



US Army Corps  
of Engineers

Water Quality Technical Note MI-06  
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# *Creative Use of Rock to Enhance Littoral Zones*

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## **Purpose**

This technical note describes a possible alternative solution for reservoir shoreline erosion problems that provides an enhanced littoral zone habitat.

## **Problem**

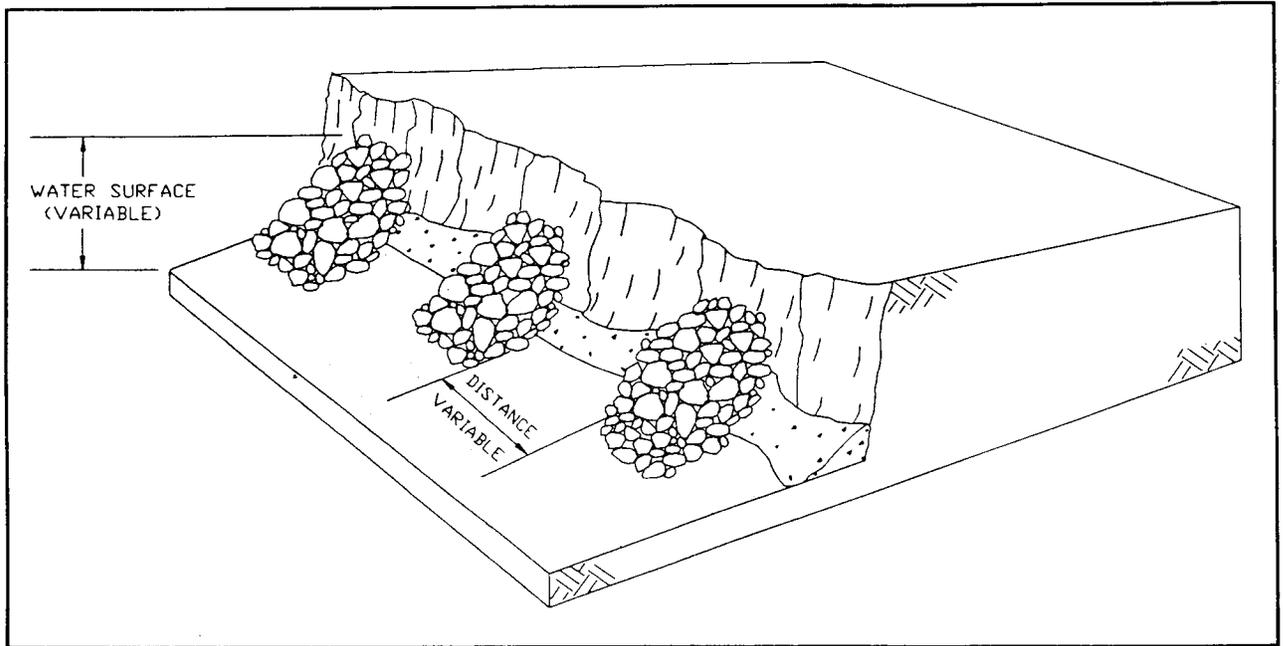
It is the natural tendency of erosion associated with wind/wave action to "even out" the shoreline, that is, to decrease the distance between two points along a shoreline. As a result, littoral zone habitat is impacted, and in turn, the ecology of the entire reservoir is affected. Rock in the form of riprap is the method commonly used to halt shoreline erosion. The rock is placed evenly along the eroding bank, thus stopping erosion. However, this does little to improve littoral zone habitat.

## **Solution**

A solution to the above problem is to place rock in discrete piles using selected spacing. This type of rock placement (Figure 1) will provide hard points interspersed with eroded areas, producing a scalloped effect that will increase shoreline length while improving shoreline habitat (by providing rock points interspersed with vegetated areas). This type of rock placement often requires less rock and less manpower to spread the rock, thus resulting in cost savings while providing shallow-water habitat for both predator and prey species.

## **Caution**

Appropriate spacing between rock piles may vary from project to project. Erodibility of soils, fetch, and other factors must be considered.



**Figure 1. Rock placement to enhance littoral zone habitat**

### **Point of Contact**

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