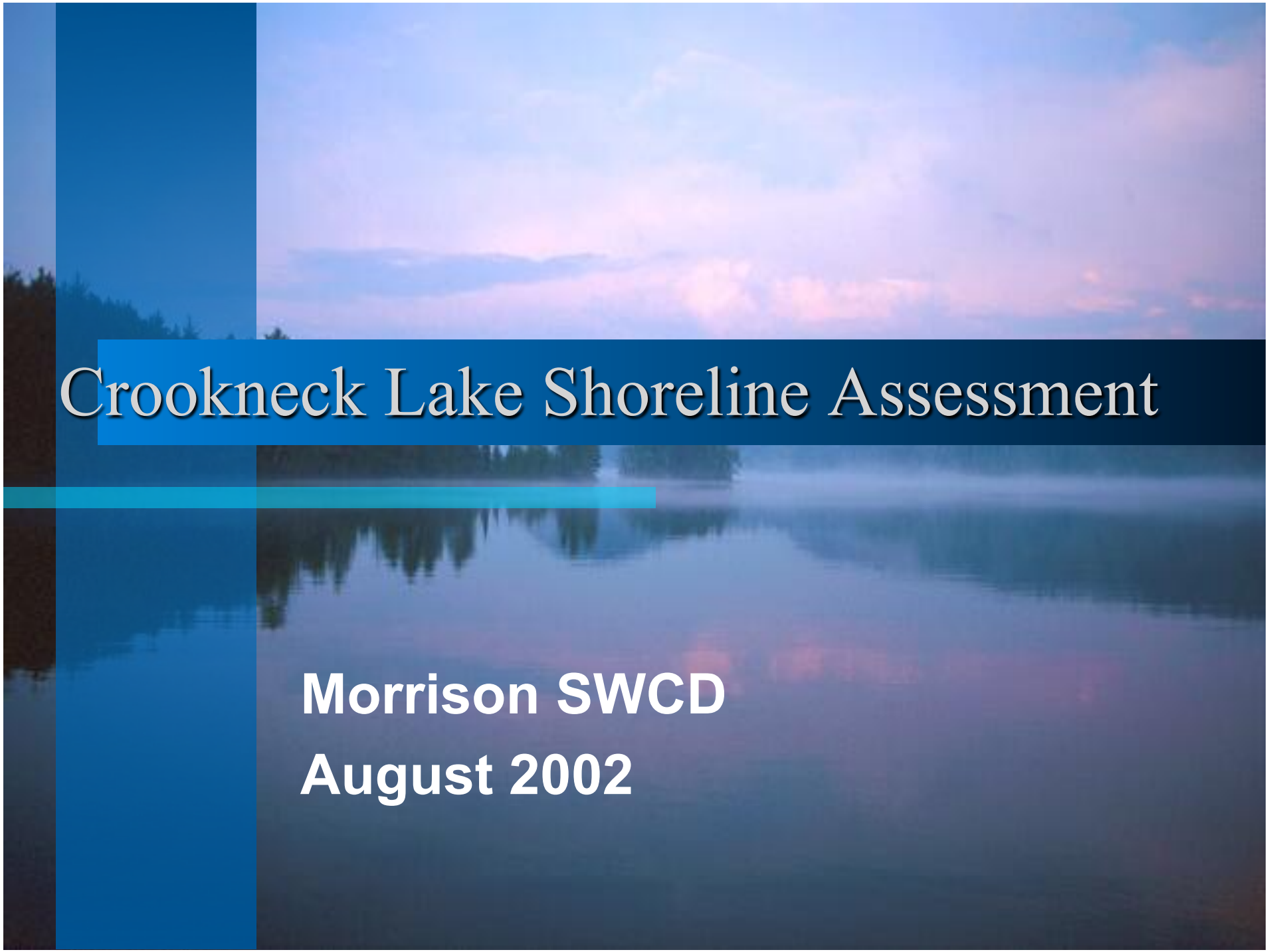

Crookneck Lake Shoreline Assessment

Morrison SWCD

August 2002

GPS and photo survey of lakeshore

- Assessment of shoreline
- Recommendation of appropriate practices = rock rip-rip, bio logs, other
- Examples

Signs of a problem:

- A large area of bare soil on a steep, high shoreline bank.
- A measureable change of the shoreline over a period of time.
- Leaning or downed trees with exposed roots on the shoreline.
- Large patches of muddy water near a lakeshore, or unusually muddy streams during periods of high water or following a rainstorm.
- Excessive deposits of sand or other sediments on the stream bed, or very wide, shallow areas in a stream.

How can shoreline erosion be controlled?

- Preserve the rocks and vegetation which naturally occur along the shoreline.
- Prevent impervious surface (i.e. roofs, driveways) runoff from flowing to the shoreline, especially bluff areas.
- Avoid construction within 100 feet of the shoreline or the edge of nearshore bluffs.
- Protect nearshore berms pushed up by ice action along lakeshores. They prevent excessive surface runoff and trap sand which "nourishes" the beach.
- Limit the amount of foot traffic and other recreational activities in erosion prone areas.
- However, regardless of preventive measures, the right combination of conditions (such as high water level, violent windstorms, drastic ice movement, and certain shoreline configurations) may result in serious shoreline erosion.

Erosion control methods

- **Vegetative/No Mow:** This method involves encouraging or planting trees or woody shrubs for the soil binding properties of their large root systems, grass and other herbaceous plants to protect against raindrop impact and scouring from surface runoff, or emergent aquatic plants to stabilize bottom sediments and dampen wave action.

- **Structural:** This includes protective structures. The placement of rock of various sizes (referred to as rip-rap) has traditionally been most common method. Other structural methods include bulkheads, gabions (rock filled baskets), and railroad ties. However, these other methods are often visually unappealing, require more heavy equipment and technical expertise, and may be more prone to failure in comparison to simple rip-rap.

- **Manipulative:** Mostly used on streams, this includes removing streamflow obstructions, grading shoreline banks, or, in special circumstances, rerouting the stream channel

Erosion control methods - Rip rap

- 3 to 1 side slope
- Various rock sizes from 8” to 16”
- Must not go more than 5’ into water

Erosion Control Methods - Bio-logs

- Helps undercut shoreline
- Available in 12”, 16”, 24” diameters & 10’ lengths
- Best when used with riparian planting of native shrubs

Find your lakeshore!

- We took photos of every lakeshore lot. They run clockwise from the boat landing on the west side of the lake.
- We noted only the ones we feel need the most serious attention and listed our recommendation with the photo.
- See attached sheets for descriptions on rip-rap & bio-logs stabilizations.

Conclusion

- Rock rip-rap permits are required from Morrison County Planning and Zoning
- Rip-rap must not go more than 5 feet into the water & it should be a 3:1 slope
- To receive technical/financial assistance from the Morrison SWCD, stabilization plans require engineering sign-off and a 15 ft buffer of native plants
- See enclosed sheets for further details, including a list of native plants

FOR MORE INFO...

Contact Morrison Soil and Water Conservation District during normal business hours (320-616-2479)

Start of the tour!