

OLCOTT HARBOR
NIAGARA COUNTY, NEW YORK

COPY

OPERATION AND MAINTENANCE
DREDGING AND OPEN-LAKE DISPOSAL OF DREDGED MATERIAL

FINDING OF NO SIGNIFICANT IMPACT
ENVIRONMENTAL ASSESSMENT
SECTION 404(a) PUBLIC NOTICE
AND
SECTION 404(b)(1) EVALUATION

DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Buffalo
Corps of Engineers
1776 Niagara Street

FINDING OF NO SIGNIFICANT IMPACT

The U.S. Army Corps of Engineers, Buffalo District, has assessed the environmental impacts of the following project in accordance with the National Environmental Policy Act of 1969:

Operation and Maintenance
Dredging and Open-Lake Disposal of Dredged Materials
Olcott Harbor
Niagara County, New York

The identified problem at Olcott Harbor is shoaling of the authorized Federal navigation channel, which impedes recreational navigation.

The project would involve routine maintenance dredging of the authorized Olcott Outer Harbor Federal navigation channel, which consists of an Entrance Channel. Between 10,000 and 15,000 cubic yards of dredged material would be removed from the authorized Entrance Channel and discharged at an existing open-lake disposal site. Maintenance dredging would take between 30 and 60 days to complete and would occur at a frequency of about every five years. The project is described in detail in the accompanying Environmental Assessment (EA).

The alternatives considered, other than routine maintenance dredging and open-lake disposal of dredged material, were routine maintenance dredging and (1) littoral discharge of dredged material, (2) use of the dredged material for wetland creation, (3) diked lakeshore disposal of dredged material, (4) diked landfill disposal of dredged material, (5) farmland disposal of dredged material, and (6) use of the dredged material for local pond fill. These alternatives were dismissed since they were either environmentally unsound, engineeringly infeasible, socially unacceptable, or economically unjustified. The "No Action" alternative was also considered, but was rejected since it would not provide a solution to the identified problem and would adversely impact on recreational navigation.

Analysis has shown that this operation and maintenance dredging would have no significant adverse effects on the quality of the human environment. Based on these factors, I have determined that an Environmental Impact Statement will not be required.

The attached EA presents the results of the environmental analysis. Those who have information which might alter this assessment and lead to a reversal of this decision should notify me within 30 days.

John W. Morris
Colonel, U.S. Army
Commanding

DATE: _____

ENVIRONMENTAL ASSESSMENT
OPERATION AND MAINTENANCE
DREDGING AND OPEN-LAKE DISPOSAL OF DREDGED MATERIALS
OLCOTT HARBOR
NIAGARA COUNTY, NEW YORK

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OPERATION AND MAINTENANCE
DREDGING AND OPEN-LAKE DISPOSAL OF DREDGED MATERIAL

OLCOTT HARBOR
NIAGARA COUNTY, NEW YORK

ENVIRONMENTAL ASSESSMENT

1. PURPOSE, NEED, PROBLEM, AND AUTHORITY

1.1 Purpose of the Environmental Assessment (EA). The purpose of this EA is to update and/or supplement previous environmental documents relative to the operation and maintenance of Olcott Harbor, which include the Operation and Maintenance Environmental Assessment (EA) and Section 404 (b)(1) Evaluation (USAED Buffalo, 1981). This document has been prepared in order to reassess and clarify the points of concern related to Corps of Engineers' maintenance dredging of the Federal navigation channel at Olcott Harbor and open-lake disposal of the associated dredged material. Specifically, Appendix EA-B of this EA addresses the open-lake disposal of dredged material using Section 404 (b)(1) guidelines. This EA facilitates compliance with the National Environmental Policy Act and the Clean Water Act, and includes discussions of the need for the action, its environmental impacts, alternatives, and a list of agencies, interested groups and individuals consulted.

1.2 Problem and Need for Action.

1.2.1 The identified problem at Olcott Harbor, New York, is shoaling in the authorized Outer Harbor Federal navigation channel (Entrance Channel). Shoaling creates the need for periodic maintenance dredging and disposal of the associated dredged material. Dredging restores and maintains the harbor channel to its authorized project depth, which facilitates safe recreational navigation, along with water-related activities and their associated benefits.

1.2.2 In general, shoaling rates in the Federal navigation channel at Olcott Harbor are relatively low. This is due, in part, to the fact that a power dam, located about two miles upstream from Olcott at Burt, New York, tends to trap sediment carried downstream by Eighteenmile Creek. The Federal piers at the mouth of Eighteenmile Creek serve to trap littoral drifting sand and gravel, which is the major source of shoaling in the Federal navigation channel. As a result, shoals develop in the authorized Entrance Channel, which creates a need for their removal.

1.2.3 It has been estimated that the rate of shoaling in the Olcott Harbor Entrance Channel is approximately 0.5 foot per year (Forward Management Associates 1981). In 1962, approximately 25,000 cubic yards of dredged material was removed from the

channel. During its last dredging in 1985, 5,315 cubic yards of dredged material was removed in order to restore the channel to its authorized project depth. It is estimated that future maintenance dredging of the channel would result in the removal of between 10,000 and 15,000 cubic yards of sediment, and would occur with a frequency of about once every five years.

1.3 Authority. The existing Federal navigation project at Olcott Harbor was constructed under the authority of the River and Harbor Acts of 1867 and 1913. Its operation and maintenance is authorized under these same Acts.

2. EXISTING CONDITIONS

2.1 Project Location.

2.1.1 Olcott Harbor is situated on the southern shore of Lake Ontario at the mouth of Eighteenmile Creek, town of Newfane, Niagara County, New York (Figure EA-1).

2.1.2 The existing Olcott Harbor open-lake disposal site for the harbor maintenance dredged material is located in Lake Ontario, approximately 1.5 miles due north of the mouth of Olcott Harbor (Figure EA-2).

2.2 Harbor Facilities. For further information pertaining to this section, refer to the O&M EA (USAED, Buffalo 1981).

2.2.1 The authorized Olcott Harbor Federal navigation project provided for a single Entrance Channel, -12 feet LWD¹ in depth and 140 feet in width, extending from the 12-foot contour in Lake Ontario, upstream to about 25 feet upstream from the landward end of the East Pier (Figure EA-1).

2.2.2 Olcott Harbor is presently one of the principal recreational boating harbors along the south shore of Lake Ontario, west of Rochester, New York. The original planning objectives of the existing authorized project at Olcott Harbor were to provide some measure of protection from open, rough water in Lake Ontario and access into Eighteenmile Creek. The naturally deep depths of Eighteenmile Creek make Olcott Harbor especially suited for navigation and dockage of sailcraft. Attesting to this, the percentage of auxiliary sailcraft at Lake Ontario small-boat harbors usually range from one to five percent. In 1980, auxiliary sailcraft comprised 51 percent of the Olcott Harbor fleet. Further, in 1980, 129 recreational

¹Low Water Datum, elevation 242.8 feet above Mean Water Level at Father Point, Quebec, Canada (International Great Lakes Datum [IGLD] 1955).

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boats were moored at Olcott Harbor and an estimated 300 transient boats utilized the harbor facilities during the season (Forward Management Associates 1981). This number of transient boats represents an increase of almost 50 percent over the number of transient craft arrivals and departures at Olcott Harbor in 1979.

2.3 Land and Other Associated Water Uses.

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2.3.1 Olcott Harbor is fully developed with boat docks and facilities on both banks of Eighteenmile Creek between the landward end of the Federal piers and the New York State Route 18 Bridge. As noted in the FEIS for proposed Olcott Harbor navigation improvements (USAED, Buffalo 1978), about 50 percent of the lands that border the harbor area in Olcott are occupied by marine-related commercial enterprises. Commercial enterprises in the town are service-oriented businesses, including several restaurants, an amusement park, a bowling alley and a roller skating rink. Seasonal and year-round residential properties border the majority of the western side of the harbor between Bay Street and West Main Street. Olcott Yacht Club, Hedley Boat Basin and the Town of Newfane Marina are also situated on the western side of Olcott Harbor. The Town has recently constructed a three-ramp public boat launch with two levels of parking at the marina. On the eastern bank of the harbor, Hedley Boat Company and McDonough Marina occupy the majority of acreage. Krull Park and Beach, which is maintained by the Niagara County Parks Department, is a 329-acre park located just east of the harbor with facilities for picnicking, playfields, a wading pool, and beachfront on Lake Ontario.

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2.3.2 In late summer and fall months, Olcott Harbor typically serves as a major focal point on Lake Ontario for recreational fishing-associated activities. These activities are attributed to an extensive salmonid stocking program at Olcott Harbor and on Lake Ontario conducted by the New York State Department of Environmental Conservation (NYSDEC). Paragraph 2.6.1 of this EA describes the salmonid fishery in further detail.

2.4 Project Sediments.

2.4.1 Preliminary Evaluations of the Dredged Material.

(a) Sources of Sediments Comprising the Shoal Material - Olcott Harbor is located at the mouth of Eighteenmile Creek on Lake Ontario in the town of Newfane, New York. Depending on factors such as creek velocities and discharge, and channel topography, among others, much of the sediments originating in runoff are either directly deposited in the creek channel bottom, or are deposited in the creek channel in areas further downstream. Some of the sediment carried downstream is trapped by a dam located about two miles upstream of the creek mouth, while some sediment flows over the dam and is deposited further downstream. Although a limited amount of this sediment is deposited in the authorized Federal navigation channel (Entrance

Channel) at the Eighteenmile Creek mouth, most of the sedimentation in this channel occurs primarily as a result of the entrapment of littoral sands by the existing Federal East and West Piers.

(b) **Potential Sources of Sediment Pollution** - The Eighteenmile Creek watershed is predominated by agricultural and rural land uses. Some industrial point sources discharge into the Eighteenmile Creek watershed. Of these land use types, runoff into Eighteenmile Creek originates primarily from non-point source agricultural activities in the watershed, which contributes most to sediment contamination in Eighteenmile Creek. The limited contamination associated with the littoral Entrance Channel material has its source in the open-lake. Open-lake sediment contamination originates from a variety of point and non-point sources.

(c) **General Physical Aspects of the Sediments** - Historic and recent sediment particle size analyses indicate that the Entrance Channel sediments are comprised primarily of sands, with some silts.

(d) **Sediment Grain Size and Quality as Determined by Previous Analyses** - Particle size and chemical (inorganic and organic) analyses, elutriate testing and 96-hour acute toxicity tests (bioassays) were performed on sediment samples obtained from the Olcott Harbor Entrance Channel and an Open-lake Reference Site (T.P. Associates 1987). Particle size analysis of sediment samples collected from the Entrance Channel indicate that the sediments consist primarily of fine to medium-grain sands, with some silts. Open-lake Reference Site sediments consist primarily of silts and sands, with moderate amounts of very fine sands. Bulk inorganic analysis of Entrance Channel and Reference Site sediments indicated that they were overall "Nonpolluted" to "Moderately Polluted." According to USEPA guidelines (USEPA 1977a; refer to Table EA-1), the Entrance Channel sediments were "Heavily Polluted" with respect to Manganese and Cyanide. Similar levels of Cyanide, which appear to reflect Lake Ontario background levels, and moderate levels of Manganese, were also detected in sediments at the Open-lake Reference Site. "Moderately Polluted" levels of Phosphorus and Zinc were also detected in sediments in the Entrance Channel and Reference Site. All other parameters in the Entrance Channel sediments were measured at "Nonpolluted" levels. Thus, with the exception of the higher levels of Manganese and Cyanide in sediments in the Entrance Channel, sediment pollutant levels were consistently shown to be in the "Nonpolluted" to "Moderately Polluted" category with respect to nutrients, heavy metals, and oil and grease. Organic analysis of the Entrance Channel and Reference Site sediments did not detect any Organochlorine Pesticides, Polychlorinated Biphenyls (PCB's) or Purgeable Halocarbons. Elutriate testing of Entrance Channel sediments showed minor releases of Nitrogen, Barium, Cadmium, Iron, Manganese, Nickel, Zinc, Cyanide, and oil and grease. Acute toxicity tests

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(bioassays) were performed on Entrance Channel and Reference Site sediments in order to evaluate the toxicological effects of sediment chemical constituents on test species. Ninety-six hour bioassays were performed on the fathead minnow (Pimephales promelas), burrowing mayfly nymph (Hexagenia limbata), and a zooplankton (Daphnia magna). The overall results of these bioassays classified Entrance Channel and Reference Site sediments as borderline nonpolluted/moderately polluted with respect to test species mortalities.

2.4.2 **Current Characteristics of the Dredged Material** - Most recently, bulk chemical (inorganic and organic) and physical (particle size) analyses of sediments collected from Olcott Harbor and vicinity were performed by Aqua Tech Environmental Consultants (1989), in order to evaluate the suitability of maintenance dredged Entrance Channel material for open-lake disposal. Bioassays were also performed under this sediment testing program. Additionally, chemical analyses on sediments collected from the existing Lake Ontario open-lake disposal site (Figure EA-2) and an open-lake reference site (located about 1.5 miles north, 45°00' west of the mouth of Olcott Harbor) were performed by Great Lakes Laboratory (1981). The Olcott Harbor Entrance Channel sediments are represented by Sampling Sites 7B, 8B and 9, as shown in Figure EA-3. Note that no sample was obtained from Entrance Channel Sampling Site 9 because of the presence of a hard substrate, presumably rock.

(a) **Physical Analysis** - Particle size analysis of surface grab sediment samples collected from Sampling Sites 7B and 8B in the Entrance Channel (compiled from Aqua Tech Environmental Consultants 1989) and at the open-lake disposal site (Great Lakes Laboratory 1981) are shown in Table EA-2. Test results indicate that the sediments within the Entrance Channel are comprised primarily of medium-grain sands with some silts. The sample collected from the open-lake disposal site was comprised of about 50 percent fine to medium grain sands, and one-half silts and clays. The sample obtained from the reference site was comprised of about 50 percent very fine and fine sands, and 50 percent silts and clays.

(b) **Inorganic Analysis** - The results of bulk inorganic analysis of sediments collected from the Entrance Channel (compiled from Aqua Tech Environmental Consultants 1989) and open-lake disposal and reference sites (compiled from Great Lakes Laboratory 1981) are shown in Table EA-3. Table EA-4 classifies the data presented in Table EA-3, according to USEPA guidelines (USEPA 1977; Table EA-1). As shown in Table EA-4, the bulk inorganics data show "Nonpolluted" levels of most parameters, with "Moderately Polluted" levels of the heavy metals Arsenic, Barium, Cyanide and Phosphorus at Sampling Sites 7B and 8B. These levels are not of major environmental concern, since comparable levels have been measured in sediments collected from the open-lake disposal site, as well as at other reference sites on Lake Ontario sampled and tested by the Buffalo District.

Manganese was classified as "Heavily Polluted" at Sampling Site 8B. Bulk inorganic analysis of sediments sampled at the open-lake disposal site showed "Nonpolluted" levels for most parameters, with "Moderately Polluted" levels of Arsenic, Chromium, Manganese and Nickel, and "Heavily Polluted" levels of Cyanide and Iron. Inorganics data on reference site sediments are very similar to those on open-lake disposal site sediments, and show "Moderately Polluted" levels of Arsenic, Chromium, Manganese, Mercury and Nickel, with "Heavily Polluted" levels of Cyanide, Iron and Phosphorus.

(c) **Organic Analysis** - Bulk organic analysis did not detect any volatile organics, Polyaromatic Hydrocarbons (PAH's), PCB's or pesticides in any of the Entrance Channel sediment samples (Aqua Tech Environmental Consultants 1989).

(d) **Elutriate Testing** - Elutriate testing of the Entrance Channel sediments (Aqua Tech Environmental Consultants 1989) showed minor releases of Barium, Ammonia-Nitrogen, Phosphorus and Zinc.

(e) **Bioassays** - Ninety-six hour bioassays were performed on the Entrance Channel sediments in order to evaluate the toxicological effects of sediment contaminants on test species (Aqua Tech Environmental Consultants 1989). Results of these bioassays are presented in Figure EA-4. According to the sediment pollutional classification scheme presented in Table EA-5, Sampling Sites 7B and 8B were classified overall as "nonpolluted." Sampling Sites 7B and 8B were classified as "nonpolluted" with respect to Pimephales promelas and Hexagenia limbata mortalities. Daphnia magna mortalities classified Sampling Site 7B as borderline "nonpolluted" to "moderately polluted," and Sampling Site 8B as "nonpolluted."

2.5 **Benthos**. USEPA (1977b) and Ecology and Environment (1978) performed benthic sampling in Olcott Harbor in November 1977, and fall 1977/spring and summer 1978, respectively. The sampling sites for these surveys are shown in Figure EA-5, and the results of these surveys are presented in Tables EA-5 and EA-6. The results of these surveys show that the benthic community in the Federal navigation channel are dominated by the oligochaetes (aquatic worms) Limnodrilus spp. and Tubifex spp. The Ecology and Environment (1978) survey indicated that the Gastropod Physa spp. (a bivalve) and the Pelycepod Sphaerium spp. (also a bivalve) were second with regard to relative abundance in the fall of the year.

2.6 **Fish and Wildlife**. Further information in regard to fish and wildlife resources in the Olcott Harbor vicinity is provided in the O&M EA (USAED, Buffalo 1981).

2.6.1 **Fisheries** - While Olcott Harbor no longer supports an active commercial fishery, local sport fishing interests have increased in recent years (refer to paragraph 2.3.3 of this EA).

This increase has occurred with the concurrent stocking of brown trout (Salmo trutta) at Olcott and the widespread stocking of various salmonid species throughout Lake Ontario. This stocking program has directly resulted in thriving populations of salmonids throughout Lake Ontario. Increased sport fishing efforts and activities for the rainbow trout (S. gairdneri), coho salmon (Oncorhynchus kisutch) and chinook salmon (O. tshawytscha) is particularly notable. Significant migratory runs of brown trout, and chinook and coho salmon occur upstream through the mouth of Eighteenmile Creek at Olcott Harbor between September and December. Due primarily to the lack of suitable spawning habitat in Eighteenmile Creek, natural recruitment resulting from these runs is very low or non-existent.

2.6.2 Numerous spring-spawning warmwater fish species inhabit the lower reaches of Eighteenmile Creek. The NYSDEC has identified this area within Niagara County as a significant spawning area for smallmouth bass (Micropterus dolomieu) (NYSDEC letter, 18 October 1988; Appendix EA-A). This area also supports the natural reproduction of black crappie (Poxomis nigromaculatus), brown bullhead (Ictalurus nebulosus), largemouth bass (Micropterus salmoides), northern pike (Esox lucius) and rock bass (Ambloplites rupestris).

2.6.3 The results of a fall 1977/spring and summer 1978 fishery survey by gill net conducted in and around Olcott Harbor by Ecology and Environment (1978) under contract for the U.S. Army Corps of Engineers, are presented in Table EA-7. The sampling sites used for this survey in Olcott Harbor and the immediate lake area are illustrated in Figure EA-6. A total of 910 fish, comprised of 21 species, were captured by gill net during the survey. This survey showed that alewife (Alosa pseudoharengus), brown bullhead, yellow perch (Perca flavescens), rainbow smelt (Osmerus mordax) and brown trout were the five most abundant species for all seasons, comprising 25.5, 20.0, 6.2, 5.3 and 5.1 percent of the total catch, respectively. The coldwater species rainbow trout, coho salmon and chinook salmon dominated the fall catch, while Lake trout (Salvelinus namaycush), lake chub (Cousius plumbeus), white bass (Morone chrysops) and white sucker (Catostomus commersoni) dominated the spring season. The summer catch was predominated by warmwater species, including alewife, brown bullhead, gizzard shad (Dorosoma cepedianum), carp (Cyprinus carpio) and yellow perch. Additional species were captured by seine netting.

2.6.4 In the spring, summer and fall of 1989, the U.S. Army Corps of Engineers contracted another biological study, including a fishery survey, to the U.S. Fish and Wildlife Service (USFWS) (USFWS 1989). Sampling for the fishery survey was performed by trap net, hoop net and boat electroshocking. A total of 28 species were captured, and brown bullhead, pumpkinseed (Lepomis gibbosus) and rockbass dominated the total take, regardless of season. In comparison to the Ecology and Environment (1978) survey, the following additional species were

captured by these sampling efforts: bowfin (Amia calva), common shiner (Notropis cornutus), redbreast sunfish (Lepomis auritus) and white crappie (Pomoxis annularis). In October, large numbers of brown trout, coho and chinook salmon were captured in the upper reach of Eighteenmile Creek (below Burt Dam) by electroshocking efforts.

2.6.5 Wildlife - The general vicinity of Olcott Harbor and the lower reach of Eighteenmile Creek provide habitat for a limited wildlife community. Development and disturbance in the immediate vicinity of the harbor and its marinas has encroached upon habitat suitable for use by wildlife. Birds species which use the general area range from migratory to non-migratory, or summer resident to winter resident. Various shorebirds and wading birds (i.e., gulls, terns, sandpipers, etc.) utilize the Federal East and West piers, marina structures and local shoreline as resting, feeding and nesting habitat. The NYSDOS designated Significant Coastal Fish and Wildlife Habitat (refer to paragraph 2.9 of this EA) and its associated wetland complex and riparian corridor, located upstream of the Route 18 Bridge supports a locally more diverse wildlife community comprised of various species of shorebirds, songbirds, mammals, reptiles and amphibians. Most notably, this area supports moderate populations of snapping turtle (Chelidra serpendina), painted turtle (Chrysemas picta), various aquatic furbearers (raccoon [Procyon lotor], opossum, muskrat [Ondatra zibethicus], red and gray squirrel [Sciurus spp.], chipmunk [Tamius spp.], mink [Mustela vison], etc.), great blue heron (Ardea herodias), red-winged blackbird (Agelaius phoeniceus), belted kingfisher (Megaceryle alcyon) and various species of gull and duck, among others. Ice-free areas within the general open-lake area offshore of Olcott Harbor (including the open-lake disposal site) provide wintering habitat for various waterfowl species. Scaup (Aythya spp.), goldeneye (Bucephala spp.), mergansers (Merqus spp.), blacks (Anas rubripes) and mallards (Anas platyrhynchos) are the most prevalent species.

2.7 Water Quality. Based on best usage, waters in the vicinity of the mouth of Eighteenmile Creek at Olcott Harbor are classified as "Class B" waters by NYSDEC. This classification provides for uses such as for primary contact recreation and any other uses except as a source of water supply for drinking, culinary, or other food processing purposes. The water quality classification at the dredged material disposal site in Lake Ontario is designated as "Class A-Special" water, thereby classifying it as a source of water for drinking, culinary, or food processing purposes, primary contact recreation, or any other uses. The Niagara County Fisheries Development Board, in letter dated 28 September 1988 (Appendix EA-A), notes that at least eight industrial discharges into the Eighteenmile Creek Basin have been discontinued since 1980.

2.8 Vegetation. With the exception of the seasonal presence of floating duckweeds (Spirodela spp. and Lemna spp.), there is

little or no aquatic vegetation within the limits of the Federal navigation project and open-lake disposal site. Similarly, there is little rooted aquatic vegetation in the open-lake area surrounding Olcott Harbor, although dense beds of the alga Cladophora spp. are present in this area throughout the spring to late summer period. This relative lack of rooted aquatic vegetation can be attributed to the type of substrate (and in some cases depth) in these areas (primarily cobble and sand), as well as frequent disturbance by recreational navigation. From the Federal navigation channel upstream to Burt Dam, shallower water depths and primarily mud-bottom habitat provides conditions conducive to the establishment of sparse to moderate beds of submerged aquatic macrophytes; the most-abundant species include watermilfoil (Myriophyllum spp.), wildcelery (Juncus pelocarpus) and coontail (Ceratophyllum demersum). Arrowhead (Sagittaria latifolia), pondweed (Potamogeton spp.), water smartweed (Polygonum spp.), spatterdock (Nuphar luteum) and sedges are also present. Numerous, relatively large floating cattail mats or "islands" are present in this upstream area (refer to paragraph 2.9 of this EA). Stands of bur-reed (Scirpus spp.) and jewelweed also inhabit these floating "island" areas. Moderate stands of riparian vegetation, comprised of a variety of indigenous woody and herbaceous vegetation, are present along the east and west banks of Eighteenmile Creek. Bottomland forest stands along the creek margin are generally predominated by red maple (Acer rubrum), green ash (Fraxinus pennsylvanica), black willow (Salix nigra) and eastern cottonwood (Populus deltoides).

2.9 Ecological Habitats. Varied aquatic and terrestrial habitats surround Olcott Harbor. Olcott Harbor consists primarily of warmwater, relatively shallow, littoral, sand/silt-bottom habitat. In the open-lake area surrounding Eighteenmiles Creek's confluence with Lake Ontario, shallow, littoral, warmwater, cobble/sand-bottom habitat is present. A small sand/cobble beach is present along the shoreline within this area, west of the harbor entrance. Just west of this beach, tall bluffs abut the lake along the shoreline. From the harbor upstream to the Route 18 Bridge on Eighteenmile Creek, primarily warmwater, lotic, shallow, mud-bottom habitat predominates. Upstream of the Route 18 Bridge, primarily warmwater, lotic, generally shallow, mud/detritus-bottom habitat is present. Within this reach upstream to Burt Dam, tall, very steep banks abut Eighteenmile Creek. A large coastal wetland complex on Eighteenmile Creek is located within this area, extending upstream to Burt Dam from the Route 18 bridge, and has been identified as a Significant Coastal Fish and Wildlife Habitat under the New York State Department of State's Significant Coastal Fish and Wildlife Habitats Program (NYSDEC letters, 18 October and 12 December 1988; Appendix EA-A). It is estimated that this habitat is comprised of about 60 to 70 acres of wetland. Numerous, relatively large floating cattail (Typha spp.) mats are the main feature of this wetland complex. The authorized project limit of the Federal navigation project at Olcott Harbor is approximately 1,300 feet downstream from the Route 18 bridge and this designated Significant Coastal Fish and

Route 18 bridge and this designated Significant Coastal Fish and Wildlife Habitat. The open-lake disposal site is comprised of deep, warmwater, mud/sand-bottom habitat.

2.10 Wetlands. No wetlands are present within the existing authorized Federal project area. As noted in the preceding paragraph, the coastal wetland complex, inclusive of between about 60 to 70 acres, is located approximately 1,300 feet upstream of the existing Federal navigation project.

2.11 Threatened or Endangered Species. No Federal or State threatened or endangered species have been identified which would be affected by the proposed project (NYSDEC letter dated 18 October 1988).

2.12 Historical Properties and Archaeological Sites. No historical properties or archaeological sites are located within the Olcott Harbor Federal navigation channel or at the existing the open-lake disposal site (New York State Office of Parks, Recreation and Historic Preservation [NYSOPRHP] letter, 4 October 1988; Appendix EA-A).

3. PROJECT ALTERNATIVES AND THE PROPOSED PLAN

3.1 Project Alternatives.

3.1.1 The project alternatives considered included maintenance dredging and (1) open-lake disposal of dredged material; (2) use of the dredged material for littoral nourishment; (3) use of the dredged material for wetlands creation; (4) diked lakeshore disposal of dredged material; (5) diked landfill disposal of dredged material; (6) farmland disposal of dredged material; and (7) use the dredged material for local pond fill. The "No Action" plan was also considered. Alternatives 2-7, their relative feasibility and the reason for their rejection, are discussed in detail in the Olcott Harbor O&M EA (USAED, Buffalo 1981). Under the "No Action" alternative, no Federal action would be implemented regarding maintenance dredging operations at Olcott Harbor. This alternative was rejected since it would do nothing to alleviate the shoaling problem in Olcott Harbor, and would adversely impact on recreational navigation and associated activities. Maintenance dredging and open-lake disposal of dredged material was found to be environmentally sound, technically viable, economically justifiable and socially acceptable.

3.2 The Proposed Plan. The proposed operation and maintenance plan would provide for periodic maintenance dredging of the authorized Federal navigation channel (Outer Harbor or Entrance Channel; refer to Figure EA-1) and subsequent disposal of the dredged material at the existing open-lake disposal site. The plan would involve the dredging of approximately 10,000 to 15,000 cubic yards of shoal material, or that quantity required to

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restore the Olcott Harbor Federal navigation channel to the authorized project depth, at a frequency of approximately every five years. A contracted cutterhead or clamshell dredge would be used to perform the required work. The dredged material would be discharged at the approximate center of the designated open-lake disposal site (refer to Figure EA-2). The maintenance dredging operation would take between 30 and 60 days to complete. Maintenance dredging and dredged material disposal operations would be scheduled to occur between 15 June and 15 August in the interest of avoiding any significant adverse impacts on local fishery resources.

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4. IMPACTS

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Under the "No Action" alternative, the Federal navigation channel of Olcott Harbor would eventually shoal in and result in unsafe conditions for recreational navigation. Local noise, aesthetic values, community cohesion, land use and cultural resources would not be affected by the shoaled Federal navigation channel. Local leisure opportunities, community growth, public health and safety, and transportation would be negatively impacted as a result of the shoaled Federal navigation channel, primarily due to the creation of a navigation hazard and its associated negative effects on its dependent recreational activities. Local property values and tax revenues would be adversely affected by the shoaled Federal navigation channel, primarily due to a lost tax base resulting from the decrease in overall marina operations. Local employment/labor forces, business and industrial activity, public services and facilities, and regional growth would be negatively affected primarily due to the loss of temporary employment opportunities provided by maintenance dredging operations, as well as the loss of economic benefits the maintained shallow-draft navigation project provides to the community. Man-made resources, namely Olcott Harbor, would be negatively impacted by shoaling in its authorized Federal navigation channel by becoming less recreationally viable. Natural resources would not be significantly impacted as a result of the shoaled Federal navigation channel. Local air and water quality would not be affected by the shoaled Federal navigation channel. Ecological habitats, aquatic vegetation, plankton, benthos, and fish and wildlife would benefit from the shoaled Federal navigation channel. The relatively deep, unproductive aquatic habitat (i.e., dredged navigation channel) would gradually develop into shallow, productive aquatic habitat. As a result of the shallow depths, aquatic vegetation would eventually become established, and would increase in diversity and production. Similarly, the phytoplanktonic community would diversify and its production would increase. Benthic diversity and productivity would increase as a result of the local increase in aquatic vegetation. Fish and wildlife resources would become more diverse and productive as a result of feeding, nesting and cover habitat provided by the locally increased abundance and diversity of aquatic vegetation. Wetlands would not be
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significantly impacted as a result of the shoaled Federal navigation channel.

4.1 Social Impacts.

4.1.1 **Noise** - Maintenance dredging in Olcott Harbor and disposal of dredged material would result in a short-term increase in local noise sources during project implementation. Noise generated by the action would probably not exceed ambient noise levels in the harbor area, nor would it affect any sensitive noise receptors.

4.1.2 **Aesthetic Values** - The presence of dredging equipment would temporarily detract from the aesthetic quality of the Olcott Harbor. The atmospheric exposure of organic matter which may be contained in the dredged material would result in short-term, localized malodor. The resuspension of fine-grain particles in the water column would result in a reduction in clarity and alteration in water color at the dredging and open-lake disposal sites. These effects would be dissipated by local wind patterns, creek discharge and lake currents.

4.1.3 **Leisure Opportunities** - Maintenance dredging in Olcott Harbor and disposal operations may temporarily interfere with local recreational boating and fishing activities. The environmental window of 15 June through 15 August would function to minimize impacts to local recreational fishing activities, as they may relate to fall salmonid runs up Eighteenmile Creek. All dredging equipment would be sufficiently lighted and marked for safety and to avoid any significant hindrances with recreational boaters.

4.1.4 **Community Growth** - The maintenance of a viable recreational harbor at Olcott would preserve the area's potential for desirable community growth.

4.1.5 **Community Cohesion** - No significant impacts would be anticipated in this regard as a result of the proposed project.

4.1.6 **Public Health and Safety** - Maintenance dredging in Olcott Harbor would provide for safe recreational navigation. The Corp of Engineers' contract specifications would require the maintenance of a safe, restricted work area during maintenance dredging and dredged material disposal operations. The Contractor would be required to comply with Occupational Safety and Health Administration Standards.

4.1.7 **Cultural Resources** - No adverse impacts would occur to any local historical structures or archaeological sites as a result of the proposed dredging and dredged material disposal operations (SHPO letter, 4 October 1988).

4.1.8 **Land Use** - No significant impacts would be anticipated in this regard as a result of the proposed project.

4.1.9 **Transportation** - Maintenance dredging and disposal operations would result in minor, short-term interruptions in recreational navigation. Maintenance dredging would improve the navigability of Olcott Harbor.

4.2 Economic Impacts.

4.2.1 **Employment/Labor Force** - Maintenance dredging in Olcott Harbor and disposal operations would result in a short-term increase in employment opportunities, specifically in the marine trades. The maintenance of the harbor would help preserve existing employment opportunities associated with local entities.

4.2.2 **Business and Industrial Activity** - The maintenance of Olcott Harbor would assure the economic viability of its dependent recreational activities.

4.2.3 **Property values and Tax Revenues** - Property values and tax revenues would benefit from maintenance dredging operations by providing adequate depth for recreational navigation at local marina operations, thereby providing a tax base.

4.2.4 **Public Services and Facilities** - The maintenance of Olcott Harbor would assure access to its dependent public services and facilities.

4.2.5 **Regional Growth** - The maintenance of Olcott Harbor would preserve its value as an inducement for regional growth.

4.3 Environmental Impacts.

4.3.1 **Man-Made Resources** - Maintenance dredging in Olcott Harbor would restore the harbor Entrance Channel to authorized project depth.

4.3.2 **Natural Resources** - Maintenance dredging in Olcott Harbor and disposal operations would result in the consumption of an undetermined quantity of fuel.

4.3.3 **Air Quality** - The operation of dredging equipment would result in a temporary localized increase in the output of pollutants (suspended particulates, nitrogen dioxide, carbon monoxide, lead, etc.) into the local atmosphere. This increased output would be short-term and is not expected to result in significant adverse impacts on air quality.

4.3.4 **Water Quality** - Subsection 2.7 provides information pertaining to the water quality in Olcott Harbor and at the open-lake disposal site. Some temporary degradation of local water quality would occur as a result of turbidity created by maintenance dredging in Olcott Harbor and open-lake disposal of dredged material; however, these short-term degradations are not expected to be significant. The physical characteristics of the

dredged material (i.e., primarily sands) indicates that any turbidity associated with maintenance dredging and disposal operations would be limited. Any turbidity plumes would be influenced by wave action and existing wind patterns and currents in the dredging and discharge areas. No significant release of pollutants would occur. For information pertaining to the sediment quality within Olcott Harbor, and at open-lake and reference sites, refer to Subsection 2.5 of this EA. USEPA, Region II, in letter dated 21 December 1990 (Appendix EA-A), has indicated that the open-lake discharge of dredged material from the Olcott Harbor Entrance Channel is environmentally acceptable and will not result in any significant adverse environmental impacts. NYSDEC, in letter dated 18 October 1988, has indicated that the open water discharge of dredged sediments from Olcott Harbor will not create any significant environmental problem related to chemical components in the dredged materials.

4.3.5 Vegetation and Plankton - Temporary increases in turbidity and suspended solids generated during maintenance dredging and disposal operations may cause minor, temporary decreases in algal primary production and photosynthesis.

4.3.6 Benthos - Subsection 2.5 of this EA describes the benthic macroinvertebrate community within the Federal navigation channel. Maintenance dredging of the Federal navigation channel in Olcott Harbor would directly result in the excavation of benthic organisms residing in the sediments. The clogging of gill filaments may also account for some benthic mortality in dredging areas. The destruction of macroinvertebrates would occur at the open-lake disposal site directly as a result of the burial with dredged material and/or clogging of gill filaments by suspended sediment particles. Following disposal operations, some upward migration of surviving benthic organisms, as well as lateral migrations from surrounding areas, would help recolonize the site. Some benthic organisms inhabiting the dredged material may also contribute to the recolonization of the site.

4.3.7 Fish and Wildlife - Subsection 2.6 of this EA describes the fish and wildlife community in the vicinity of Olcott Harbor. Maintenance dredging in Olcott Harbor and disposal operations at the open-lake site would result in a short-term avoidance of these areas by fish and birds species. No significant adverse impacts on local fishery resources would occur since maintenance dredging would be conducted between 15 June and 15 August. This environmental window would, to the maximum extent practicable, avoid significant impacts on important spring smallmouth bass reproductive activities and fall salmonid migrations in the vicinity of Olcott Harbor. The temporary degradation of benthic communities in the Entrance Channel and open-lake disposal site may temporarily reduce them as a food source for fish. Impacts relative to this would be negligible.

4.3.8 Ecological Habitats - Maintenance dredging in Olcott Harbor would result in the excavation of some relatively shallow

littoral, warmwater, sand/silt-bottom habitat. Benthic populations in the Entrance Channel would recover as described in paragraph 4.3.6 of this EA. As previously indicated in Subsection 2.9, the Olcott Harbor Federal navigation project is located about 1,300 feet downstream of the a NYSDOS designated Significant Coastal Fish and Wildlife Habitat. No significant adverse impacts are anticipated on this ecological habitat, or the fish and wildlife resources it supports, as a result of the proposed maintenance dredging. The open-lake disposal of Olcott Harbor dredged material at the open-lake site would result the covering of some deep, warmwater mud-bottom habitat with dredged material. The benthic community at this site would become recolonized with indigenous benthic species and recover as described in paragraph 4.3.6 of this EA.

4.3.9 **Wetlands** - No impacts to wetlands would occur as a result of the maintenance dredging in Olcott Harbor and and open-lake disposal of dredged material.

5. COMPLIANCE WITH ENVIRONMENTAL PROTECTION STATUTES

5.1 Archaeological and Historic Preservation Act, as Amended; National Historic Preservation Act of 1966, as Amended; Executive Order 11593 (Protection and Enhancement of the Cultural Environment). This EA/FONSI has been submitted to the Advisory Council on Historic Preservation, National Park Service, and NYSOPRHP for review and comment on this determination. In a letter dated 4 October 1988, NYSOPRHP indicated that the proposed project would have no effect upon structures included in or eligible for inclusion in the National Register of Historic Places. Since dredging would be conducted only within the authorized limits of the Federal navigation channel, and that any archaeological sites within it, if any, have been previously impacted by dredging, no intact archaeological sites would be impacted by future maintenance dredging.

5.2 Clean Air Act, as Amended. Copies of this EA/FONSI have been sent to the Regional Administrator of USEPA requesting comments in compliance with the Clean Air Act.

5.3 Clean Water Act. A Section 404(a) Public Notice and Section 404 (b)(1) Evaluation (Appendix EA-B) for the open-lake disposal of dredged material have been prepared for the project pursuant to Section 404 of the Clean Water Act. Copies of these documents are being circulated for public review with this EA/FONSI. In accordance with Section 401 of the Act, State Water Quality Certification was obtained from NYSDEC on 4 March 1991.

5.4 Coastal Zone Management Act of 1972, as Amended. A Coastal Zone Management Program Consistency Determination has been prepared and is included with this EA/FONSI as Appendix EA-C. A copy of this EA/FONSI has been provided to the New York State Department of State, Coastal Zone Management Program.

5.5 Endangered Species Act of 1973, as Amended. This EA/FONSI has been coordinated with both NYSDEC and the U.S. Fish and Wildlife Service (USFWS) for concurrence with the conclusions regarding threatened and endangered species. In a letter dated 18 October 1988, NYSDEC indicates that no threatened or endangered species have been identified which will be significantly impacted by the proposed project.

5.6 Federal Water Project Recreation Act and Land and Water Conservation Fund Act. In planning the proposed project, full consideration has been given to opportunities afforded by the project for outdoor recreation and fish and wildlife enhancement. Review copies of this EA/FONSI have been provided to the Department of the Interior in regard to recreation and fish and wildlife activities for conformance with the comprehensive nationwide outdoor recreation plan formulated by the Secretary of the Interior.

5.7 Fish and Wildlife Coordination Act. This EA/FONSI has been coordinated with USFWS and NYSDEC to assure compliance with this Act.

5.8 National Environmental Policy Act. With the circulation of this EA/FONSI, the proposed project is in full compliance with this Act for the current stage of evaluation. If after the 30-day review and comment period, no significant objections to the project are presented, the FONSI will be signed by the District Commander and filed at the Buffalo District Office.

5.9 River and Harbor Act of 1970 (PL 91-611). The requirements of this Act have been fulfilled by Corps of Engineers planning actions. Significant environmental parameters identified in Section 122 of this Act have been evaluated in this EA/FONSI.

5.10 Wild and Scenic Rivers Act. Not applicable.

5.11 CEQ Memorandum, 30 August 1976, Impacts on Prime and Unique Farmlands. Not applicable.

5.12 Executive Order 11988, Flood Plain Management. The U.S. Army Corps of Engineers, Buffalo District, has concluded that there is no practicable alternative to the proposed action, which would occur in the base floodplain of Lake Ontario, and that the recommended action is in compliance with the order.

5.13 Executive Order 11990, Protection of Wetlands. Not applicable.

6. COORDINATION

6.1 This EA/FONSI, Section 404(a) Public Notice and Section 404(b)(1) Evaluation (Appendix EA-B) have been coordinated with appropriate Federal and State agencies and local interests (individuals are not listed):

Federal

Advisory Council on Historic Preservation
Federal Emergency Management Administration
Federal Maritime Commission
U.S. Department of Agriculture - Forest Service
U.S. Department of Agriculture - Soil Conservation Service
U.S. Department of Commerce - National Oceanic and
Atmospheric Administration
U.S. Department of Energy
U.S. Department of Health and Human Services
U.S. Department of Housing and Urban Development
U.S. Department of the Interior
U.S. Department of the Interior - Fish and Wildlife Service
U.S. Department of the Interior - National Park Service
U.S. Department of Transportation
U.S. Department of Transportation - Coast Guard
U.S. Environmental Protection Agency

State

New York State Clearinghouse
New York State Department of Environmental Conservation
New York State Department of Health
New York State Department of State
New York State Department of Transportation
New York State Office of Parks, Recreation, and Historic
Preservation

Local

Erie and Niagara Counties Regional Planning Board
Niagara County Department of Economic Development and
Planning
Niagara County Fisheries Development Board
Niagara County Legislature
Niagara Frontier State Parks and Recreation Commission
Town of Newfane

Organizations

Great Lakes Commission
Great Lakes Tomorrow
Great Lakes United
National Wildlife Federation
Sierra Club
Trout Unlimited