

# Shoreland Restoration: Getting to the “Roots” of the Issue

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EXTENSION

# North Center Lake



before

Plant native flowers,  
grasses and sedges



Plant native aquatics  
and install wave break



**2 months after planting - cover crop established**



**2 years after planting – natives well established**



6 years after planting – restoration failed.  
Contractor hired to “fix” problem.

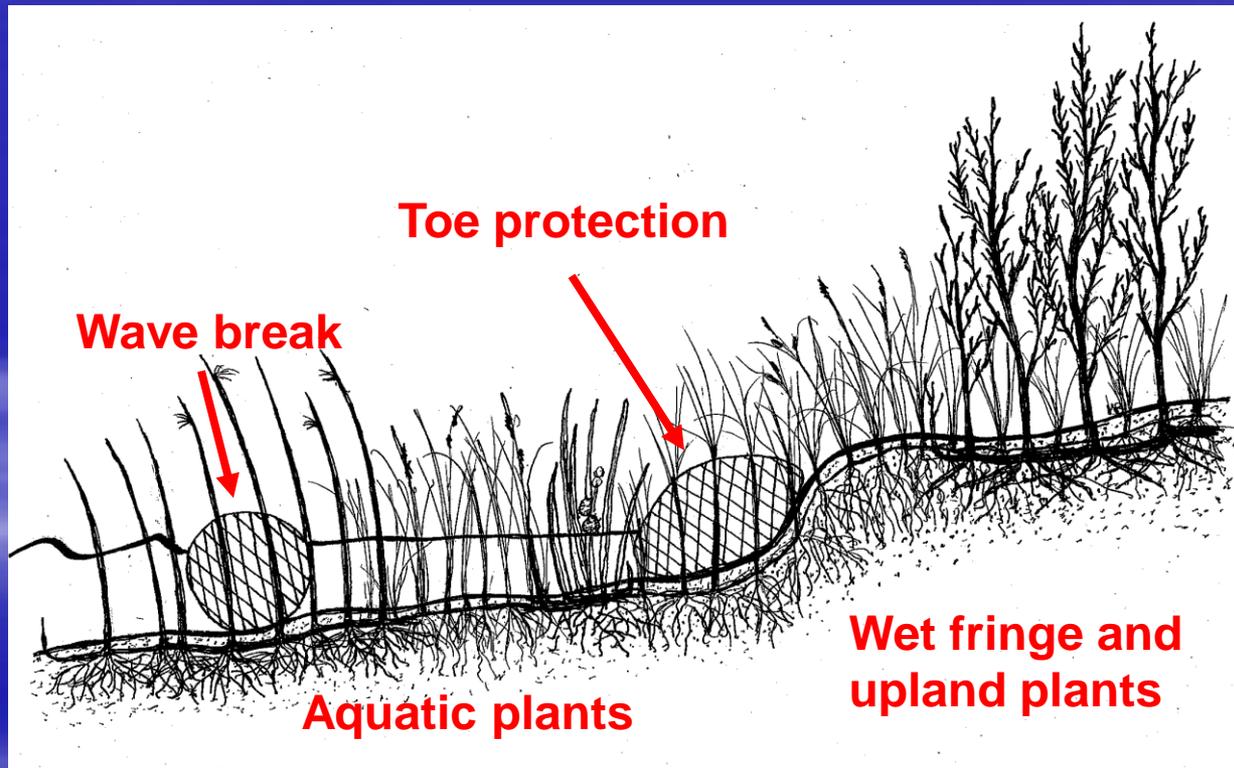
# Wisdom, discoveries, new directions

- **Site evaluation** – what indicators do we use to predict soft armor/bioengineering success? (U of MN research 2009-2012)



# Wisdom, discoveries, new directions

- Treat the shoreland “SYSTEM” – holistic approach to addressing shoreland restoration



# Wisdom, discoveries, new directions

- **Plant selection and sequencing – on erosive sites, plant rhizomatous species first; add showy, clump-formers later**



# Wisdom, discoveries, new directions

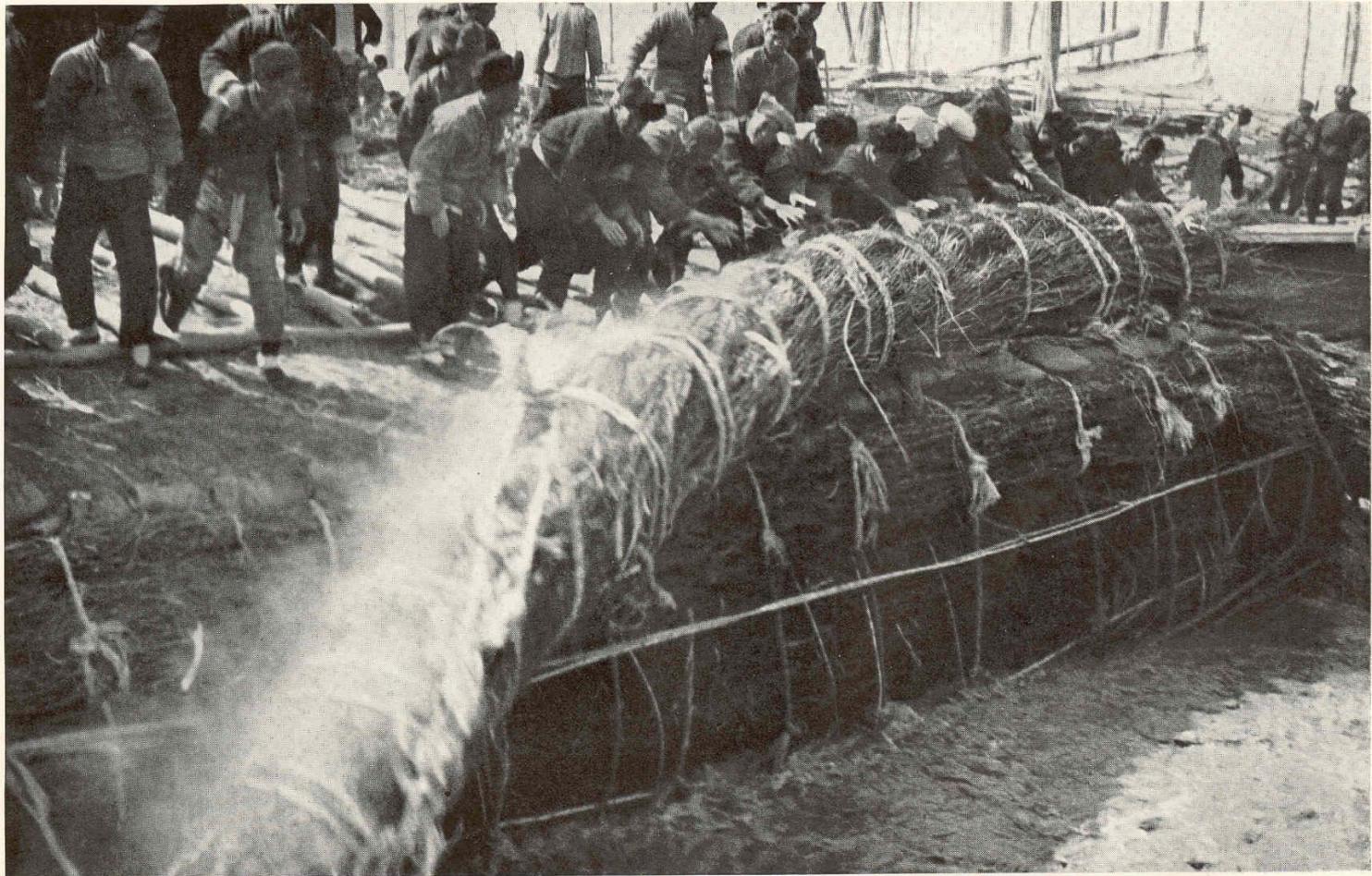
- **Bioengineering** – which bioengineering products and techniques will succeed?  
(U of MN research 2009-2012)

Collect  
sediment?



Coco log (toe protection)

Wrapped brush bundle  
(wave break)



**One Lusty Heave, and into the Dike Gap Plunges a 50-foot Stone "Sausage"**

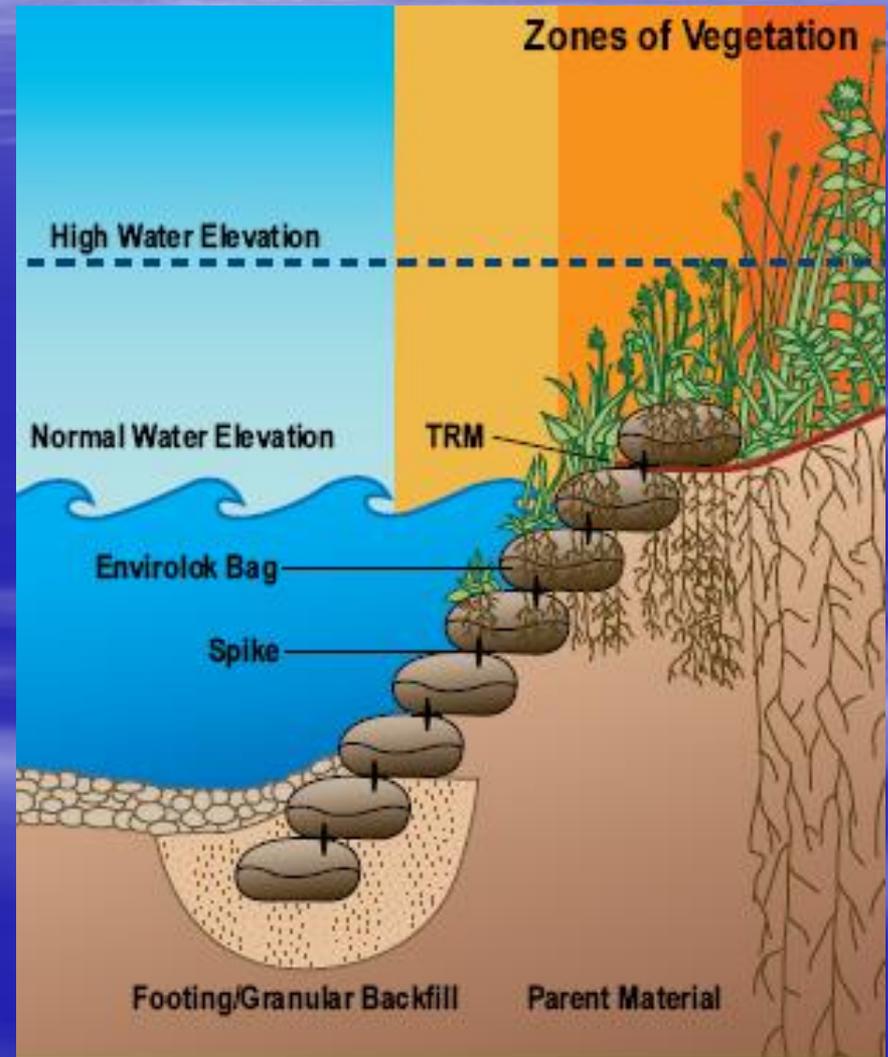
Chinese builders wrap willow sticks around a long series of "one-man-size" stones, and tie them firmly together with hemp rope. Many hands push the unwieldy roll up to, and then over, the embankment (page 223). Most Hwang Ho dikes are from 25 to 30 feet wide at the top.

Live fascine with rock, anyone?

# Vegetated geogrid



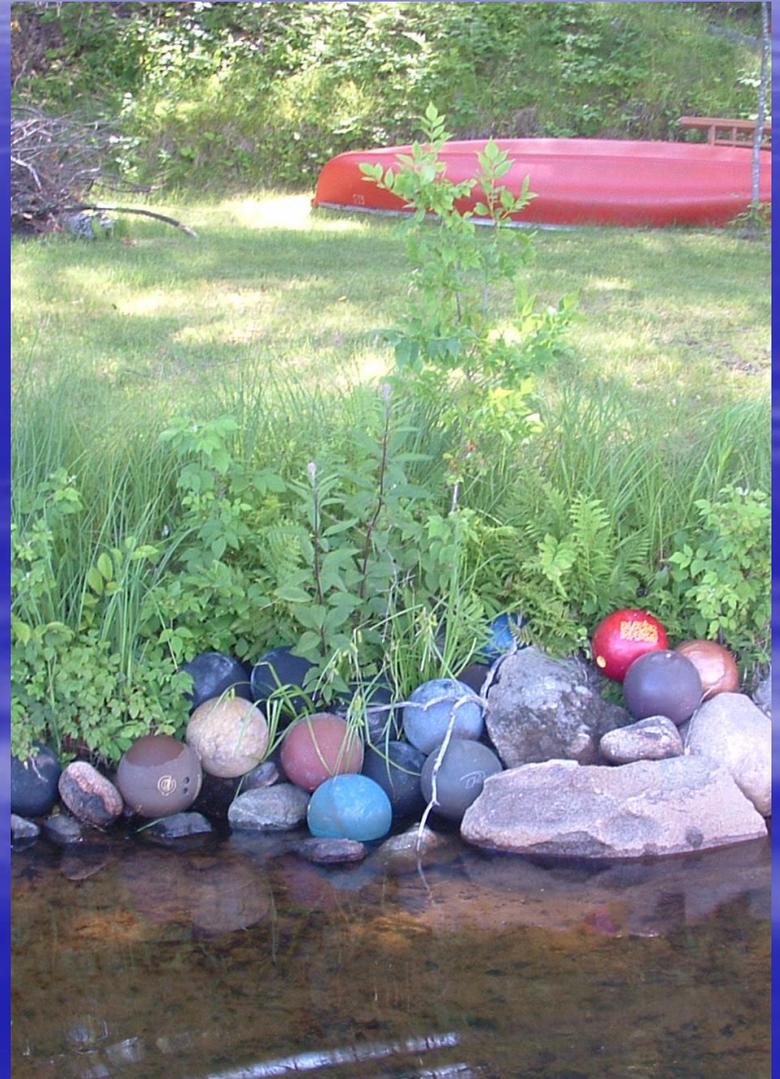
# Geotextile soil bags



# Vegetated rip rap



# Bowling ball rip rap?



# Wisdom, discoveries, new directions

- Every restoration is a research opportunity!
- Use multiple treatments on a site
- Gather pre- and post-data
- Make use of “citizen scientists”



# Wisdom, discoveries, new directions

- Social Marketing

“Just how well do you know your audience?”

- Natural Shoreland Buffer Incentives  
Research (Research 2009-2011)

- Knowledge, Attitudes and Practices (KAP)

# Property owner demographics\*

- 67% of the property owners are seasonal
- About 90% enjoy a) relaxing, b) non-motorized sports, c) fishing/hunting/trapping
- About 75% enjoy family events and motorized sports

\* results based upon 109 door-door and 103 mail-in survey responses of 319 total 10K property owners on 5 lakes in Itasca Co.

# Shoreland Knowledge

- 62 % or greater could identify common signs of a healthy lake (except 50% didn't know about ice ridges)
- 57% or greater could identify what might cause a lake to become unhealthy

# Shoreland Attitudes

Which of these three shorelines do they prefer?  
Why?

Lawn



5%

Replanted



20%

Other

5%

Natural



70%

# How many shoreland property owners enjoy lawn maintenance?

- 0-25%
- 26-50% **39%**
- 51-75%
- 76-100%

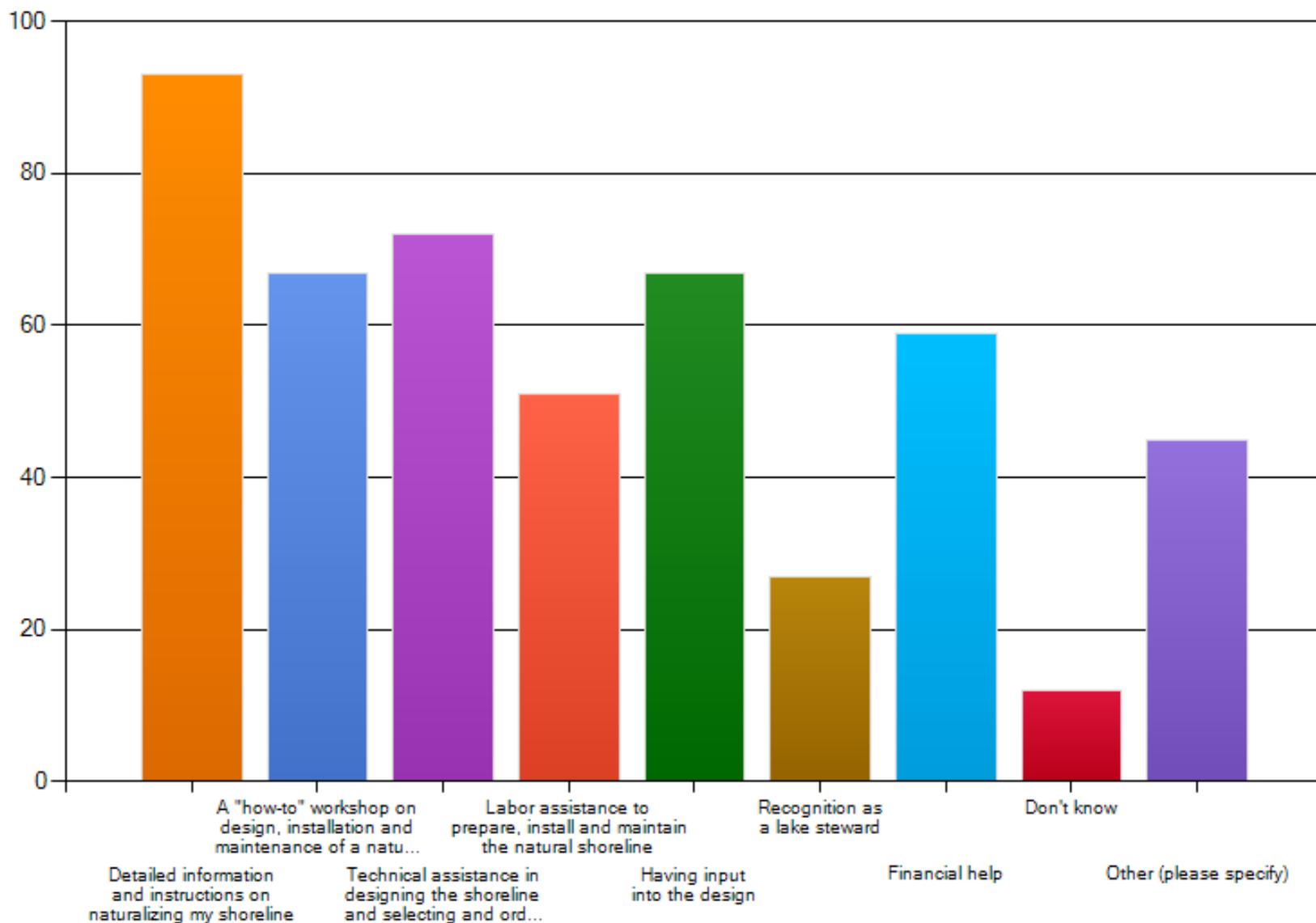
**82% of owners maintain their own lawn  
and 48% of those enjoy it**

# Shoreland Practices

On lakes with associations, how many property owners are members of the lake association?

- 0-25%
  - 26-50%
  - 51-75%
  - 76-100% **88%**
- 
- **56% of members attend lake association meetings (usually the annual meeting)**
  - **90% of members read the newsletter**

## Which of the following would help you to naturalize part of your shoreline?



# Customized approach to buffers?

- Use lake association as the “link”
- Peer-peer recruiting (train shore owners)
- Individual attention – site visit
- Train-the-(buffer) trainers
- “Buy-in” activities for the tough sell owners
- “Keep the momentum” activities for the easy sell owners
- Journal/scrap book to record stewardship legacy



**The ends!**