

Tidal Erosion in the Chesapeake Bay

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Problem Under Consideration

Tidal erosion has severe consequences for living organisms, water clarity, and the overall appearance of the Chesapeake Bay

Background

-Sediment is the third biggest pollutant to the Bay and its tributaries.¹

-Excess sediment in the water is a key contributor to degraded water quality and damages critical habitats (Submerged Vegetation Beds and oyster bars) and living resources such as (shellfish, finfish and waterfowl).

-Suspended sediment reduces the amount of light available to support healthy and abundant SAV communities.

-It is estimated that 57 percent of the total sediment load into the Chesapeake Bay is from tidal erosion.¹

-Tidal erosion is the combination of both fast land erosion (land above tidal water, often called shoreline) and near shore erosion (the shallow water closes to shoreline).

-Tidal erosion is a direct consequence of wind and wave action and the continued rise in sea level.²

Current Status

-In 2003, the Bay Program established the Chesapeake's first water clarity criteria aimed at cleaning the water enough to allow the return of at least 185,000 acres of underwater grass beds.³

-Last year the Bay had an estimated 72,935 acres of SAV, this is only 39 percent of the goal.

-Few programs exist to help fund shoreline erosion problems, although some are starting to emerge.³

-Living Shorelines Grant Program is one of the first and it promotes a more natural approach to shoreline restoration.

Critique of Recommendations

-More enforcements from the police to protect the land costs money and tax dollars.²

-Getting financial support from the public as a means of a non-profit organization is possible, but without proof that changes are being done, that act will only serve as a "feel good" legislation passed by government.³

-Since tidal erosion also plays heavily on weather and the climate, it is very difficult to prevent things from happening.

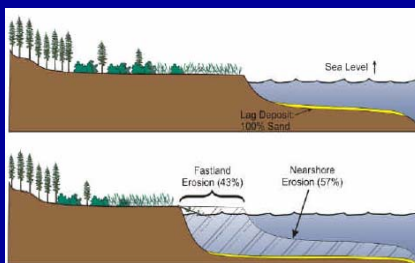
-As a result the land will act according to the climate, and things like storms cannot be prevented.

Past Actions

-In 1983, the first Chesapeake Bay Agreement established a voluntary government partnership that directs and manages Bay restoration. This partnership is called the Chesapeake Bay Program.¹

-The Chesapeake Bay Program serves as a model for dozens of other estuary cleanup efforts nationally.

-Although the quality of the bay was neglected in the past, the government used the "Bay Act" as a means to regulate things that went into the bay.



View of tidal erosion, indicating the relative contributions of fastland erosion and nearshore erosion to the sediment load to the estuary.
<http://www.mgs.md.gov/coastal/pub/tidalerosionChesBay.pdf>

Recommendations

-Must treat shorelines differently.

-Protect and restore our shorelines' natural barriers.

-Do a better job of managing shoreline development so that it does not exacerbate tidal erosion.²

-Where severe erosion is occurring living shorelines are not possible, hard structures should be considered.³

-In some eroding shorelines, no action should be taken if they are replenishing beaches or providing a unique habitat for endangered species.¹



The effects of tidal erosion on a shoreline
<http://www.mgs.md.gov/coastal/pub/tidalerosionChesBay.pdf>

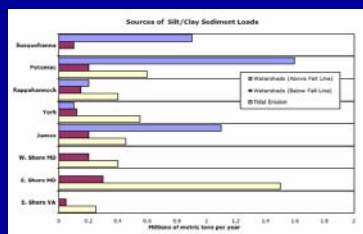
Proposed Actions

-Implement environmentally sensitive or living shorelines.¹

-Hard structures should be considered to get the grasses established.

-No action should be established if the eroded shorelines are replenishing beaches or provide a habitat for endangered species.

-Some shoreline areas may be supplying sand that maintains beaches that help buffer the shore itself or provide essential habitat.³



<http://www.mgs.md.gov/coastal/pub/tidalerosionChesBay.pdf>

Works Cited

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