

Ohio Department of Natural Resources

Performance Audit Summary

What We Looked At

The Ohio Department of Natural Resources (ODNR) has 10 divisions and is responsible for maintaining the balance between the wise use of and protection of Ohio's natural resources. The Division of State Parks and Watercraft (the Division) provides outdoor recreation and boating opportunities along with maintenance of the state park waterways. The dredging program (the Program) falls within the Division's responsibilities for waterway maintenance and safety.

Dredging is the process of removing sediment from a body of water and depositing the sediment in a designated area that will allow for the sediment to dry. Dredging is used to help improve the navigability of waterways and, in Ohio, the depth and usability of inland lakes. Dredging helps keep the lakes at a safe enough depth for modern boating and helps to control harmful algae blooms by removing nitrates from agriculture run off which can feed algae. The material removed from dredging must be placed in an open area outside of the body of water that allows for sediment to be separated from the water. These areas are called dredged material relocation areas (DMRA) and require dozens of acres near the dredging location. DMRA's are acquired by ODNR either by leasing acreage from local farmers or by purchasing the land outright.

The Division divides the dredging program into permanent and statewide teams. The statewide team moves to different lakes, depending on need, while permanent teams are stationed at specific lakes. ODNR currently operates a permanent dredging program at the following locations: Buckeye Lake, Grand Lake St. Marys, Indian Lake, and Lake Loramie. The statewide program services up to seven additional lakes each year, depending on need. In FY 2021, the permanent dredge team removed 449,525 cubic yards of dredge material and the statewide dredge team removed 273,26 cubic yards of dredge material from these waterways.

The Ohio Performance Team (OPT) analyzed the efficiency of the dredging operations, the planning processes for dredging projects, and the current costs associated with dredging.

What We Found

Ensuring Ohio's lakes remain safe and navigable for boats is a responsibility that falls primarily on ODNR through the Division. This task impacts the lives and livelihoods of thousands of Ohioans who either enjoy recreational boating or who are employed by or operate businesses that rely on seasonal boaters. However, routinely there are stories regarding a lake being unsuitable for use, either due to unsafe water depths or vegetation overgrowth. The Division has historically taken a one-off approach to address problems when they arise, rather than act proactively to avoid future issues. While the Division has found one-off success in the past, the Division still

does not consider dredging in its strategic planning process, allowing ongoing planning failures to continue.

While the initial objectives of this audit centered on evaluating the efficiency and effectiveness of the Department's dredging program, we encountered several issues related to the amount and quality of performance related data collected by the Division. The overall lack of data limited our ability to conduct some of our planned analyses. Because the Division does not collect significant pieces of data, we found that it is unable to answer key questions regarding dredging performance, such as:

- What percent of planned dredging activity is fully completed each year?
- Which dredge crew is most efficient in terms of cost per cubic yards dredged?
- What should be the expected efficiency of each dredge crew?
- What is the impact of unexpected maintenance needs on dredge operations?
- How many hours of potential dredging were lost due to poor weather?
- How many DMRA acres will the Division need over the next 5, 10, 15, and 20 years?
- What could the Division accomplish with one additional dredge?

Because the Division is unable to answer key performance related questions, it is further unable to identify how to objectively prioritize projects. Further, the Division would be unable to determine what projects would be best suited to be postponed if the need arose, for example due to an emergency project or unexpected loss of personnel. Although our analysis was limited due to available data, we identified multiple key observations and recommendations that will assist the Division in improving data collection and overall process management.

Key Observations

Key Observation 1: ODNR reports that it currently uses complaints from park managers and a limited amount of survey work as inputs for planning their dredging operations. Complaints typically come in via email, but there is no spreadsheet, database, or any type of work order system that allows for complaint tracking.

Key Observation 2: The Division's planning documents are stored either on PDF or on paper and therefore not readily available for systematic analysis.

Key Observation 3: Dredging requires the availability of DMRA space available near the dredging locations. ODNR has a stated goal of being able to plan dredging projects five years in advance, however, without a full understanding of the amount of dredging that needs to be done it may be difficult for the Division to know how much DMRA space needs to be acquired.

Key Observation 4: The Division has an informal goal that, during dredge season, that each machine located at permanent locations be operational for 36 hours per week. We found that over a five-year period, this weekly goal was met on only two occasions.

Key Observation 5: The Division collects dredge related cost data at a high level for purposes of obtaining grant funding related to boater safety. This incomplete data is used by the Division to calculate a cost per cubic yard of dredged material. We found this number to be highly inaccurate, severely underestimating the cost per cubic yard. Using detailed information that is collected in Ohio’s Administrative Knowledge System (OAKS), we determined that the true cost per cubic yard of material dredged is approximately twice that of the value used by the Division for planning purposes.

Key Observation 6: The Division does not have key performance indicators (KPIs) for the dredging program. Without these metrics, it is highly improbable that the program can ensure that dredging is as efficient as it could be or that areas that need to be improved can be identified.

Summary of Recommendations

Recommendation 1: The Division stated that it relies on complaints regarding lake conditions to determine when and where dredge activity should occur. There is no formal process in place for collecting such complaints and, once a complaint is received, there is no formal process in place that allows for the verification, prioritization, or tracking of necessary dredging activity. Because the Division does not have these procedures in place, it is not able to determine the effectiveness of current dredge activity or if current dredge activity mitigates complaints. Further, the Division is unable to provide transparent reporting on the efficiency of the dredge program. The Division should develop a formal process for the identification, prioritization, and tracking of dredging projects.

Recommendation 2: The Division does not track key measures of dredge performance at a level of detail sufficient to fully understand potential causes of variations in dredge performance. The Division should improve the collection of dredge related performance data, including specific causes of dredge downtime. Without sufficient data to track and analyze dredge performance the Division risks making sub optimal decisions about dredge planning and equipment replacement.

Recommendation 3: Between CY 2017 and CY 2021, the Division expended an average of \$5.5 million annually on its dredge program. However, on average, the Division recorded only \$2.1 million on project specific expenditures during the same time period. This means that more than half of the Divisions dredge program expenditures cannot be tied to specific dredging activities. The Division should fully capture data concerning dredge expenditures, either by revising the existing Dredging Workbook or by using location specific categories for OAKS accounting. Without additional cost details, the Division cannot conduct accurate analyses regarding the efficiency of the overall dredging program, or how dredge efficiency and potential

productivity factors into annual dredge plans and resolution of customer complaints. Furthermore, the Division should strengthen the internal controls around cost reporting and develop protocols for analyzing and applying cost and performance data.

Recommendation 4: The Division does not collect or curate key pieces of data in a manner which allows the Division to accurately plan for the future. The Division should develop a strategic plan that includes goals, metrics, and annual goals for the dredge program. The strategic plan should include, at minimum, a reasonable estimate of the location of future dredging activity and a reasonable estimate of the amount of dredge material to be removed. Further, as data collection improves, the Division should use quantitative analysis to improve decision making. Without data to inform its strategic plan and plan outcomes, the Division is unable to make informed plans and decisions.