



- If the money in the erosion control repayment fund is inadequate to repay the loan when due, the board may advance money from another county fund. Depending on how long it would take to recover this money, the county could be without the use of this money for a period of time.
- The county auditor shall enter all amounts not paid when due on the loans. The amount on the property owner's real property tax list, and amounts not paid shall be a lien on the property to be collected in the same manner as other taxes.

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## *Detailed Fiscal Analysis*

### **Coastal erosion areas**

Lake Erie coastal erosion areas are defined in 1506.07 Ohio Revised code. Coastal erosion areas consist of land areas along Lake Erie that are anticipated to be lost due to Lake Erie related erosion within a thirty-year period if no additional approved erosion control measures are completed within that time. These are areas where recession is anticipated to exceed 9 feet in the next 30 years as defined in Rule 1501.6-10 of the Ohio Administrative Code. Coastal erosion areas are found in all Lake Erie shoreline counties, which are Lucas, Ottawa, Sandusky, Erie, Lorain, Cuyahoga, Lake and Ashtabula counties. The ODNR Division of Geological Survey has estimated that approximately 38% of the Lake Erie shoreline falls within a coastal erosion area, or roughly 99 miles. Furthermore, the Division estimates that 60-65 percent of the shoreline within the designated coastal erosion areas has some form of shoreline protection, translating into approximately 35 miles of shoreline of unprotected shoreline.

The Ohio Department of Natural Resources, Division of Real Estate and Land Management (REALM) regulates the coastal erosion areas through a permitting process. A permit is necessary to erect, construct or redevelop a permanent structure in the Lake Erie coastal erosion areas. An effective erosion control measure must be constructed prior to or concurrent with the permanent structure. An erosion control measure is a structure or actions specifically designed to reduce or control Lake Erie related erosion of the shore. A board of county commissioners, acting for the county over which it has jurisdiction, may enter into and carry out agreements with REALM for the construction and maintenance of projects to prevent, correct and arrest shore erosion.

### **Typical Costs of Erosion Control**

The Ohio Department of Natural Resources (ODNR) has provided some average costs for the installation of some typical erosion control measures that have been or are currently being used along the Lake Erie shoreline. They are shown in the table below. There are other types of erosion control measures that are not listed here, but this table should provide some general cost information regarding some of the most common methods used to control shoreline erosion.

There are many variables to the cost of installation. For example, most of the large stones used for revetments are obtained from the rock quarries in the Sandusky/Marblehead area. The costs of transporting large stones to a job site can vary greatly, depending upon the location of

the project. According to some consultants that were contacted by ODNR, the cost of building a stone revetment in Ashtabula can be almost \$100 per linear foot greater than one constructed in Sandusky, based solely upon the distance needed to transport the stone. Additionally, the counties in the eastern portion of the Ohio shoreline (Cuyahoga, Lake, Ashtabula) have higher bluff areas on the shoreline, which create additional costs because of the difficulty in accessing the shoreline. In some instances, material can only be delivered via a barge, and in other instances an access ramp may need to be constructed. Another factor affecting costs of erosion control projects is the ability of contractors to group together projects. Significant cost savings can be realized by several property owners going in together and having the erosion control project installed all at the same time.

**Average Costs for Typical Erosion Control Projects**

<b>Type of Erosion Control Project</b>	<b>Cost per Linear Foot of Shoreline</b>	<b>Typical Length of Privately-Owned Shoreline</b>	<b>Range of Cost per Average Property Owner</b>
Stone Revetment	\$300-1000	75-100 Feet	\$22,500-100,000
Steel Sheet Pile Bulkhead	\$400-900	75-100 Feet	\$30,000-90,000
Grout Filled Bag Revetment	\$400-700	75-100 Feet	\$30,000-70,000
Gabion Revetment	\$250-500	75-100 Feet	\$18,750-50,000
Off shore Breakwater	\$250-1000	75-100 Feet	\$18,750-100,000
Concrete Seawall	\$400-1000	75-100 Feet	\$30,000-100,000
Rockfilled Timber Crib	\$200-800	75-100 Feet	\$15,000-80,000
<b>Average Cost</b>	<b>\$500-700</b>	<b>75-100 Feet</b>	<b>\$37,500-70,000</b>

\* Information given by Ohio Department of Natural Resources, Division of Real Estate and Land Management

To determine the financial resources needed to place erosion control protection along the 35 miles of shoreline in the coastal erosion area, one could use an estimate of:

$$\begin{aligned}
 &(\$500 - \$700 \text{ per linear foot of shoreline}) \\
 &X (35 \text{ miles}) \\
 &X (5280 \text{ feet/mile}) = \$92,400,000 \text{ to } \$129,360,000
 \end{aligned}$$

It is probably not realistic, however, to assume that most of the properties in the Coastal Erosion Area will be developed or redeveloped in a given year. A more realistic estimate would be 5 to 10 percent of the properties in the Coastal Erosion Area being developed annually, which may lead to approximately \$4,600,000 to \$12,900,000 being spent annually for erosion protection in designated Coastal erosion areas.

**Coast Management Loan Program**

Existing law authorizes the Ohio Water Development Authority (OWDA) to issue water development revenue bonds to make loans to pay any part of the cost of constructing water management facilities. The bill expands the definition of "water management facility" to include facilities for the stabilization of coastal erosion areas and expressly authorizes the OWDA to make loans to board of county commissioners in the coastal erosion areas. The loan proceeds are to be used to provide financial assistance to any owner of real property along Lake Erie, provided (1) the Director of Natural Resources has identified the property as a "coastal erosion area" and (2) the Chief Engineer of the Department of Natural Resources has granted the owner a permit to construct an erosion control structure in the area. The board of county commissioners can pledge any lawfully available revenue to repay the loan, so long as it did not include money raised by taxation.

The OWDA can enter into an agreement with the board of county commissioners, which would not be subject to the limitations of the Uniform Public Securities Law, and adopt rules establishing requirements and procedures for making the loans and agreements. The board of commissioners, in turn, could enter into an agreement with a landowner and, pursuant to its agreement with the OWDA, agree to cause payments to be made by the OWDA to the contractor hired by the landowner to build the erosion control structure. The structure would not be considered a public improvement and would not be subject to competitive bidding, public bond, or prevailing wage laws. The landowner would have to agree to make specified installment payments to the board of commissioners or to the OWDA if the board assigns the agreement to it, together with interest and administrative or other costs of the board or the OWDA.

The board would have to cause its agreement with a landowner to be recorded in the office of the county recorder and establish an Erosion Control Repayment Fund. The fund would be used for repaying the loan and for other administrative or other costs of the board as specified in the agreement with the landowner. If the amount credited to the fund should be inadequate to repay a loan when due, the board could advance money from any other fund that the county may lawfully use for the purpose. Eventually the county would have to reimburse the fund from which the advance was made.

If the property owner should fail to make any payments when due, the board would be obliged to certify the amounts to the county auditor. The amounts would become a lien on the property, and the auditor would have to add them to the landowner's real property tax bill, to be collected in the same manner as other taxes. As the assignee of any landowner's agreement with the county, the OWDA could compel the board and the county auditor by mandamus to establish an Erosion Control Fund and to bill and collect amounts when due.

### **Ohio Water Development Authority Fees**

Revenues for OWDA operations are principally provided by an administrative fee, charged as a percentage of the total cost of each project that the OWDA assists by providing financing. Fee income is recognized at the time that the financing agreements are finalized since substantially all of the costs associated with the agreements have been incurred at that time. The OWDA charges a one time administrative fee on all loans. On water, wastewater, and Water Pollution Control Loan Fund (WPCLF) planning and construction loans the fee is 0.35% of the loan amount or a minimum of \$400. On solid

waste loans the administrative fee is 0.5% or a minimum amount of \$500. On all loans but WPCLF, this fee should be included in the amount to be borrowed and will be taken out of the loan proceeds by OWDA when the funds are encumbered. The administrative fees for WPCLF loans will be billed to communities separately; payments are due upon receipt of the notice. These costs are not eligible to be disbursed out of the loan's proceeds based on federal regulations.

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