Ohio Environmental Protection Agency

Division of Surface Water

Response to Comments

Project: Toledo Harbor Dredging, 401 Water Quality Certification
Ohio EPA ID #: 093554

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Ohio EPA held a public hearing and/or comment period on Jan. 14, 2010 regarding the Toledo Harbor dredging project as proposed in an application from the U.S. Army Corps of Engineers, received on Sept. 11, 2009. This document summarizes the comments and questions received at the public hearing and/or during the associated comment period, which ended Feb. 22, 2010.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format.

Ohio EPA received numerous comments regarding this 401 Water Quality Certification. Comments were received from various federal, state and local regulatory groups, as well as citizens of Ohio and Michigan.

Several comments were similar in nature, so they will be addressed in one response.

Comment 1: **Create a habitat restoration unit.**

Response 1: Ohio EPA believes that beneficial reuse of dredge material is necessary to minimize and eventually eliminate the need to place dredged material from Toledo Harbor into the existing open lake disposal location in Lake Erie. Ohio EPA also believes that Habitat Restoration Units (HRU) would benefit water quality and provide additional habitat in the western basin of Lake Erie. Beneficial reuse of dredged material is continually being evaluated by Ohio EPA, U.S. Army Corps of Engineers (USACE), and Ohio Department of Natural Resources (ODNR).

Habitat creation and restoration is one option for beneficial reuse of dredged material being evaluated. However, evaluation and feasibility studies must be completed to determine areas that will be true restoration, not negatively impact fish spawning areas, and not interrupt natural currents and flow within the lake. A 35 percent non-federal match for design and construction of an HRU also must be secured for the completion of a Section 204 project, or funding outside of a Section 204 project must be secured for a project such as this.

Comment 2: **Place all of the dredged material in the Confined Disposal Facility (CDF).**

Response 2: Public Law 94-587 states that, "The Secretary of the Army, acting through the Chief of Engineers, shall utilize and encourage the utilization of such management practices as he determines appropriate to extend the capacity and useful life of dredged material disposal areas such that the need for new dredged material disposal areas is kept to a minimum. Management practices authorized by this section shall include, but not be limited to, the construction of dikes, consolidation and dewatering of dredged material, and construction of drainage and outflow facilities."

Placing dredged material, determined to be suitable for open lake disposal in accordance with the Great Lakes Dredged Material Testing and Evaluation Manual into a CDF is not consistent with the management practices determined by the Secretary of the Army to extend the capacity and useful life of the disposal area. The Corps also is required to manage

the material by the most cost-effective, technically feasible and legal means possible. In this case, the USACE has identified open lake disposal as the only viable means to meet this criteria. Ohio EPA feels that further effort must be made by the USACE to identify upland disposal options for dredged material.

Comment 3: **Reuse and recycle the material – use the material as fill**

Response 3: Renewable uses of dredged material have been and are being pursued. Ohio EPA continues to meet with the USACE, ODNR and other stakeholders to examine beneficial reuse options for dredged material from Toledo Harbor, and to monitor the progress being made towards the development and implementation of those efforts. Some examples of beneficial reuse options that are under consideration include:

- Landscaping;
- topsoil creation and enhancement;
- road construction;
- land creation and reclamation (e.g., strip mines, brownfields, quarry fill); and,
- habitat creation and restoration (i.e., habitat restoration units)

The USACE is required to manage the material by the most cost-effective, technically feasible and legal means possible. In this case, the USACE has identified open lake disposal as the only viable means to meet this criteria. Ohio EPA feels that further effort must be made by the USACE to identify upland disposal options and beneficial reuse for dredged material.

More information regarding the beneficial reuse of dredged material and projects that have been completed can be found in "*Waste to Resource: Beneficial Use of Great Lakes Dredged Material* (Great Lakes Commission, August 2001), available on-line at http://www.glc.org/dredging/publications/benuse.pdf.

Comment 4: **Put the sediment back on the farm fields and ditches where it came from.**

Response 4: The goal must be to reduce the amount of sediment and nutrients being introduced into the Maumee River and the western basin of Lake Erie.

The reduction of nonpoint sources of pollution (e.g., agricultural practices, residential applications of fertilizers, construction activities, etc.) is an Ohio EPA priority. Programs such as Ohio's Lake Erie Protection and Restoration Plan, and the recently formed Phosphorous Task Force are in place to achieve this goal. There are other major federal, state and local programmatic commitments to sediment reduction in the Maumee watershed area.

U.S. EPA and the state of Ohio have construction and storm water regulations in place to reduce sediment loadings to the watershed. Urban areas have been required to develop a program to reduce urban runoff and all construction that disturbs more than one acre is required to file for a storm water permit. Ohio EPA regulates the discharge of fill to wetlands and incorporates the avoidance and minimization of impacts to wetlands. This program mitigates for wetland impacts and preserves wetlands in perpetuity. This leads to the preservation of wetlands that act as natural filters for sediment bound for Ohio's lakes, rivers and streams. Ohio uses these tools to reduce sediment loading.

Placement of the dredged material back onto farm fields would lead to property access issues and would not alleviate the issue of sediment loading into Ohio's lakes, rivers and streams. Installing culverts and filling ditches would drastically reduce flood water capacity in Northwest Ohio and would increase flooding issues that currently exist. In addition, the filling of these ditches would eliminate this water resource requiring permitting and mitigation at a higher ratio for these impacts which would create additional soils to manage and lead to projects being cost prohibitive.

Comment 5: **Re-suspension of open lake disposal material.**

Response 5: The western basin of Lake Erie is naturally turbid due to the shallow depth of the basin and re-suspension of natural sediments occurs regularly due to wave action from winds and storm events. Once the dredged material is placed in the open lake disposal area, the material is subject to the same re-suspension forces as the natural sediment on the

lake bottom. Sampling data shows that the sediment dredged from the navigation channel (except for the sediment between River Mile 1 and River Mile 3) meets the open lake water quality disposal criteria in accordance with the *Great Lakes Dredged Material Testing and Evaluation Manual* (September 1998) and that these dredged sediments are toxicologically comparable to sediments already in the open lake reference area.

Comment 6: **Algal blooms and connection to open lake disposal**

Response 6: Current scientific data does suggest that increased soluble reactive phosphorus and even turbidity can result in increased algal blooms in the western basin of Lake Erie. However, scientific studies / investigation have not linked the open lake disposal of dredged material to directly contribute to harmful algal blooms (HABs) in the western basin of Lake Erie. This fact is partially due to the complicated biological processes and multiple variables that encourage the spread of HABs.

Scientists have postulated that changing relationships between external phosphorus loading and algal growth in the lake may be a consequence of increased release of phosphorus from bottom sediments, mediated by zebra and/or quagga mussels. Others have suggested that phosphorus loading from unmonitored tributaries may be larger than estimated. Most recently, it has been suggested that increased dissolved phosphorus loading from nonpoint sources may be involved.

Ohio EPA formed the Phosphorus Task Force to more formally review the phosphorus loading data from Ohio tributaries to Lake Erie, to consider possible relationships between trends in dissolved reactive phosphorus loading and in-lake conditions, to determine possible causes for increased soluble phosphorus loading, and to evaluate possible management options for reducing soluble phosphorus loading.

Comment 7: **Whitefish spawning and moving the in-water work window to end on October 30 instead of November 30.**

Response 7: The ODNR, Division of Wildlife (ODNR-DOW) restricts in-water work from March 15 through June 30 to reduce impacts to aquatic species and their habitat. The USACE

restricted work to occur between July 1 to November 30 in the 401 Water Quality Certification application to minimize impacts and due to winter weather conditions prohibiting dredging activities.

Therefore, Ohio EPA has conditioned the 401 Water Quality Certification to reflect the recommendation of ODNR, DOW.

Comment 8: **Move the open lake disposal area to deeper water.**

Response 8: In the most recent Section 401 water quality certification application, the USACE has proposed to open lake dispose the sediments from the federal navigation channels in the open lake disposal site located approximately 3.5 miles northwest of the channel at the latitude/longitude of 41º46'10"N and 83º15'39"W. This area has been used for dredged material disposal since 1989.

Per National Oceanic and Atmospheric Agency (NOAA) navigation charts, the open lake disposal site depth is typical of the western basin depths at approximately 6.1 meters (20 feet). The Corps provided information from their latest soundings on the area showing that the depths range from 16 to 22 feet low water datum.

Placement of the dredged material in the central basin of Lake Erie would increase the dredging cycle time, which is the time it takes to dredge, dispose of the material and return to the dredge site again. Open lake disposal in the central basin at a depth of 40 feet would require hauling the dredged material an additional 45 miles out and back. The USACE has provided estimates that this would increase the cost from $3 to about $15 per cubic yard. Assuming that the USACE open lake disposes 550,000 cubic yards, this would increase open lake disposal costs at a minimum by $5,500,000 per dredging operation.

Comment 9: **The USACE required the City of Oregon to build a wetland to control sediment flow into the Maumee Bay for a ditch project but they want to dump 1.25 million cubic yards into the Maumee Bay. Doesn't this contradict?**

Response 9: Standard requirements for mitigation necessary to offset permanent and temporal loss of wetlands, habitat, and stream functions resulting from projects must be completed.

In the example above, wetlands constructed in the project corridor were required to mitigate for the 0.818 acre wetland impact and loss of habitat and not for the specific purpose of controlling sediment (this however is an additional benefit of the project). The project design and mitigation was reviewed to ensure it met the USEPA 404(b)(1) guidelines and to determine if it represented the least environmentally damaging and practicable alternative and to adequately address public interests.

In contrast, Toledo Harbor is a federal navigation project maintained by the USACE. Sediments are dredged from the lake and river and placed back into the lake's aquatic ecosystem. Dredged material in the open lake must be evaluated in accordance with the *Great Lakes Dredged Material Testing and Evaluation Manual* and meet USEPA 404(b)(1) guidelines. In addition, it must meet Section 401 Water Quality Certification Requirements (See Responses 19 and 20).

Comment 10: **Mitigation for impacts**

Response 10: OAC Rule 3745-1-05 requires that the applicant provide a "Mitigative technique alternative" designed to offset all or part of the lowering of water quality, preferably within the same watershed. Best management practices are acceptable as mitigation techniques. Mitigative techniques included in the 401 water quality certification include; that contaminated sediments from River Mile 1 to 3 be placed into a confined disposal facility, that open lake disposal be restricted to the northeast half of the open lake disposal site (the deepest part of the open lake disposal area), dredging would not be performed during storm events, and that care would be taken to avoid the creation of unnecessary turbidity.

Comment 11: **Turbidity from open lake disposal traveling to the City of Toledo and the City of Oregon raw water intakes.**

Response 11: The drinking water intakes nearest the project area serve the Cities of Toledo (one intake) and Oregon (two intakes). These intakes are located in Lake Erie more than 10 miles east of the mouth of the Maumee River. Both intakes are located beyond the normal flow of the Maumee River as well as that of the Detroit River to the north. At its closest, the project area is more than five miles northwest of the intakes

for the City of Oregon and the open lake disposal facility six miles north of the City of Toledo's intake.

Per Ohio EPA's Division of Surface Water's (DSW) request, the Agency's Division of Drinking and Ground Waters (DDAGW) reviewed the water quality certification application submitted by the Corps for the proposed Toledo Harbor maintenance dredging for potential adverse impacts to public water supplies. Based on that review, Ohio EPA has determined that the proposed dredging project should not impact the intakes for the cities of Toledo and Oregon or drinking water quality.

DDAGW further commented that the USACE is aware of the location of Toledo's and Oregon's intakes, and routinely notifies the public water systems when dredging operations will occur near the intake so turbidity levels can be closely monitored. This is a condition of the current 401 Water Quality Certification, and will remain a condition in any subsequent certifications.

A preliminary study on turbidity resulting from the open lake disposal of the dredged material and subsequent modeling suggest that the resulting sediment plume, moved to the northeast, remained within the open lake disposal area, and that less than 1 percent of the plume would be expected to remain suspended after 24 hours. This data suggests that the resulting sediment plume from the open lake disposal of the dredged material would not likely impact the raw water intake structures for the Cities of Toledo and Oregon.

Comment 12: **Open Lake Disposal and impact to Walleye population**

Response 12: Per ODNR, walleye spawning in the Maumee River generally initiates in late March and extends through late April, with peak spawning generally occurring in early April. On the reef complex, spawning generally initiates in early April and extends through mid May, with peak spawning generally occurring around the third week of April. Egg incubation can range generally from seven to 28 days, depending on the water temperature. In Lake Erie, egg incubation times typically range from seven to 15 days. ODNR researchers also have conducted egg sampling in the Maumee Bay and found late-stage walleye eggs on May 5, suggesting walleye that are spawning in the bay spawn between those in the rivers and on the reefs.

Based on the information above, ODNR recommends a no in-water work restriction of March 15 to June 30.

The data available to Ohio EPA indicate that open lake disposal does not significantly increase the susceptibility of walleye spawning to impacts from sedimentation. This susceptibility is primarily due to the presence of existing sediment on the floor of the western basin. Heavy wind and associated wave action are the principle agents by which sedimentation conditions may impact walleye spawning efforts.

Comment 13: **Prohibit open lake disposal in excess of 50,000 cubic yards by 2011.**

Response 13: OAC Rule 3745-1-31(C), as proposed, states, "Effective January 1, 2011, open lake disposal of dredge material in Ohio waters of the western Lake Erie basin shall be limited to a maximum of fifty thousand cubic yards per applicant per any twelve month period. The western Lake Erie basin is the area of Lake Erie west of a line drawn from Pelee Point, Canada to Scott Point on Catawba Island. All applicants wishing to dispose of dredge material in Ohio waters of the western Lake Erie basin in the amounts limited by this paragraph shall seek authorization in accordance with Chapter 3745-32 and rule 3745-1-05 of the Administrative Code."

The draft version of this rule was made available for public comment in March 2009. The Agency has decided to delay proposal of the rule revisions to allow more time to discuss them with stakeholders.

Comment 14: **Dredge material moves by current back into the federal navigation channel.**

Response 14: A 2010 report titled, "The Results of a Sediment Trend Analysis (STA) in Western Lake Erie," completed by GeoSea Consulting (study completed 2009) indicated that sediments associated with the open lake disposal area move east to east-southeast across the open lake disposal area and then in a net northeast direction along the southeast boundary of the open lake disposal area indicating migration of the sediment is not toward the lake approach channel. In addition, dredging in the lake approach channel near the

open lake disposal area (LM 11 to LM 12) is minimal. Based on data from 2003 to 2007, 90 percent of the material dredged was removed from Lake Mile 0 to Lake Mile 10 south and southwest of the open lake disposal location. It appears that the material placed in the open lake disposal area should have a minimal impact on the federal navigation channel.

Comment 15: **Is there political fallout for opposing the Corps and denying the permit? What is the political fallout?**

Response 15: It is unclear to Ohio EPA what is meant by political fallout, however, denying the 401 Water Quality Certification for this project could result in the Toledo Harbor Federal Navigation Channel not being dredged, allowing the channel to shoal in and lead to severely limited commercial navigation of the harbor, if not the end of the use of the harbor for this purpose. As a result, revenues and jobs associated with this industry would dramatically suffer or be eliminated.

Comment 16: **How was the current open lake disposal area determined and qualified?**

Response 16: An environmental assessment / finding of no significant impact (EA/FONSI) and Section 404(B)(1) evaluation for use of the current open lake disposal area was completed by the Corps and finalized in 1989. An accompanying 401 Water Quality Certification was completed by Ohio EPA. The site was moved north to its current location due to concerns by the City of Toledo that plumes from the previous open lake disposal area may be impacting the water treatment plant intake.

Comment 17: **The USACE should apply for GLRI money for projects that will not require the non-federal match.**

Response 17: GLRI funding can be obtained from USEPA. However, they can only be expended for existing USACE authorities and do not serve to change any of the associated cost-share requirements.

Comment 18: **Require an environmental impact statement.**

Response 18: Ohio EPA does not have the authority under current regulations to require a full environmental impact statement. Through the water quality certification process and anti-

degradation review, Ohio EPA evaluates the direct and indirect impacts that the applied for project could have on water quality, and weighs the impacts of the fill activities to the social and economic justification for the activity.

Comment 19: **The USACE cannot demonstrate that the discharge of dredged or fill material to Lake Erie, or any conditions on such discharge, will not prevent or interfere with the attainment or maintenance of the designated and existing uses of Lake Erie as exceptional warmwater aquatic life habitat, or water quality criteria.**

A certification can only be issued if it contains conditions that will assure compliance with Water Quality Standards.

Response 19: For Ohio EPA to issue a Section 401 Water Quality Certification, the project must comply with Ohio Water Quality Standards. Included in these water quality standards is the antidegradation rule (OAC Rule 3745-1-05). The antidegradation rule includes additional application requirements and public participation procedures. Ohio's antidegradation provisions are triggered by 401 Water Quality Certification applications.

The antidegradation rule ensures that existing and designated uses of the water body are protected. It only allows lowering water quality consistent with protecting existing and designated uses of the water body when it is necessary to support important social and economic development. Simply put, the antidegradation rule establishes a procedure to determine that a discharge is necessary before authorizing it. The state's antidegradation rule establishes procedures and requirements to ensure that the concepts outlined by the federal regulations are met.

As part of the review of the 401 Water Quality Certification application, Ohio EPA has reviewed the toxicity tests, biological tests (bioassays), and elutriate testing completed for the dredged material. Ohio EPA has evaluated the technical feasibility, cost effectiveness, and availability of the proposed options submitted as part of the antidegradation review and of other options for the material. Ohio EPA has taken into account the social and economic justification for the project and reviewed additional information provided by scientific studies / investigations completed in regard to the

functions of the western basin of Lake Erie and scientific studies / investigations related to the direct impact of open lake disposal of dredged material.

Based on the review of the above information, the open lake disposal of dredged material from the Federal Navigation Channel of Toledo Harbor meets the Federal Guidelines specified in the USACE's and USEPA's *Great Lakes Dredged Material Testing and Evaluation Manual* by demonstrating the similarity to the reference sediments in the harbor, showing the lack of significant, adverse biological impact as compared to similar sediments already in the lake by completing bioassays, and completing elutriate testing indicating compliance with water quality standards. In addition, the technical feasibility, cost-effectiveness, and availability, of other options for beneficial use and/or disposal were evaluated and determined not to be cost-effective or are unavailable at this time. In addition, The social and economic impacts comparing dredging of the Harbor to not dredging the harbor were evaluated and the impacts of the fill activities were weighed against the social and economic justification for the activity.

Taking into account the complete review of the application Ohio EPA has conditioned the 401 Water Quality Certification with conditions in accordance with OAC Rule 3745-32-05(C) to ensure compliance with applicable laws and to ensure adequate protection of water quality.

End of Response to Comments