
APPENDIX A

GLOSSARY (1)

Access channel: A channel that provides access to a single facility or area.

Advance maintenance dredging: The additional depth and/or width specified to be dredged beyond the project channel dimensions for the purpose of reducing overall maintenance costs by decreasing the frequency of dredging.

Aids to navigation: Buoys, beacons, fog signals, lights, radio beacons, range markers, and, generally, any charted or published information serving the interests of safe navigation.

Allowable overdepth: The additional depth below the required section specified in a dredging contract. This additional depth is permitted (but not required) because of inaccuracies in the dredging process.

Anchorage area: An area designated in port where vessels may anchor while waiting for berths, crews, tidal conditions, weather improvement, or repairs.

Appropriation: Congressional funding for the construction and maintenance of navigation channels and turning basins.

Authorization: Congressional approval for the construction and maintenance of navigation channels and turning basins.

Authorized dimensions: The length, width, and depth dimensions of a navigation project as specified in the authorizing document.

Bar: A submerged or emerged embankment of sand, gravel, or other unconsolidated material built on the sea floor in shallow water by waves and currents. See also "Sandbar."

Basic activity: Economic activity that is directly related to the port.

Basin, boat: A naturally or artificially enclosed or nearly enclosed harbor area for small craft.

Bathymetry: The measurement of depths of water in oceans, seas, and lakes; also information derived from such measurements.

Bay: A recess in the shore or an inlet of a sea between two capes or headlands, not so large as a gulf but larger than a cove.

Bight: A bend in a coastline forming an open bay. A bay formed by such a bend.

Breakbulk cargo: General cargo that is not packed in containers, such as rubber, cocoa beans, automobiles, and heavy machinery.

Breakwater: A structure protecting a shore area, harbor, anchorage, or basin from waves.

Bulk cargo: Dry and/or liquid commodities moving in large homogenous loads, such as coal, grain, crude petroleum, fertilizers, gypsum, and ores.

Buoy: A float; especially a floating object moored to the bottom to mark a channel, anchor, shoal, rock, etc.

Buoyancy: The resultant of upward forces, exerted by the water on a submerged or floating body, equal to the weight of the water displaced by this body.

Canal: An artificial watercourse cut through a land area for such uses as navigation and irrigation.

Cape: A relatively extensive land area jutting seaward from a continent or large island that prominently marks a change in, or interrupts notably, the coastal trend; a prominent feature.

Channel: The part of a body of water deep enough to be used for navigation, through an area otherwise too shallow for navigation. Channels can be either natural or artificial waterways. See "Navigation channel."

Chop: The short-crested waves that may spring up quickly in a moderate breeze, and that break easily at the crest.

Circle "A" stakeholders: The principal advisors and reviewers of the Navigation Management Plan.

Circle "B" stakeholders: The Circle "A" stakeholders and all the individuals and/or groups who are actively involved in the development of the Navigation Management Plan, primarily through participation in the workshops and/or other forms of communication to identify navigation concerns.

Circle "C" stakeholders: The Circle "A" and Circle "B" stakeholders and all others who are impacted by the Navigation Management Plan.

Clean Water Act: This act (33 United States Code 1251 et seq.) is the principle law governing pollution control and water quality of the nation's waterways. The objective of

this act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The act provides standards and enforcement, a number of regulatory programs with permits and licenses, and grants and revolving funds, as well as general provisions and provisions for research and related programs.

Coastwise shipments: Cargo that moves to other U.S. ports.

Constructed dimensions: Channel dimensions that have been provided by initial or new work dredging.

Container shipments: See "Containerized cargo."

Containerized cargo: Cargo that is packed and shipped in individual containers.

Continuing Authorities Program: A program under which the Secretary of the Army, acting through the Chief of Engineers, is authorized to plan, design, and construct certain types of water resources improvement without specific Congressional authorization.

Controlling depth: The least depth in the navigable parts of a waterway, governing the maximum draft of vessels that can enter.

Cove: A small, sheltered recess in a coast, often inside a larger embayment.

Cross-section: A view of the channel bottom and side slopes normal to the channel alignment.

Dead weight ton (DWT): The carrying capacity of a vessel in long tons (2,240 pounds). It is the difference between the light ship weight and the displacement loaded.

Deep-draft channel: A navigation channel with a depth greater than 20 feet at m.l.l.w.

Depth, controlling: See "Controlling depth."

Diurnal tide: A tide with one high water and one low water in a tidal day.

Dolphin: A cluster of piles.

Draft: The depth of water displaced by a vessel.

Dredged material placement area: A designated area for the deposition of dredged material.

Dredging: The practice of excavating and removing material from underwater locations, either by mechanical or hydraulic means.

Dredging cycle: The period of time, in years, between dredging events.

Dredging frequency: See "Dredging cycle."

Dredging process: Removal (usually from underwater), transportation, and placement of material.

Dredging template: A cross-sectional view of the navigation channel showing project depth, width, and side slopes.

Ebb tide: The period of tide between high water and the succeeding low water; a falling tide.

Embayment: An indentation in the shoreline forming an open bay.

Environmental Impact Statement (EIS): A detailed written statement, as required by the National Environmental Policy Act, that states that all agencies of the Federal Government shall include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on (1) the environmental impact of the proposed action, (2) any adverse environmental effects that cannot be avoided should the proposal be implemented, (3) alternatives to the proposed action, (4) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (5) any irreversible and irretrievable commitments of resources that would be involved in the proposed action should it be implemented.

Estuary: (1) The part of a river that is affected by tides. (2) The region near a river mouth in which the fresh water of the river mixes with the salt water of the sea.

Exports: Cargo that moves out of the port to a foreign destination.

Fathom: A unit of measurement used for soundings equal to 1.83 meters (6 feet).

Feasibility Cost-Sharing Agreement (FCSA): A legally binding contract between the Corps and a non-Federal sponsor that sets forth the responsibilities of each party in the feasibility phase of study. The cost of the study is shared on a 50/50 basis. Up to half of the non-Federal share can be furnished by in-kind services. A model FCSA has been adopted by the Corps of Engineers. Any deviations from the model FCSA must be approved by Corps higher authority.

Feasibility study: If the reconnaissance study determination is favorable, the study moves into the second phase--the feasibility study. The feasibility study is usually cost shared on a 50-50 basis with a non-Federal sponsor, is from 18 to 36 months in length, and involves significant field work and detailed analyses that lead to recommend solutions to water resources problems. The feasibility study is documented in a report that acts as a decision document for the authorization of a new Federal project.

Federally authorized project: A project that has been authorized by Congress.

Finding of No Significant Impact (FONSI): A document prepared by a Federal agency briefly presenting the reasons why an action, not otherwise excluded, will not have a significant effect on the human environment and for which an environmental impact statement, therefore, will not be prepared. It shall include the environmental assessment or a summary of it and shall note any other environmental documents related to it. If the assessment is included, the finding need not repeat any of the discussion in the assessment but may incorporate it by reference.

Flood tide: The period of tide between low water and the succeeding high water; a rising tide.

Following wind: See "Tail wind."

401 State Water Quality Certificate: This refers to Section 401 of the 1972 amendments of the Clean Water Act (33 United States Code 1341). This section of the Clean Water Act requires certification from the state or interstate water control agencies that a proposed water resources project is in compliance with established effluent limitations and water quality standards. Applicants for Federal permits or licenses are required to obtain this certification.

General cargo: Commodities handled in individual units that can be subdivided into breakbulk and container cargo.

General navigation feature: Any navigation channel, turning basin, anchorage, and dredged material placement area that is cost shared between the Federal Government and the local sponsor of a Federally authorized project. It excludes aids to navigation, which are paid fully by the Coast Guard, as well as lands, easements, rights-of-way, and relocations, which are the responsibility of the local sponsor.

Gulf: A large embayment in a coast; the entrance is generally wider than the length.

Harbor: Any protected water area affording a place of safety for vessels.

Host cities: The Cities of Newport News, Norfolk, and Portsmouth in which marine terminals of the Virginia Port Authority are located.

Hydraulic dredging: Dredging performed by a hydraulic dredge, which generally moves bottom material via a centrifugal pump and pipeline or hopper directly toward a dredged material placement area.

Hydrography: (1) A configuration of an underwater surface including its relief, bottom materials, coastal structures, etc. (2) The description and study of seas, lakes, rivers, and other waters.

Identified concerns: A problem, need, constraint, and/or opportunity designated by one or more of the stakeholders.

Inlet: (1) A short, narrow waterway connecting a bay, lagoon, or similar body of water with a large parent body of water. (2) An arm of the sea (or other body of water) that is long compared to its width and may extend a considerable distance inland. See also "Tidal inlet."

Items of local cooperation: All items for which a non-Federal cost-sharing sponsor is responsible in connection with the construction and maintenance of a Federal navigation project. These items are included in the Project Cooperation Agreement, which is the legal binding document executed between the Corps and the non-Federal sponsor. Items of local cooperation may include such things as cash contributions, lands, easements, rights-of-way, relocations, and access channels and berthing areas.

Jetty: On open seacoasts, a structure extending into a body of water that is designed to prevent shoaling of a channel by littoral materials and to direct and confine the stream or tidal flow. Jetties are built at the mouths of rivers or tidal inlets to help deepen and stabilize a channel.

Knot: The unit of speed used in navigation equal to 1 nautical mile (6,076.115 feet or 1,852 meters) per hour.

Lee: Shelter, or the part or side sheltered or turned away from the wind or waves.

Leeward: The direction toward which the wind is blowing; the direction toward which waves are traveling.

Loaded draft: The depth of water displaced by a vessel fully loaded.

Local Cooperation Agreement (LCA): An obsolete term that is the same as 221 Agreement and Project Cooperation Agreement. See "Project Cooperation Agreement."

Local sponsor: See "Non-Federal sponsor."

Maintained dimensions: Navigation channel dimensions (length, width, and depth) that are determined by user traffic, or other restrictions, that are less than or equal to the authorized dimensions or the constructed dimensions, if less than the authorized dimensions.

Maintenance dredging: The removal of shoal material from a constructed project.

Marsh: An area of soft, wet, or periodically inundated land, generally treeless and usually characterized by grasses and other low growth.

Mean high water (m.h.w.): The average height of the high waters over a 19-year period. For shorter periods of observations, corrections are applied to eliminate known variations and reduce the results to the equivalent of a mean 19-year value. All high water heights are included in the average where the type of tide is either semidiurnal or mixed. Only the higher high water heights are included in the average where the type of tide is diurnal. So determined, mean high water in the latter case is the same as mean higher high water.

Mean higher high water (m.h.h.w.): The average height of the higher high waters over a 19-year period. For shorter periods of observation, corrections are applied to eliminate known variations and reduce the result to the equivalent of a mean 19-year value.

Mean low water (m.l.w.): The average height of the low waters over a 19-year period. For shorter periods of observations, corrections are applied to eliminate known variations and reduce the results to the equivalent of a mean 19-year value. All low water heights are included in the average where the type of tide is either semidiurnal or mixed. Only lower low water heights are included in the average where the type of tide is diurnal. So determined, mean low water in the latter case is the same as mean lower low water.

Mean lower low water (m.l.l.w.): The average height of the lower low waters over a 19-year period. For shorter periods of observations, corrections are applied to eliminate known variations and reduce the results to the equivalent of a mean 19-year value. It is frequently abbreviated to lower low water.

Mean sea level: The average height of the surface of the sea for all stages of the tide over a 19-year period, usually determined from hourly height readings.

Mechanical dredging: Dredging performed with a mechanical dredge that normally lifts the dredged material above the waterline by means of buckets or scoops of various designs and deposits it into a barge or similar conveyance for transport and placement.

Mega ship: A term used generally for container ships with a capacity greater than 4,500 TEU's.

Memorandum of Agreement: A record of an arrangement between two or more individuals or entities that describes in detail the terms and provisions of the arrangement. The Corps often enters into Memorandum of Agreements with other Federal, state, and local agencies.

National Environmental Policy Act (NEPA): Public Law 91-190 (1969), 42 United States Code 4321-4347. The National Environmental Policy Act is our basic national charter for protection of the environment. It establishes policy, sets goals, and provides means for carrying out the policy. Its "action-forcing" provisions make sure that Federal agencies act according to the letter and spirit of the act.

Nautical mile: The length of a minute of arc, 1/21,600 of an average great circle of the Earth. Generally one minute of latitude is considered equal to one nautical mile. The

accepted United States value as of 1 July 1959 is 1,852 meters (6,076.115 feet), approximately 1.15 times as long as the U.S. statute mile of 5,280 feet.

Navigation channel: A project feature with authorized project limits/dimensions that is designed, constructed, and maintained for use by commercial and/or recreational navigation traffic. This definition includes appropriate harbors, canals, turning basins, anchorage/mooring areas, and/or waterways.

Navigation features: The structural components of harbors and waterways, such as main channels, anchorages, turning basins, breakwaters, jetties, and locks and dams.

Neap tide: A tide occurring near the time of quadrature of the moon with the sun. The neap tidal range is usually 10 to 30 percent less than the mean tidal range.

Non-Federal sponsor: A local, regional, or state entity that has the authority to provide all items of local cooperation including lands, easements, and rights-of-way. They must also be financially able to meet obligations under Project Cooperation Agreements. Cities, counties, towns, states, and port authorities may each serve as local sponsors.

Oceanography: The study of the sea, embracing and indicating all knowledge pertaining to the sea's physical boundaries, the chemistry and physics of seawater, marine geology, and marine biology.

Overdepth dredging: Any dredging below the authorized depth (or constructed depth if less than the authorized depth) to include required, allowable, and non-pay dredging overdepth.

Peninsula: An elongated body of land nearly surrounded by water and connected to a larger body of land.

Pier: A structure, usually of open construction, extending out into the water from the shore, to serve as a landing place, recreational facility, etc., rather than to afford coastal protection.

Pile: A long, heavy timber or section of concrete or metal to be driven or jettied into the earth or seabed to serve as a support or protection.

Piling: A group of piles.

Point: The extreme end of a cape; the outer end of any land area protruding into the water, usually less prominent than a cape.

Port: A place where vessels may discharge or receive cargo; it may be the entire harbor including its approaches and anchorages or only the commercial part of a harbor where the quays, wharves, facilities for transfer of cargo, docks, and repair shops are situated.

Post-authorization Corps of Engineers projects: Projects that have been Congressionally authorized.

Pre-authorization Corps of Engineers projects: Projects/studies that have not yet received Congressional authorization.

Prioritization criteria: Factors considered in ranking the navigation concerns.

Project Cooperation Agreement (PCA): A legally binding contract between the Corps and a non-Federal sponsor that sets forth the responsibilities of each party in the implementation of a project. This document includes the items of local cooperation. Model PCAs for the various project purposes, such as navigation and flood control, have been adopted by the Corps of Engineers.

Project Dimensions: See "Authorized dimensions."

Quay: A stretch of paved bank, or a solid artificial landing place parallel to the navigable waterway, for use in loading and unloading vessels.

Reconnaissance study: A study to determine whether or not the process of planning the development of a project should proceed to the second phase--the more detailed feasibility study. The reconnaissance study is conducted at full Federal cost, is generally 12 months in length, and uses existing information for its analyses.

Record of Decision (ROD): A concise public record that documents a Federal agency's final decision on a proposed action requiring an Environmental Impact Statement. The ROD shall: (1) state what the decision was; (2) identify all alternatives considered by the agency in reaching its decision, specifying the alternative or alternatives that were considered to be environmentally preferable; and (3) state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not.

Recreational craft: Non-commercial vessels used for recreational activity.

Required section: The channel dimensions required by a dredging contract.

Sandbar: In a river, a ridge of sand built up to or near the surface by river currents. See also "Bar."

Sea level: See "Mean sea level."

Sea state: Description of the sea surface with regard to wave action.

Seas: Waves caused by wind at the place and time of observation.

Secondary activity: Economic activity that supports one of the basic activities; the same as "Supporting activity."

Section 933 study: A study to determine the feasibility of placing suitable dredged material on a specific beach through a cost-shared placement operation and in conjunction with the dredging operations of Federally authorized navigation projects.

Sediment: Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity or ice and has come to rest on the Earth's surface either above or below sea level.

Shallow-draft channel: A channel with a depth of 20 feet or less at m.l.l.w.

Shoal (noun): A detached elevation of the sea bottom, comprised of any material except rock or coral, that may endanger surface navigation.

Shoal (verb): (1) To become shallow gradually. (2) To cause to become shallow. (3) To proceed from a greater to lesser depth of water.

Shoaling rate: The rate at which sediment fills a navigation channel, usually measured in terms of cubic yards per year.

Slack tide: The state of tidal current when its velocity is near zero, especially the moment when a reversing current changes direction and its velocity is zero. Sometimes considered the intermediate period between ebb and flood currents during which the velocity of the currents is less than 0.05 meter per second (0.1 knot).

Slack water: See "Slack tide."

Slip: A berthing space between two piers.

Sound (noun): (1) A wide waterway between the mainland and an island, or a wide waterway connecting two sea areas. See also "Strait." (2) A relatively long arm of the sea or ocean forming a channel between an island and a mainland or connecting two larger bodies, as a sea and the ocean, or two parts of the same body; usually wider and more extensive than a strait.

Sound (verb): To measure the depth of the water.

Sounding: A measured depth of water.

Spit: A small point of land or narrow shoal projecting into a body of water from the shore.

Spring tide: A tide that occurs at or near the time of new or full moon and that rises highest and falls lowest from the mean sea level.

Stakeholder: A person or group of persons whose participation is integral to the planning process.

State of sea: See "Sea state."

Still-water level: The elevation that the surface of the water would assume if all wave action were absent.

Strait: A relatively narrow waterway between two larger bodies of water. See also "Sound (noun)."

Supporting activity: Economic activity that supports one of the basic activities; same as "Secondary activity."

Tail wind: A wind having the same general direction as the course of a moving ship.

TEU: An abbreviation for twenty-foot equivalent unit, which is based on how many 20-foot-long containers a ship can carry.

Thalweg: In hydraulics, the line joining the deepest points of an inlet or stream channel.

Tidal flats: Marshy or muddy land areas that are covered and uncovered by the rise and fall of the tide.

Tidal inlet: (1) A natural inlet maintained by tidal flow. (2) Loosely, any inlet in which the tide ebbs and flows. See also "Inlet."

Tidal period: The interval of time between two consecutive, like phases of the tide.

Tidal range: The difference in height between consecutive high and low (or higher high and lower low) waters.

Tide: The periodic rising and falling of the water that results from gravitational attraction of the moon and sun and other astronomical bodies acting upon the rotating earth.

Tide, diurnal: See "Diurnal tide."

Tide, ebb: See "Ebb tide."

Tide, flood: See "Flood tide."

Tide, neap: See "Neap tide."

Tide, slack: See "Slack tide."

Tide, spring: See "Spring tide."

Topography: The configuration of a surface, including its relief and the positions of its streams, roads, buildings, etc.

Turning basin: An area provided for the maneuvering or turning of vessels.

221 Agreement: A term describing the requirements necessary to be contained in a Local Cooperation Agreement and Project Cooperation Agreement stemming from the requirements contained in Section 221 of the Flood Control Act of 1970 (Public Law 91-611), as amended. See "Project Cooperation Agreement."

Vessels: Towboats, barges, and other waterborne craft.

Virginia Water Protection (VWP) Permit: The Department of Environmental Quality administers the Federal Clean Water Act and enforces state laws to improve the quality of Virginia's streams, rivers, bays, and groundwater for aquatic life, human health, and other water uses. Specifically, Section 401 of the Clean Water Act is administered by the Department of Environmental Quality through the VWP permit program. Any project that requires Federal permits for the discharge of dredge material or fill in a waterway or wetland (Clean Water Act, Section 404), work or construction in a navigable waterway (Rivers and Harbors Act, Section 10), or a water withdrawal will be reviewed by the Department of Environmental Quality for issuance of a VWP permit. Without the VWP permit (formerly called the 401 Certification) a Federal permit will not be issued.

VPA 2010 Plan: A plan developed by the Virginia Port Authority for an integrated port-wide approach for the marine terminals located in the Hampton Roads area.

Water Resources Development Act (WRDA): A public law that is passed by Congress and signed by the President of the United States for the purpose of providing for the conservation and development of water and related resources, for authorizing the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes.

Waterborne commerce: Commodities moved or transported by way of navigation channels.

Waterway: Any body of water wide enough and deep enough to accommodate the passage of water craft, particularly commercial vessels.

Wave: A ridge, deformation, or undulation of the surface of a liquid.

Wave direction: The direction from which a wave approaches.

Wave height: The vertical distance between a crest and the preceding trough.

Wavelength: The horizontal distance between similar points on two successive waves measured perpendicular to the crest.

Wharf: A structure built on the shore of a harbor, river, or canal, so that vessels may lie along side to receive and discharge cargo and passengers.

Whitecap: On the crest of a wave, the white froth caused by wind.

Wind chop: See “Chop.”

Windward: The direction from which the wind is blowing.

Workshop meeting: A meeting of stakeholders for receiving and giving information, consensus forming, negotiations, and summarizing.

(1) See also Appendix E, Table E-4, for glossary Internet sites.