

Chapter 1 : Ohio Universities Receive Grants to Study Beneficial Use of Dredged Material | Dredging Today

An important goal of managing dredged material is to ensure that the material is used or disposed of in an environmentally sound way. This dredged material could be used in a beneficial manner instead.

As simple disposal is no longer a practical approach to dealing with uncontaminated dredged material in many locations, beneficial reuse has emerged as the best pathway to an affordable, sustainable management strategy. Specific goals were to 1 provide updated information on current research and development relating to beneficial use of dredged material; 2 discuss relevant state and federal policy; 3 present examples of successful beneficial use involving DOT involvement in a variety of regional settings; and 4 explore strategies for expanding DOT consideration of dredged material for beneficial use.

Day One The criticality of dredging to commercial navigation Marie Strum, assistant chief, engineering and technical Services, U. Of the federally maintained harbors in the system 60 commercial, 80 recreational 82 are currently in need of maintenance dredging, including at least four major commercial ports and scores of recreational harbors in critical condition. Adding to the urgency are water levels at historic lows due to drought and evaporation from increased water and air temperatures. Confined disposal facilities CDFs in the Great Lakes are 80 percent of which are full cannot be relied upon much longer due to USACE budget constraints, and local inability to provide cost share. Additionally, GL dredged material is increasingly cleaner as pollution sources are remediated, thus lessening the need for confined disposal and creating more opportunity for beneficial use. He noted the loss of carrying capacity, and thus operating efficiency, resulting from each inch of lost draft. Also noted was the continued importance of Great Lakes marine trade to the North American economy, the fact that 50 percent of U. Current research on the science and technology of beneficial use of dredged material Richard Price, research agronomist for the USACE Engineer Research and Development Center ERDC presented Research on the Beneficial Use of Dredged Material which discussed the physical and chemical characteristics of dredged material that relate to its eligibility for beneficial use. He noted that all dredged material is ultimately a product of how the source watershed is used and managed, thus differences between agricultural and industrial uses will be reflected in the chemistry of the material. While all dredged material can be used for something though treatment may be more costly in some settings than others the goal should be to determine the level of suitability through testing. Most dredged material, he noted, is good for growing, with appropriate additives usually readily available to DOTs such as cellulose and bio-solids. The objective is to match the material properties of available material with specific project needs. The framework will include 1 applications for beneficial use in transportation projects, 2 required geotechnical properties, 3 geotechnical laboratory and field methods, 4 quantitative specifications for transportation applications and 5 Great Lakes locations where sourced. Challenges in acceptance of beneficial use were highlighted by a survey of DOT personnel in which 62 percent responded that they would not consider dredged material as a substitute for traditional material sources. Also noted was the fact that the greatest energy use and greenhouse gas emissions in DOT projects are generated by the production of materials. Robert Stanley, soils engineer for the Iowa DOT, presented Iowa Experiences which focused on how dredged material was used successfully to fill a scour hole in mitigation of damage at the IA bridge from the Missouri River flood of as well as repair of a damaged road berm along the same road. He also discussed where dredged material was used in large quantities for the reconstruction of two additional US highways in Iowa. Distinction was made that dredged material is not a type of material, but a source of material. Green Bay, WI which discussed how some 100,000 cubic yards of material dredged annually from the port of Green Bay must be put to upland use, as CDFs and open water placement are not viable options. The result has been beneficial use of dewatered dredged material mined from the existing Bayport CDF, the capping of Renard Island with dredged material, a current project to create nearshore habitat through the restoration of the Cat Island chain with clean dredged material, and a potential use of dredged material for a state highway project. The base plan is important, as any costs above that for beneficial use typically involve a non-federal cost share. Richard Stewart, director of the Transportation and Logistics Research Center at the University of Wisconsin-Superior, presented a State

permit process map comparing the processes in the states of Wisconsin and Minnesota to get all the proper permits and authorizations for a project using dredged material beneficially. The website also has a feature that automatically identifies all the CDFs in a given distance when a potential DOT user enters a specific location. Richard Price, research agronomist for the USACE Engineer Research and Development Center, presented the Updated beneficial use technical testing manual and provided guidance on how the federal government establishes the standards determining suitability of dredged material for beneficial use. Referenced was a four-part formula typically required for success in any beneficial reuse project: Exploring the way ahead Gene Clark and David Knight led an open discussion on strategies to encourage and promote use of dredged material by state departments of transportation. Further investigation of monitoring and tracking material placed in CDFs to better identify specific geotechnical characteristics of material at different locations and strata of each CDF. Using as a model the best practices involved with management of fly ash and as an ingredient in the mixing of concrete. Summary Report submitted by David L. Knight Great Lakes Commission; dknight gmail.

Most dredged material can be a valuable resource and should be considered for beneficial uses. The purpose of this site is to demonstrate potential beneficial uses of dredged material by presenting existing case studies as examples.

Richard Price, US Army Corps of Engineers Each year, several hundred million cubic yards of material is dredged from our nations ports, harbors and marinas waterways to maintain critical channel depths for both commercial and recreational boat passage. In the Great Lakes alone, average dredging volumes from just the federally maintained channels is million cubic yards of material per year. Nearly half of this volume is considered not contaminated and does not need to be placed into confined disposal facilities CDFs built to contain contaminated sediments. The CDFs are filling rapidly, costly to build and take many years to design and permit. Therefore, alternative uses need to be implemented for the clean dredged material. The follow are several example ways clean dredged material can be beneficially used: Land Creation and Construction Fill: Dredged material can be a valuable source for large quantities of fill material. Many new land areas within ports and harbors utilize dredged material to create new land regions. Landfill Caps and Covers: Dredged material can be utilized as a source for landfill covers, road construction slope soils and as cap material for sediment cleanup projects of contaminated material. Much of the course fraction of clean dredged material can be replaced into the nearshore or beach zones to enhance or create new beaches and recreational areas. Beach nourishment is extremely popular along the oceans coasts as beaches are a large economic draw for communities and good quality beach sand is typically in short supply. Topsoil Creation and Enhancement: Dredged material usually the finer fraction can be applied either alone or mixed with other materials such as biosolids, manure, compost and other organic material to create valuable topsoil material. Habitat Creation or Restoration: Native vegetation is often reestablished and can provide large regions of natural areas for habitat applications. For more information and example projects on the beneficial use of dredged material: The Great Lakes Commission has a web site for the Great Lakes Dredging Team; a partnership of federal and state agencies to assure that dredging is done in a manner that meets environmental protection, restoration and enhancement goals. Numerous publications are available. Check out the following website:

Chapter 3 : Dredging and Dredged Material Management

Socioeconomic benefits - The positive benefits to a community where a beneficial use project or dredged material disposal site is located in terms of dollars returned to the community in jobs, recreational use, and general improvement of public perception and well-being.

Several steps must be accomplished in order to implement these applications. Some are application-sensitive; most are generally applicable. For example, almost all of these applications would require a demonstration project before a full-scale implementation plan could be accomplished. A few, such as shellfish habitat creation, would require up-front research and development. If managed properly and funded adequately, beneficial use offers possibly the best hope for environmentally beneficial consumptive placement for dredged material among the various alternatives proposed under the DMMP. For the final DMMP report, the New York District intends to have identified the conceptual practicality, and likely areas or actual sites, for options mentioned above. This includes identification of cost estimates, and volume and type of dredged material required. Land Site Remediation In early , the New York District went to the public with general ideas and information about how and where to place sediment dredged from the silted-in harbor. We received many useful comments from various sources and have been working to incorporate those ideas into our dredged material management plan. One comment that many people had was that dredged material should be used in a beneficial way wherever possible, such as capping material for landfills or abandoned contaminated industrial sites known as "brownfields. An abandoned landfill in Elizabeth, NJ is being capped with dredge material after which the site will become a parking lot for the Jersey Gardens Mall. The site is permitted by the state of New Jersey to accept up to 1. The waterfront site is a acre industrial brownfield. Dredged material will be stabilized at Port Newark to make structural fill for site remediation. This project is currently under permit review. The plan for the waterfront site is to cap a acre abandoned landfill and an acre industrial brownfield in the Constable Hook section of the city. Dredged material will be stabilized to make fill material to cap the site. Current plans are to build two golf courses on top of the cap. The New York District would like to do all it can to support and facilitate the beneficial use of dredged material such as those described above. One way is to provide for a steadier stream of stabilized material by building a re-handling facility. In order to process material more economically and transfer large volumes of dredged material for use on sanitary landfills or brownfields, a regional facility will be required for storage, de-watering or mixing. Transfer and handling are often a large part of the cost to implement the types of uses described above. To assist private landowners and local governments remediate brownfields or contaminated landfills, a users manual is being developed. The manual will be technical in nature explaining the steps necessary to cap a site using dredged material and prepare it for development. For more information please email project manager Michael Millard or call

Chapter 4 : Galveston District > Missions > Beneficial Use

The beneficial use of dredged material is the term used for utilizing dredged sediments for resource materials and as productive material not to be wasted.

We are developing guidance for using this permit and will post that on this webpage when complete. Because we have made significant changes, we will post the revised, draft DWTM General Permits on this website and alert interested parties they are available for review and comment. They should be ready to post soon. More information is available below. We also continue working on rules related to Lake Erie dredged materials under recently passed Senate Bill 2 legislation SB2. In part, SB2 authorizes Ohio EPA to draft new rules, including authorization-by-rule where possible, for material meeting certain constituent thresholds under development, and beneficial use permits for land applying materials dredged from Lake Erie navigation channels. The DMWM Beneficial Use Group is also working on permit applications recently received and on further beneficial use program development and efficiencies. Your input is always welcome and appreciated. We would like to thank everyone who provided comments and who participated in our August, webinar discussing the DWTM draft general permits. Based significantly on your input, we revised our approach to these permits. We reviewed written comments on the draft DWTM general permits throughout the year, including those discussed during the webinar, and incorporated many of the concepts into the Permits. The Agency has determined, based on interested party input and developing science, that we will not seek additional permits for beneficial use land placement of DWTM until the new DWTM General Permits are issued. This recognizes the long-established practice of DWTM land placement, the need for flexibility moving to a more efficient permitting system, the science developing for microcystins fate and transport in the environment, and the continuing need for land applying accumulated DWTMs. As always, DWTM land applicators need to prevent any impacts to waters of the state from their activities and, when available, apply for an OAC Chapter general or individual permit. Please see research references posted under the Resources tab below. This is only a sample of the papers published and available and is not meant to represent either a thorough treatment of the subject nor an Agency preference for any one author or group of authors. We welcome other sources interested parties feel should be considered. We are also benchmarking with researchers to develop a framework for managing DWTMs that may be impacted by microcystins. The following materials are included in the rules: When used in accordance with specified conditions, BUBs may be used as an ingredient in certain construction materials such as cement or asphalt concrete, with no input or authorization required by DMWM. BUBs may also be used as a fuel or ingredient in a combustion unit, again with no further authorization required from DMWM. Other authorizations for air and water emissions may apply to these activities. General Permits for beneficially using certain foundry sands and sewage sludge incinerator ash in soil mixes and bioretention practices, and as fill material, are final and available for use. Please see a Notice of Intent NOI form you can use to seek coverage under the general permits, along with guidance on how to navigate and utilize the beneficial use general permitting process. General Permits are under construction for drinking water treatment materials and for certain dredged materials from federal navigational channels. If you wish to use a BUB in an application other than those provided for in the General Permit, you may apply for an individual permit. Simply complete the application and submit with the required fee as directed for agency consideration. We will continue collaborating with all interested parties considering materials we might add to OAC Chapter, as well as additional beneficial uses and ways to improve the new rules. Your input is always welcome.

Chapter 5 : Beneficial Use of Dredged Materials " CWPPRA

Such treatments prepare dredge material for beneficial use providing detoxification and, to some extent, solidification, which allow easy and secure handling during further processing.

Chapter 6 : Beneficial Use of Dredged Material

The result has been beneficial use of dewatered dredged material mined from the existing Bayport CDF, the capping of Renard Island with dredged material, a current project to create nearshore habitat through the restoration of the Cat Island chain with clean dredged material,, and a potential use of dredged material for a state highway project.

Chapter 7 : USACE's Beneficial Use of Dredged Material: 94 Proposals Received | Dredging Today

Beneficial Use of Dredged Material The U.S. Army Corps of Engineers Galveston District contributes to the well-being, economic success and quality of life of local communities through beneficial use of dredged material.

Chapter 8 : Water Bill Supports Beneficial Use of Dredged Sediment

Section of the Water Resources Development Act (WRDA) of requires the U.S. Army Corps of Engineers (USACE) establish a pilot program to recommend ten projects for the beneficial use of dredged material.

Chapter 9 : Summit on the Beneficial Use of Dredged Materials : CFIRE

The Corps fully supports and strives to beneficially use dredged material in all circumstances where it is practical and cost-effective, and where those beneficial uses can be accomplished in compliance with all requirements of federal law.