrier, E. R, Llopis, J. L, and Spaine, P. A. 1980. "Area Strip Mine Reclamation Using Dredged Material: A Field Demonstration," Technical Report EL-80-4, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A088 612.
- \* Harrison, W., and Luik, A. V. 1980. "Suitability of Dredged Material for Reclamation of Surface-Mined Land, Ottawa, Illinois, Demonstration Project," Technical Report EL-80-7, Argonne National Laboratory, Argonne, Illinois, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A088 586.
- \* Morrison, R., Stearns, R., and Chen, K. Y. 1980. "Effects of upland Disposal of Dredged Material on Groundwater Quality," Technical Report EL-80-8, University of Southern California at Los Angeles, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A099 300.

Miscellaneous Paper

- \* Peddicord, R., Tatem H., Gibson, A., and Pedron, S. 1980. "Biological Assessment of Upper Mississippi River Sediments," Miscellaneous Paper EL-80-5, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A094 248.

1981

Technical Reports

- \* Pequegnat, W. E., Pequegnat, L. H., James, B. M., Kennedy, E. A., Fay, R. R., and Fredericks, A. D. 1981. "Procedural Guide for Designation Surveys of Ocean Dredged Material Disposal Sites," Technical Report EL-81-1,

- 
- \* Out-of-print report. Copies can be purchased from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. Commercial number is (703) 487-4600.

TerEco Corporation, College Station, Texas, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A096 955.

- \* Hammer, D. P. 1981. "Evaluation of Underdrainage Techniques for the Densification of Fine-Grained Dredged Material," Technical Report EL-81-3, Geotechnical Laboratory, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A099 336.
- \* Simmers, J. W., Folsom, B. L., Jr., Lee, C. R., and Bates, D. J. 1981. "Field Survey of Heavy Metal Uptake by Naturally Occurring Saltwater and Freshwater Marsh Plants," Technical Report EL-81-5, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A101 662.
- \* Fowler, J. 1981. "Design Construction, and Analysis of Fabric-Reinforced Embankment Test Section at Pinto Pass, Mobile, Alabama," Technical Report EL-81-7, Geotechnical Laboratory, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A107 556.
- \* Shuba, P. J., Petrocelli, S. R., and Bentley, R. E. 1981. "Considerations in Selecting Bioassay Organisms for Determining the Potential Environmental Impact of Dredged Material," Technical Report EL-81-8, EG&G International, Inc., Pensacola, Florida, and Wareham, Massachusetts, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A105 246.
- \* Palermo, M. R., Shields, F. D., and Hayes, D. F. 1981. "Development of a Management Plan for Craney Island Disposal Areas," Technical Report EL-81-11, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A111 440.
- \* Folsom, B. L., Jr., Lee, C. R., and Bates, D. J. 1981. "Influence of Disposal Environment on Availability and Plant Uptake of Heavy Metals in Dredged Material," Technical Report EL-81-12, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A112 279.

Miscellaneous Papers

- \* Folsom, B. L., Jr., Lee, C. R., and Preston, K. M. 1981. "Plant Bioassay of Materials from the Blue River Dredging Project," Miscellaneous Paper EL-81-6, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A104 986.

EPA/CE

Plumb, R. H., Jr. 1981. "Procedures for Handling and Chemical Analysis of Sediment and Water Samples," Technical Report EPA/CE-81-1, prepared by the Great Lakes Laboratory, State University College at Buffalo, Buffalo, New York, for the U. S. Environmental Protection Agency/Corps of Engineers Technical Committee on Criteria for Dredged and Fill Material, published by the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A103 788.

1982

Miscellaneous Paper

- \* Landin, M. C., ed. 1982. "Habitat Development at Eight Corps of Engineers Sites: Feasibility and Assessment," Miscellaneous Paper D-82-1, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A112 662.

Related Report

Water Resources Support Center. 1982. "Management of Bottom Sediments Containing Toxic Substances," *Proceedings of the 6th U. S./Japan Experts Meeting*, published for the U. S. Army Corps of Engineers Water Resources Support Center, Fort Belvoir, Virginia, by the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A116 778.

1983

Technical Reports

- Cargill, K. W. 1983. "Procedures for Prediction of Consolidation in Soft Fine-Grained Dredged Material," Technical Report D-83-1, Geotechnical Laboratory, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A125 320.
- \* Schroeder, P. R. 1983. "Chemical Clarification Methods for Confined Dredged Material Disposal," Technical Report D-83-2, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A134 731
  - \* O'Connor, J. M., and O'Connor, S. G. 1983. "Evaluation of the 1980 Capping Operations at the Experimental Mud Dump Site, New York Bight Apex," Technical Report D-83-3, prepared by the New York University Medical Center, Institute of Environmental Studies, Tuxedo Park, New York, and The Valley Ecosystems, Warwick, New York, for the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A138 435

Rubenstein, N. I., Lores, E., and Gregory, N. 1983. "Accumulation of PCBs, Mercury, and Cadmium by *Nereis virens*, *Mercenaria mercenaria*, and *Palaemonetes pugio* from Contaminated Harbor Sediments," Technical Report D-83-4, prepared by U. S. Environmental Protection Agency, Environmental Research Laboratory, Gulf Breeze, Florida, for the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A136 856

#### Miscellaneous Papers

Van Driel, W., Smilde, K. W., and van Luit, B. 1985. "Comparison of the Heavy-Metal Uptake of *Cyperus* 8 and of Agronomic Plants Grown on Contaminated Dutch Sediments," Miscellaneous Paper D-83-1, Institute for Soil Fertility, 8, The Netherlands, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A158 216.

Homziak, J., and Lunz, J. D. 1983. "Aquaculture in Dredged Material Containment Areas," Miscellaneous Paper D-83-2, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A135 075

#### Related Report

- \* Water Resources Support Center. 1983. "Management of Bottom Sediments Containing Toxic Substances," *Proceedings of the 7th U. S./Japan Experts Meeting*, published for the U. S. Army Corps of Engineers Water Resources Support Center, Fort Belvoir, Virginia, by the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A136 740

1984

#### Technical Reports

- \* Brannon, J. M. 1984. "Transformation, Fixation, and Mobilization of Arsenic and Antimony in Contaminated Sediments," Technical Report D-84-1, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A139 032
- \* Dillon, T. M. 1984. "Biological Consequences of Bioaccumulation in Aquatic Animals: An Assessment of the Current Literature," Technical Report D-84-2, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A144 161.
- \* Salamon, K. J. 1984. "Long-Term Impact of Dredged Material Disposal in Lake Erie Off Ashtabula, Ohio," Technical Report D-84-3, Roy F. Weston, Inc., Weston Way, West Chester, Pennsylvania, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A146 720.

- \* Dexter, R. N., Anderson, D. E., and Quinlan, E. A. 1984. "Long-Term Impacts Induced by Disposal of Contaminated River Sediments in Elliott Bay, Seattle, Washington," Technical Report D-84-4, URS Company, Seattle, Washington, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A148 815.

Tatem, H. E. 1984. "Long-Term Impact of Dredged Material at Two Open-Water Sites: Lake Erie and Elliott Bay; Evaluative Summary," Technical Report D-84-5, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A152 029.

- \* Rubinstein, N. I., Gilliam, W. T., and Gregory, N. R. 1984. "Dietary Accumulation of PCB's From a Contaminated Source by a Demersal Fish Species (*Leiostomus xanthurus*)," Technical Report D-84-6, Environmental Research Laboratory, Gulf Breeze, Florida, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A149 415.

Kay, S. H. 1984. "Potential for Biomagnification of Contaminants Within Marine and Freshwater Food Webs," Technical Report D-84-7, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Mississippi. NTIS No. AD A180 004.

#### Instruction Reports

Sheng, P. Y. 1984. "Preliminary User's Manual 3-D Mathematical Model of Coastal, Estuarine, and Lake Currents (CELC3D)," Instruction Report D-84-1, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A142 070

#### Related Reports

- \* Patin, T. R. 1984. "Management of Bottom Sediments Containing Toxic Substances," *Proceedings of the 8th U. S./Japan Experts Meeting*, published for the U. S. Army Corps of Engineers Water Resources Support Center, Fort Belvoir, Virginia, by the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A149 291.
- \* Raymond, G. L. 1984. "Techniques to Reduce the Sediment Resuspension Caused by Dredging," Miscellaneous Paper HL-84-3, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A146 898.
- \* Richardson, T. W. 1984. "Agitation Dredging: Lessons and Guidelines from Past Projects," Technical Report HL-84-6, Hydraulics Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A150 146.

- \* Hignett, H. J. 1984. "The Current State of the Art of Rock Cutting and Dredging," Miscellaneous Paper GL-84-17, Camborne School of Mines, Cornwall, United Kingdom, for the Geotechnical Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A150 500.

Internal Working Documents

McFarland, V. A., and Peddicord, R. K. 1984. "Assessment of Potential Bioaccumulation from Toledo and Toronto Harbor Sediments," Internal Working Document D-84-1, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss.

Poindexter, M. E. 1984. "Design of Settlement Plates for the Duwamish Waterway Capping Demonstration Project," Internal Working Document D-84-3, Environmental Laboratory, CE, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss.

Miscellaneous Paper

- \* Rubinstein, N. I., Gilliam, W. T., and Gregory, N. R. 1984. "Evaluation of Three Fish Species as Bioassay Organisms for Dredged Material Testing," Miscellaneous Paper D-84-1, Environmental Research Laboratory, U.S. Environmental Protection Agency, Sabine Island, Gulf Breeze, Florida, and Department of Biology, Georgia State University, Atlanta, Georgia, for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A153 983.

1985

Technical Reports

Pesch, G. G., Mueller, C., Pesch, C. E., Heltshe, J., and Schauer, P. S. 1985. "Application of Sister Chromatid Exchange in Marine Polychaetes to Black Rock Harbor Sediment, Laboratory Documentation Phase," Technical Report D-85-1, Environmental Research Laboratory, U. S. Environmental Protection Agency, Narragansett, Rhode Island, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A157 372.

Lake, J., Hoffman, G. L., and Schimmel, S. C. 1985. "Bioaccumulation of Contaminants from Black Rock Harbor Dredged Material By Mussels and Polychaetes," Technical Report D-85-2, Environmental Research Laboratory, U. S. Environmental Protection Agency, Narragansett, Rhode Island, prepared for the Environmental Laboratory, CE, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A164 319.

Zarogian, G. E., Pesch, C., Schauer, P., and Black, D. 1985. "Laboratory Evaluation of Adenylate Energy Charge as a Test for Stress in *Mytilus Edulis* and *Nephtys Incisa* Treated with "Dredged Material," Technical Report D-85-3, Environmental Research Laboratory, U. S. Environmental Protection Agency, Narragansett, Rhode Island, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A157 374.

- \* Cargill, K. W. 1985. "Mathematical Model of the Consolidation/Desiccation Processes in Dredged Material," Technical Report D-85-4, Geotechnical Laboratory, prepared for the Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A158 730.
  - \* Newling, C. J., and Landin, M. C. 1985. "Long-Term Monitoring of Habitat Development at Upland and Wetland Dredged Material Disposal Sites, 1974-1982," Technical Report D-85-5, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A159 106.
  - \* Nelson, W. G., Black, D., and Phelps, D. 1985. "Utility of the Scope for Growth Index to Assess the Physiological Impact of Black Rock Harbor Suspended Sediment on the Blue Mussel, *Mytilus Edulis*: A Laboratory Evaluation," Technical Report D-85-6, Environmental Research Laboratory, U. S. Environmental Protection Agency, Narragansett, Rhode Island, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A161 056.
  - \* Johns, D. M., Gutjahr-Gobell, R., and Schauer, P. 1985. "Use of Bioenergetics to Investigate the Impact of Dredged Material on Benthic Species: A Laboratory Study With Polychaetes and Black Rock Harbor Material," Technical Report D-85-7, Edgerton Research Laboratory, Boston, Massachusetts and Environmental Research Laboratory, Narragansett, Rhode Island, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A161 050.
- Gentile, J. H. et al. 1985. "Application of Laboratory Population Responses for Evaluating the Effects of Dredged Material," Technical Report D-85-8, Environmental Research Laboratory, U. S. Environmental Protection Agency, Narragansett, Rhode Island, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A160 507.
- \* Rogerson, P. F., Schimmel, S. C., and Hoffman, G. 1985. "Chemical and Biological Characterization of Black Rock Harbor Dredged Material," Technical Report D-85-9, Environmental Research Laboratory, U. S. Environmental Protection Agency, Narragansett, Rhode Island, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A164 065.
- Brannon, J. M. et al. 1985. "Effectiveness of Capping in Isolating Contaminated Dredged Material from Biota and the Overlying Water," Technical Report D-85-10, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A165 251.

Related Reports

Patin, T. R. 1985. "Management of Bottom Sediments Containing Toxic Substances," *Proceedings of the 9th U. S./Japan Experts Meeting*, published for the U. S. Army Corps of Engineers Water Resources Support Center, Fort Belvoir, Virginia, by the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A157 863.

- \* Patin, T. R. 1985. "Management of Bottom Sediments Containing Toxic Substances," *Proceedings of the 10th U. S./Japan Experts Meeting*, published for the U. S. Army Corps of Engineers Water Resources Support Center, Fort Belvoir, Virginia, by the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A163 709.

Miscellaneous Papers

Francingues, N. R., Jr., Palermo, M. R., Lee, C. R., and Peddicord, R. K. 1985. "Management Strategy for Disposal of Dredged Material: Contaminant Testing and Controls," Miscellaneous Paper D-85-1, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A158 406.

- \* Dillon, T. M., and Gibson, A. B. 1985. "Bioaccumulation and Effects on Reproduction in Aquatic Organisms: An Assessment of the Current Literature," Miscellaneous Paper D-85-2, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A163 202.

1986

Technical Reports

- \* Yevich, P. P. et al. 1986. "Histopathological Effects of Black Rock Harbor Dredged Material on Marine Organisms, A Laboratory Investigation," Technical Report D-86-1, Environmental Research Laboratory, Narragansett, Rhode Island, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A-168 126.
- Truitt, C. L. 1986. "The Duwamish Waterway Capping Demonstration Project: Engineering Analysis and Results of Physical Monitoring," Technical Report D-86-2, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A168 169.
- \* Parnell, J. F., DuMond, D. M., and McCrimmon, D. A. 1986. "Colonial Waterbird Habitats and Nesting Populations in North Carolina Estuaries: 1983 Survey," Technical Report D-86-3, University of North Carolina at Wilmington, Wilmington, NC, and Point Reyes Observatory, Stinson Beach, CA, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A171 626.
- \* Palermo, M. R. 1986. "Development of a Modified Elutriate Test for Estimating the Quality of Effluent from Confined Dredged Material Disposal Areas," Technical Report D-86-4, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A173 526.

Miscellaneous Papers

- \* Palermo, M. 1986. "Interim Guidance for Predicting the Quality of Effluent Discharged from Confined Dredged Material Disposal Areas," Miscellaneous Paper D-86-1, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A168 140.

Brannon, J. et al. 1986. "Effectiveness of Capping in Isolating Dutch Kills Sediment from Biota and the Overlying Water," Miscellaneous Paper D-86-2, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS NO. AD A170 381.

- \* Pennington, J. C. 1986. "Feasibility of Using Mycorrhizal Fungi Enhancement of Plant Establishment on Dredged Material Disposal Sites: A Literature Review," Miscellaneous Paper D-86-3, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss.. NTIS No. AD A170 443.

- \* Pranger, S. A., and Schroeder, P. R. 1986. "Dye Tracer Studies at the Kenosha, Manitowoc, Milwaukee, and Kewaunee Harbors Confined Disposal Facilities," Miscellaneous Paper D-86-4, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A172 170.

- \* McFarland, V. A., Clark, J. U., and Gibson, A. B. 1986. "Changing Concepts and Improved Methods for Evaluating the Importance of PCBs as Dredged Sediment Contaminants," Miscellaneous Paper D-86-5, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A174 177.

Sanderson, W. H., and McKnight, A. L. 1986. "Survey of Equipment and Construction Techniques for Capping Dredged Material," Miscellaneous Paper D-86-6, The Sand Hen Corporation, Wilmington, North Carolina, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A174 650.

Sanders, D. R., Sr. et al. 1986. "Wetlands Investigations on Akers Ranch in Big Valley, California," Miscellaneous Paper D-86-7, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A177 297.

1987

Technical Reports

- \* Environmental Laboratory. 1986. "Beneficial Uses of Dredged Material; Proceedings of the First Interagency Workshop, 7-9 October 1986, Pensacola, Florida," Technical Report D-87-1, U. S. Army Engineer Waterways Experimentation, CE, Vicksburg, Miss. NTIS No. AD A179 756.

- \* Shields, F. D. et al. 1987. "Design and Management of Dredged Material Containment Areas to Improve Hydraulic Performance," Technical Report D-87-2, Environmental Laboratory and Hydraulics Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A187 235.
  
- \* Gentile, J. H. et al. 1987. "The Assessment of Black Rock Harbor Dredged Material Impacts on Laboratory Population Responses," Technical Report D-87-3, Environmental Research Laboratory, U. S. Environmental Protection Agency, Narragansett, Rhode Island prepared for Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A184 569.
  
- \* Scott, J. et al. 1987. "Impact of Open-Water Disposal of Black Rock Harbor Dredged Material on Benthic Recolonization at the FVP Site," Technical Report D-87-4, U. S. Environmental Protection Agency, Narragansett, Rhode Island, prepared for Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A184 166.
  
- \* Pesch, G. G. et al. "Sister Chromatid Exchange in Marine Polychaetes Exposed to Black Rock Harbor Sediment," Technical Report D-87-5, U. S. Environmental Protection Agency, Narragansett, Rhode Island, prepared for Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A184 570.
  
- Lake, J. L., Galloway, W., Hoffman, G., Nelson, W., and Scott, J. 1988. "Comparison of Field and Laboratory Bioaccumulation of Organic and Inorganic Contaminants from Black Rock Harbor Dredged Material," Technical Report D-87-6, Environmental Research Laboratory, U. S. Environmental Protection Agency, Narragansett, Rhode Island, and Science Application International Corporation, Narragansett, Rhode Island, prepared for the U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A197 118.
  
- \* Nelson, W. G. et al. 1987. "Effects of Black Rock harbor Dredged Material on the Scope for Growth of the Blue Mussel, *Mytilus Edulis*, After Laboratory and Field Exposures," Technical Report D-87-7, Environmental Research Laboratory, U. S. Environmental Protection Agency, Narragansett, Rhode Island, prepared for the Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A189 465.
  
- \* Yevich, P. R. et al. 1987. "Effects of Black Rock Harbor Dredged Material on the Histopathology of the Blue Mussel *Mytilus edulis* and Polychaete Worm *Nephtys incisa* after Laboratory and Field Exposures," Technical Report D-87-8, Environmental Research Laboratory, U.S. EPA and Science Applications International Corporation, Narragansett, Rhode Island, prepared for the Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A188 152.

Miscellaneous Papers

- \* Skogerboe, J. G. et al. 1987. "Prediction of Surface Runoff Water Quality From Black Rock Harbor Dredged Material Placed in an Upland Disposal Site," Miscellaneous Paper D-87-1, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A182 235.
- \* Gunnison, D. et al. 1987. "Development of a Simplified Column Test for Evaluation of Thickness of Capping Material Required to Isolate Contaminated Dredged Material," Miscellaneous Paper D-87-2, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A179 929.
- \* Clarke, J. U., and Gibson, A. B. 1987. "Regulatory Identification of Petroleum Hydrocarbons in Dredged Material; Proceedings of a Workshop," Miscellaneous Paper D-87-3, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A180 082.

Related Reports

- \* Patin, T. R. 1987. "Management of Bottom Sediments Containing Toxic Substances," *Proceedings of the 11th U. S./Japan Experts Meeting*, published for the U. S. Army Corps of Engineers Water Resources Support Center, Fort Belvoir, Virginia, by the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A186 119.
- \* Water Resources Support Center. 1987. "Third United States-The Netherlands Meeting on Dredging and Related Technology, 10-14 September 1984, Charleston, South Carolina," published for the U. S. Army Corps of Engineers Water Resources Support Center, Fort Belvoir, Virginia, by the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A182 670.

1988

Miscellaneous Papers

- \* Hill, D. O., Myers, T. E., and Brannon, J. M. 1988. "Development and Application of Techniques for Predicting Leachate Quality in Confined Disposal Facilities; Background and Theory," Miscellaneous Paper D-88-1, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A190 598.
- \* Engler, R. M., Patin, T. R., and Theriot, R. F. 1988. "The Corps' Environmental Effects of Dredging Programs," Miscellaneous Paper D-88-2, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A190 597.
- \* Walski, T. M., and Schaefer, T. E., Jr. 1988. "Planning-Level Cost Estimates of Dredged Material Containment Islands in New York Harbor," Miscellaneous Paper D-88-3, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A194 812.

Miller-Way, C. A., and Nelson, D. 1988. "Preliminary Investigation of the Short-Term Effects of Storms on Sedimentary Characteristics and the Near-shore Fauna using the Sediment Profiling Camera System," Miscellaneous Paper D-88-4, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A200 176.

Bowen, P. R., and Marsh, G. A. 1988. "Benthic Faunal Colonization of an Offshore Borrow Pit in Southeastern Florida," Miscellaneous Paper D-88-5, College of Science, Florida Atlantic University, Boca Raton, Florida prepared for Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. NTIS No. AD A201 938.

#### Technical Reports

- \* Palermo, M. R. 1988. "Field Evaluations of the Quality of Effluent from Confined Dredged Material Disposal Areas," Technical Report D-88-1, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A191 975.
  - \* Averett, D. E., Palermo, M. R., and Wade, R. 1988. "Verification of Procedures for Designing Dredged Material Containment Areas for Solids Retention," Technical Report D-88-2, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A191 080.
  - \* Johns, D. M., and Gutjahr-Gobell, R. 1988. "Bioenergetic Effects of Black Rock Harbor Dredged Material on the Polychaete *Nephtys incisa*: A Field Verification," Technical Report D-88-3, prepared by the US Environmental Protection Agency, Narragansett, R. I., for the US Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A194 228.
- Zarogian, G. E., Rogerson, P. F., Hoffman, G., Johnson, M., Johns, D. M., and Nelson, W. G. 1988. "A Field and Laboratory Study using Adenylate Energy Charge as an Indicator of Stress in *Mytilus edulis* and *Nephtys incisa* Treated with Dredged Material," Technical Report D-88-4, Environmental Research Laboratory, US EPA, Narragansett, Rhode Island; Tetra Tech, Bellevue, Washington; and Science Applications International Corporation, prepared for U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A198 107.
- \* Gentile, J. H. et al. 1988. "Synthesis of Research Results: Applicability and Field Verification of Predictive Methodologies for Aquatic Dredged Material Disposal," Technical Report D-88-5, Environmental Research Laboratory, U. S. Environmental Protection Agency, Narragansett, Rhode Island, prepared U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A200 175.
- Peddicord, R. K. 1988. "Summary of the U.S. Army Corps of Engineers/ U.S. Environmental Protection Agency Field Verification Program," Technical Report D-88-6, Battelle Ocean Sciences, Duxbury, Mass., prepared for Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A200 173.

Folsom, B. L., Jr., Skogerboe, J. G., Palermo, M. R., Simmers, J. W., Pranger, S. A., and Shafer, R. A. 1988. "Synthesis of the Results of the Field Verification Program Upland Disposal Alternative," Technical Report D-88-7, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A200 174.

Landin, M. C., ed. 1988. "Inland Waterways: Proceedings of a National Workshop on the Beneficial Uses of Dredged Material, 27-30 October 1987, St. Paul, Minnesota," Technical Report D-88-8, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A204 670.

Palermo, M. R., and Thackston, E. L. 1988. "Refinement of Column Settling Test Procedures for Estimating the Quality of Effluent from Confined Dredged Material Disposal Areas," Technical Report D-88-9, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A203 359.

#### Related Reports

Cofrancesco, A. F., Jr., and Flosi, J. W. 1988. "Evaluation of Products for Control of Mosquitoes at Disposal Sites in the Galveston District," Technical Report EL-88-3, Environmental Laboratory, US Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A192 448.

Ludwig, D. D., Sherrard, J. H., and Amende, R. A. 1988. "An Evaluation of the Standard Elutriate Test as an Estimator of Contaminant Release at the Point of Dredging," Contract Report HL-88-1, Virginia Polytechnic Institute, Blackburg and Fort Benjamin Harrison, Indianapolis, Indiana, prepared for Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A198 542.

Landin, M., ed. 1988. "The Beneficial Uses of Dredged Material: Proceedings of the North Atlantic Regional Conference, 12-14 May 1987, Baltimore, Maryland," Environmental Laboratory, US Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A192 350.

1989

#### Technical Reports

Landin, M. C., Webb, J. W., and Knutson, P. L. 1989. "Long-Term Monitoring of Eleven Corps of Engineers Habitat Development Field Sites Built on Dredged Material, 1974-1987," Technical Report D-89-1, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A220 267.

\* Simmers, J. W., Rhett, R. G., Kay, S. H., Folsom, B. L., Jr. 1989. "Synthesis of the Results of the Field Verification Program Wetland Disposal Alternative," Technical Report D-89-2, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A206 743.

Miscellaneous Papers

- Brannon, J. M., Gunnison, D., Averett, D. E., Martin, J. L., and Chen, R. L. 1989. "Analyses of Impacts of Bottom Sediments from Grand Calumet River and Indiana Harbor Canal on Water Quality," Miscellaneous Paper D-89-1, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A206 507.
- \* Clarke, J. U., McFarland, V. A., and Pierce, B. D. 1989. "Preliminary Recommendations for a Congener-Specific PCB Analysis in Regulatory Evaluation of Dredged Material," Miscellaneous Paper D-89-2, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A206 661.
- \* Palermo, M. R., and Randall, R. E. 1989. "Evaluation of Hopper Loading and Overflow for Saginaw River, Michigan," Miscellaneous Paper D-89-3, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A149 997.

Related Reports

McLellan, T. N., Havis, R. N., Hayes, D. F., and Raymond, G. L. 1989. "Field Studies of Sediment Resuspension Characteristics of Selected Dredges," Technical Report HL-89-9, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A207 922.

1990

Technical Reports

Dortch, M. S. 1990. "Methods of Determining the Long-Term Fate of Dredged Material for Aquatic Disposal Sites," Technical Report D-90-1, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A219 763.

Poindexter-Rollings, M. E. 1990. "Methodology for Analysis of Subaqueous Sediment Mounds," Technical Report D-90-2, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. NTIS No. AD A219 764.

Lazor, R. L. ed. 1990. "Beneficial Uses of Dredged Material; Proceedings of the Gulf Coast Regional Workshop, 26-28 April 1988, Galveston, Texas," Technical Report D-90-3, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A219 782.

Pizzuto, J. E., and Poindexter-Rollings, M. E. 1990. "Measurement of Hydrologic Parameters of Confined Dredged Material at Wilmington Harbor, Delaware, Containment Area," Technical Report D-90-4, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A219 766.

Johnson, B. H. 1990. "User's Guide for Models of Dredged Material Disposal in Open Water," Technical Report D-90-5, Hydraulics and Environmental Laboratories, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A219 765.

Palermo, M. R., Homziak, J., and Teeter, A. 1990. "Evaluation of Clamshell Dredging and Barge Overflow, Military Ocean Terminal, Sunny Point, North Carolina," Technical Report D-90-6, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. AD A218 753.

Pennington, J. C., Higgins, T., Folsom, B., and Brandon, D. 1990. "Considerations for Reducing the Cost of Testing Dredged Material," Technical Report D-90-7, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. \_\_\_\_\_.

Pequegnat, W. E., and Gallaway, B. J. 1990. "Revised Procedural Guide for Designation Surveys of Ocean Dredged Material Disposal Sites," Technical Report D-90-8, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. \_\_\_\_\_.

Thackston, E. L., and Palermo, M. R. 1990. "Field Evaluation of the Quality of Effluent from Confined Dredged Material Disposal Areas: Supplemental Study-Houston Ship Channel," Technical Report D-90-9, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. \_\_\_\_\_.

Sturgis, T. C. 1990. "Guidance for Contracting Biological and Chemical Evaluation of Dredged Material," Technical Report D-90-10, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. \_\_\_\_\_.

Fredette, T. J., Nelson, D. A., Clausner, J. E., and Anders, F. J. 1990. "Guidelines for Physical and Biological Monitoring of Aquatic Dredged Material Disposal Sites," Technical Report D-90-12, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. \_\_\_\_\_.

#### Miscellaneous Papers

Engler, R. M., Patin, T. R., and Theriot, R. F. 1990. "Update of the Corps' Environmental Effects of Dredging Programs (FY89)," Miscellaneous Paper D-90-2, Environmental Laboratory, U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. \_\_\_\_\_.

Louisiana Water Resources Research Institute. 1990. "Synopsis of Research Needs Workshop: Development of Leach Tests for Contaminated Dredged Material, 23-24 June 1988, Baton Rouge, Louisiana," Miscellaneous Paper D-90-3, Louisiana State University, Baton Rouge, prepared for Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss. NTIS No. \_\_\_\_\_.

