

DREDGED MATERIAL RESEARCH PROGRAM



TECHNICAL REPORT D-78-17

COLONIAL NESTING SEA AND WADING BIRD USE OF ESTUARINE ISLANDS IN THE PACIFIC NORTHWEST

by

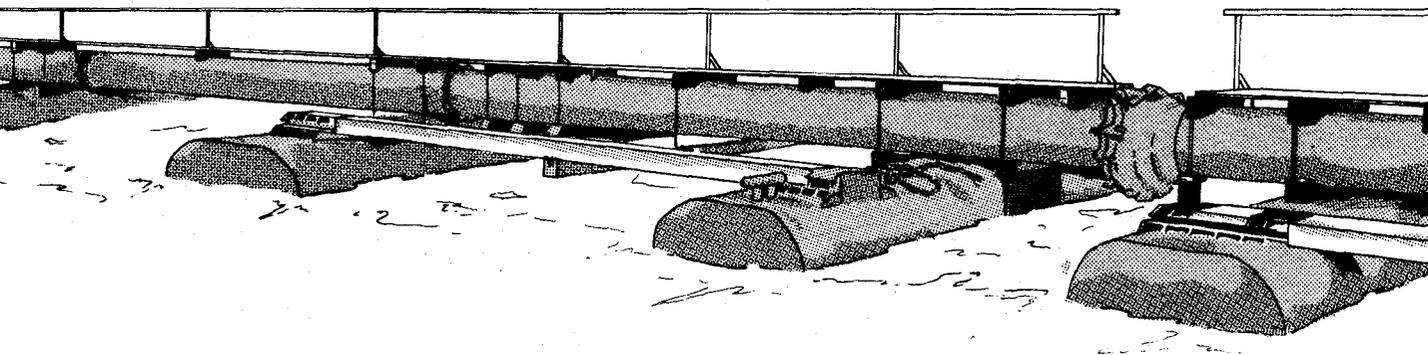
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May 1978

Final Report

Approved For Public Release; Distribution Unlimited



Prepared for Office, Chief of Engineers, U. S. Army
Washington, D. C. 20314

Under Contract No. DACW39-77-C-0046
(DMRP Work Unit No. 4F01E)

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DEPARTMENT OF THE ARMY
WATERWAYS EXPERIMENT STATION, CORPS OF ENGINEERS
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30 June 1978

REPLY REFER TO: WESYV

SUBJECT: Transmittal of Technical Report D-78-17

TO: All Report Recipients

1. The technical report transmitted herewith represents the results of Work Unit 4F01E regarding the vegetation and wildlife use of dredged material islands in the Pacific Northwest. This work unit was conducted as part of Task 4F (Island Habitat Development) of the Corps of Engineers' Dredged Material Research Program (DMRP). Task 4F was part of the Habitat Development Project of the DMRP and has as its objective the investigation, evaluation, and testing of methodologies for habitat creation and management on dredged material islands.

2. Island habitat development has been studied by the DMRP throughout the United States through the evaluation of vegetation succession and animal use of existing dredged material islands. The most significant wildlife aspect of these islands is their use by colonial nesting sea and wading birds (such as gulls, terns, egrets, herons, ibises, and pelicans). This wildlife resource, although generally inadvertently created, presents a significant opportunity for habitat management and development that is consonant with continued dredged material disposal.

3. In the study reported herein, 23 natural and dredged material islands were examined in seven locations from Anacortes, Washington, to Coos Bay, Oregon, to establish the relationship between plant communities and animal use. The principal use of dredged material islands was by gulls and terns. It was noted that adequate natural habitat for other colonial nesting species existed and, by comparison, use of dredged material islands was minimal. Existing habitat on dredged material islands could be improved by selective deposition of additional material; however, the production of new dredged material islands for colonial nesting species is not necessary.

4. From a local perspective, this study will be of value in managing and developing dredged material island habitats in the Pacific Northwest. A national perspective is presented in a report entitled "Development and Management of Avian Habitat on Dredged Material Islands,"

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(4F03) which synthesizes island habitat research in the Pacific Northwest, the Great Lakes (4F01A), New Jersey (4F01D), North Carolina (4F02), Florida (4F01C), Texas (4F01B), and the Upper Mississippi River (4F01F).

A handwritten signature in black ink, appearing to read "John Cannon", with a long horizontal flourish extending to the right.

JOHN L. CANNON
Colonel, Corps of Engineers
Commander and Director

20. ABSTRACT (Continued)

glaucous-winged gulls, western-glaucous-winged (hybrid) gulls, ring-billed gulls, Caspian terns, and common terns. Colonies of great blue herons were found on two islands 61 and 97 km from the mouth of the Columbia River. Habitat maps were prepared for each island studied and detailed floristic descriptions of each bird colony evaluated.

Colony location, breeding phenology, and nesting success were analyzed with respect to existing flora, environmental stress, island physiography, and human disturbance. Results showed that although dredged material deposition influenced an island's physical dimensions, topography, and substrate, plant communities were physiognomically similar to natural islands. Seabird colonization occurred irrespective of dredging history. Nesting populations appeared to be greater in areas of low human disturbance. Colonization and productivity were primarily related to protection from environmental stress. Indications were that gull and tern nesting on dredged material islands is minimal compared to seabird productivity on natural islands.

Management of dredged material islands should not be directed toward increased gull and tern production, but existing colonies should be maintained and monitored. Common terns are a unique addition to Pacific Northwest avifauna and should be protected. Dredged material deposition could improve habitat on some islands by providing increased stability and protection from environmental stress.