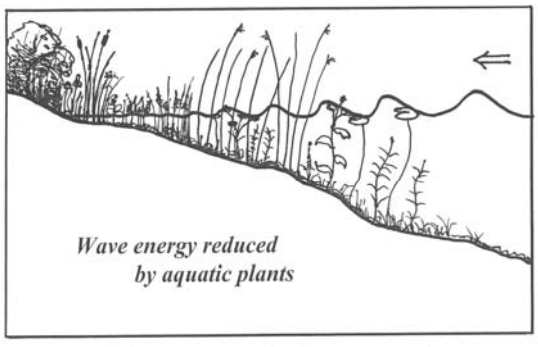
Environmental functions of a natural shoreline

Dr. Mary Blickenderfer

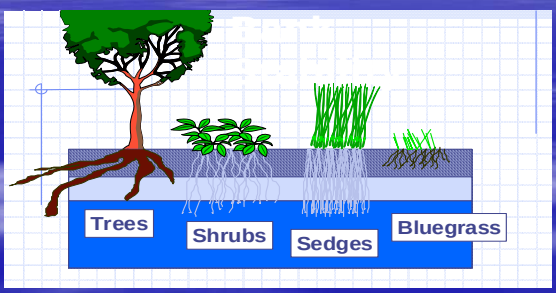
University of Minnesota EXTENSION

Why should I care about a natural shoreline?

Anatomy of a natural shoreline



Deep, dense rooted native plants resist wave and ice erosion



Wave break of aquatic plants removed from the offshore area

Shallow rooted turf grass doesn't hold soil in place on shorelines

A bird's-eye view

C = aquatic plants removed, wetland and upland plants replaced with lawn
N = native plants not disturbed

Plants reduce pollutants entering the lake

Adapted From: Wisconsin DNR

Runoff Volume
Phosphorus Inputs
Sediment Inputs

4x
5x
6x
18x

Adapted From: Wisconsin DNR

Need more convincing?

"…a native grass strip just 10 feet wide captures 60% of the sediment.

A 20-foot strip retains 80% of the sediment.

…(native plants) established properly will remove up to 90% of the unused nitrogen…"

(Seker 1999)

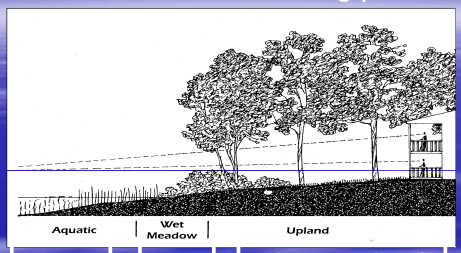
"For water quality protection … most recommendations for minimum buffer widths range from 50 feet to 100 feet."
(Wenger 1999)

"Protection of diverse terrestrial riparian wildlife communities requires some buffers of at least 300 feet." (Wenger 1999)

Plants provide wildlife habitat…

…except for geese!

The natural shoreline "big picture"



- Protect bank from wave action
- Deep roots bind the soil
- Reduce run-off and pollutant inputs from the land
- Plants provide critter habitat

Other functions of a natural shoreline

- Maintain a natural appearance
- Provide privacy
- Minimize thermal pollution