

LIVING SHORELINES PROJECTS: DO THEY WORK????

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Living Shorelines (LS)

- Suite of techniques- minimize coastal erosion and maintain coastal process.
- Include the use of fibre coir logs, sills, groins, breakwaters or other natural components used in combination with sand, other natural materials and/or marsh plantings.
- Protect, restore, enhance or create natural shoreline habitat.

A photograph of a shoreline project. In the foreground, there is a rocky bank with several clumps of tall, yellowish-brown grasses growing from it. To the right, a body of water extends to the horizon. In the background, a line of trees and a road with some vehicles are visible under a bright sky. The text "RC&D's Living Shoreline Projects" is overlaid in the center of the image.

RC&D's Living Shoreline Projects

Snapshot into Past Projects

- Counties- Calvert, Caroline, Cecil, Charles, Dorchester, Kent, Queen Anne's, Talbot, Wicomico, Worcester.
- Total number of projects- 258 (1987-2006)
- Total cost of projects- \$8.9 million
- Total project length- 117,208 linear ft
- Sediment saved- 49,876.85 tons/yr
- Wetlands created- 2,376,570 sq. ft
- Wetlands protected- 200,309 sq. ft

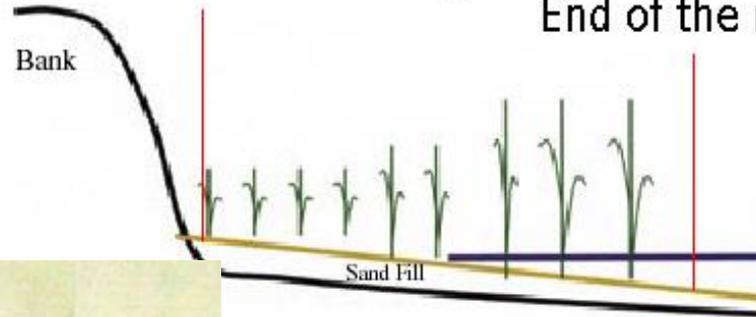
A landscape photograph showing a field of tall, yellowish-brown grasses in the foreground. To the right, a rocky shoreline leads to a calm body of water. In the background, there is a line of trees and a clear sky. The text "FIELD WORK" is overlaid in the center of the image.

FIELD WORK

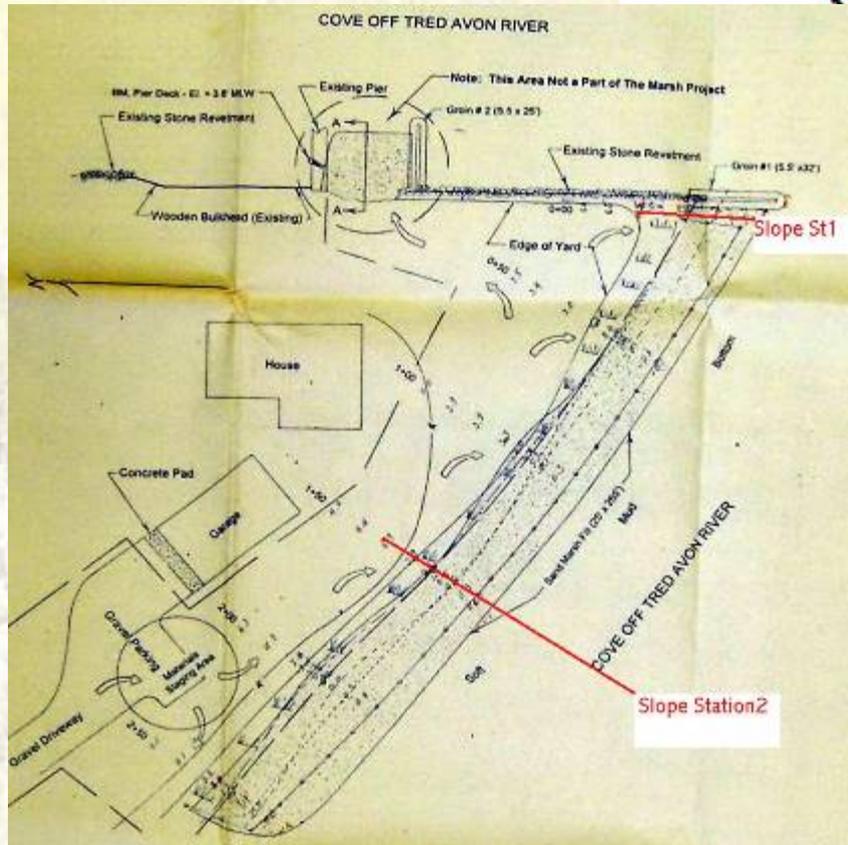
Material and Methods: Survey

Start of the marsh height

End of the marsh height



10:1 Slope



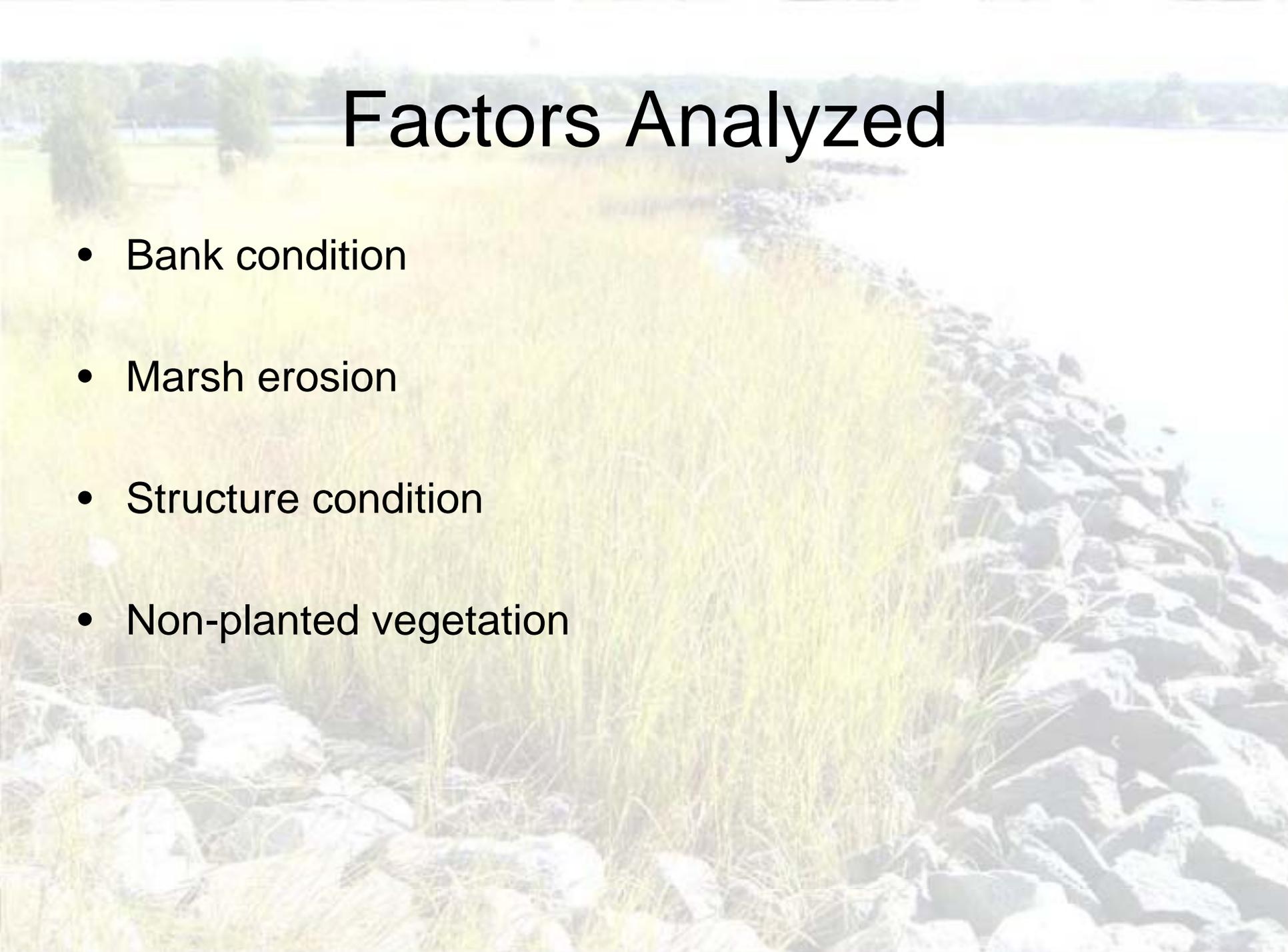
Materials and Methods: Pictures of the Project



A landscape photograph showing a large field of tall, yellowish-brown grasses in the foreground. To the right, a rocky shoreline runs along a body of water. In the background, there is a line of trees and a clear sky. The word "Results" is overlaid in the center of the image.

Results

Factors Analyzed

A photograph of a rocky shoreline with tall grasses and a body of water in the background. The scene is slightly hazy, suggesting a bright day. The rocks are dark and jagged, forming a barrier between the land and the water. The grasses are tall and yellowish-green, growing in clumps. The water is a pale blue-grey color, and the sky is a light, overcast grey.

- Bank condition
- Marsh erosion
- Structure condition
- Non-planted vegetation

Erosion Signs: Bank Erosion

96- Stable banks



Undercut (69)



Slumping (12)

Marsh Erosion

Condition	Number of Projects
No erosion	10
< 50%	94
> 50%	39
Unknown	34

Erosion Signs: Marsh Erosion



Erosion signs: Structure Displacement



Excellent- 66



Displacement- 88

Sinking- 23

Non-Planted Vegetation



Final Evaluation

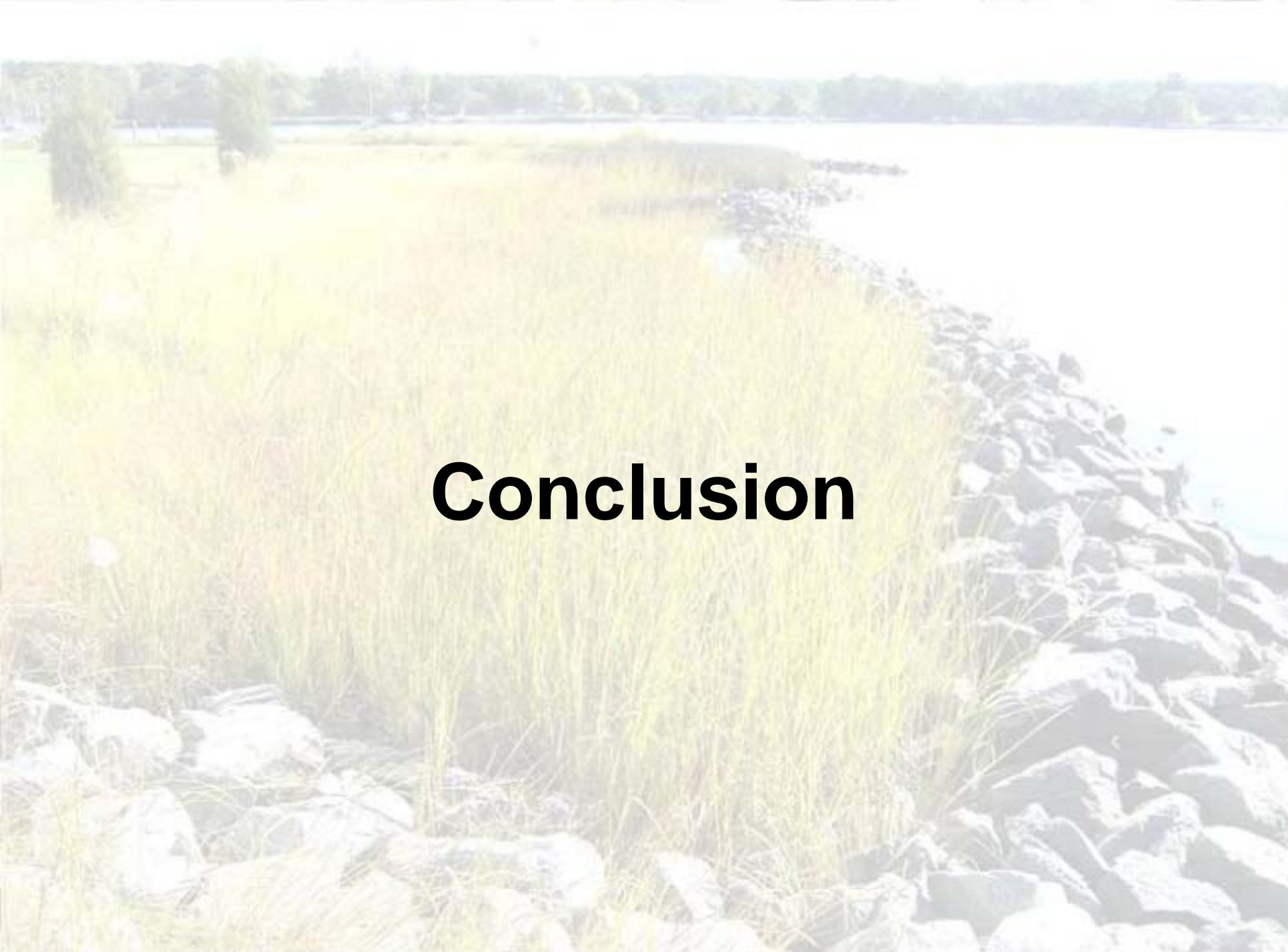
Evaluation	Number of Projects (177)	Percentage
Excellent	20	11%
Very Good	71	40%
Good	40	23%
Fair	36	20%
Poor	10	6%

Common Reasons

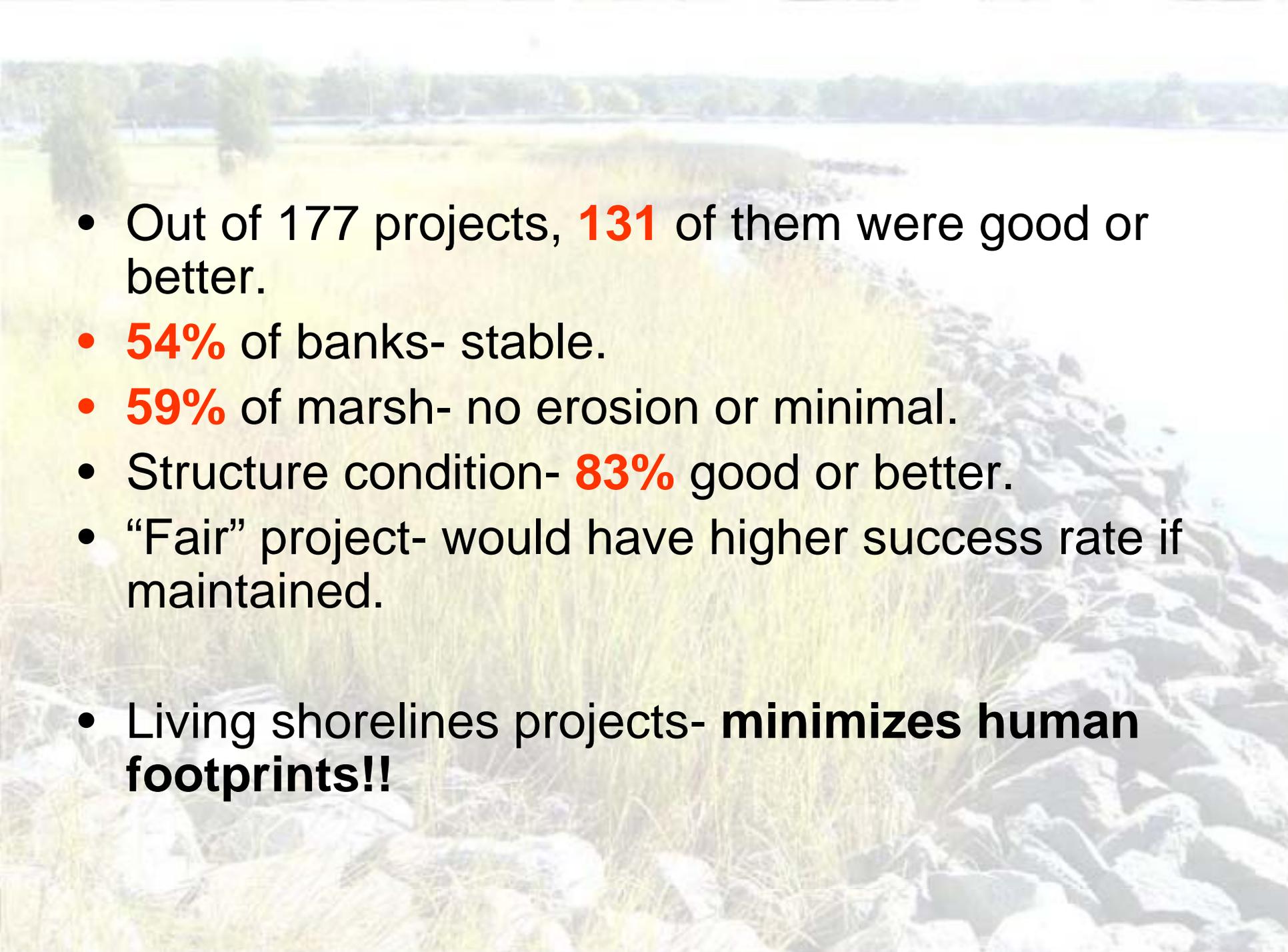
- Poor engineering and/ construction.
- Poor execution of Plans- integrity??.
- “Incorrect” planting.
- Choice of marsh grasses.
- Boat wake.
- Lack of maintenance.

Living Shoreline Protection Act of 2008

- Highlights:
 - Preferred solution to reduce erosion- living shorelines projects.
 - Burden of proof on homeowner unsuitability of LS projects.
 - Exceptions/waivers:
 - Excessive erosion
 - Long fetch
 - Too narrow bank, for planting.

A landscape photograph showing a rocky shoreline in the foreground. The rocks are dark and jagged, forming a natural barrier. Behind the rocks, there is a dense field of tall, yellowish-brown grasses. In the background, a calm body of water stretches across the horizon, with a line of trees and a distant building visible under a bright sky.

Conclusion

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- Out of 177 projects, **131** of them were good or better.
 - **54%** of banks- stable.
 - **59%** of marsh- no erosion or minimal.
 - Structure condition- **83%** good or better.
 - “Fair” project- would have higher success rate if maintained.

 - Living shorelines projects- **minimizes human footprints!!**

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