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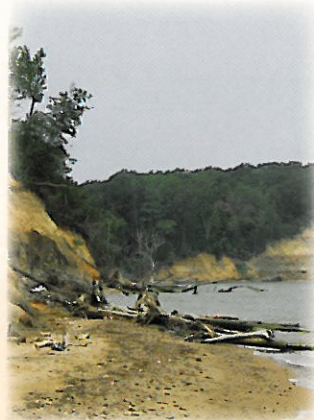
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Bluff Management in Calvert County

Calvert County is one of the fastest growing counties in Maryland. The County is characterized by steep cliffs and woods on the Chesapeake Bay side and fields sloping into the Patuxent River. The shorelines are a significant part of the character of the County and State. The cliffs provide natural heritage, scenic vistas, paleontological resources, and habitat for endangered species. Their preservation is vital to our current and future identity. The geology of the shorelines of Calvert County and the naturally occurring erosion processes combine to present landowners with three complex problems: the possibility of **moderate to severe shoreline erosion**, **greater exposure to storms**, and **cliff failure**.



COUNTY POLICIES:

Calvert County adopts a policy of allowing structural control measures in eroding areas where only structural measures would provide effective and practical erosion control, where non-structural control measures would be impractical or ineffective. If significant alteration in the characteristics of a shoreline occurs, the measure that best fits the change shall be used for sites in that area.

There are many factors to be considered when dealing with shore erosion control measures. By allowing shore erosion control within the cliff and shoreline areas, the risk of altering many of the existing features increases. For example, shore erosion control stops the natural erosion process which supplies sand to Calvert County beaches. The Puritan Tiger Beetle, an endangered species, depends on the natural erosion process for its survival. Shore erosion control allows the cliffs to reach a natural angle of repose which will become vegetated and destroy the paleontology, natural beauty and scenic vistas of the cliffs.

CLIFF CATEGORIES BASED ON PRIORITY (for preservation):

Category 1 (undeveloped cliff sections requiring the highest priority for total preservation):

- a) All park and preserved land with cliffs fronting on the Chesapeake Bay and Patuxent River.
- b) Cove Point LNG Plant to Calvert Cliffs Nuclear Power Plant.
- c) Parkers Cliffs including the Parkers Creek mouth shoreline.
- d) Randle Cliffs.
- e) Matoaka Cliffs (partial: area north of jetties).
- f) Governors Run Cliffs.
- g) Cliffs north of Willows Beach Colony.
- h) Roosevelt Cliffs



Category 2 (developed cliff sections with significant preservation needs):

- a) Scientists Cliffs.
- b) Little Cove Point.
- c) Plum Point South Cliffs.
- d) Matoaka Cliffs (partial, in area of jetties).
- e) Camp Roosevelt Cliffs

Category 3 (any cliff sections, mostly developed, not placed in Category 1 and 2).

TIGER BEETLES:

The Northeastern Beach Tiger Beetle (*Cicindela dorsalis*) and the Puritan Tiger Beetle (*Cicindela puritana*) are classified as endangered species in Maryland. These insects used to inhabit beaches from Massachusetts to Virginia, but now are at the brink of extinction. The presence of these beetles indicates wild, undisturbed areas and the steady decline of habitats indicate the rate of development on our shorelines.

These beetles thrive well on undeveloped shorelines and slowly eroding unvegetated cliffs. The use of shoreline stabilization techniques like bulkheads, revetments and excessive recreational activities directly cause irreversible damages to the habitats of the beetles.



Photo courtesy of U.S. Fish & Wildlife Services

BREAKWATERS:

Breakwaters are a type of living shoreline project that are generally constructed offshore to dissipate the energy of approaching waves and provide protection to toe of the banks in high energy shorelines. The ability of a breakwater to trap sand depends on factors like distance offshore, length parallel to shore, porosity, and spacing (where more than one breakwater is used).

Breakwater projects can be expensive and need an experienced engineer to design. They are the best option for sites that have been identified as tiger beetle habitats as they are offshore structures. Since breakwaters are not contiguous structures, they do not adversely affect the natural coastal processes.

