How We Abuse the Shoreline...and Why?

22nd Annual National Conference
Enhancing the States' Lake Management Programs
On the Edge: Enhancing Ecological Integrity of Shorelines

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We are drawn to the water
People have been enjoying and living on lakes for many years. This scene along Indiana’s Lake Tippecanoe is from 1909.
Recreation at lakes increased greatly after WW II

- Increased affluence
- Shorter work week
- National highway system
- Widespread auto ownership
Small, seasonal lakeshore cottages in the past had fairly benign impacts on lakes and shorelands.
Large, 'city mansions' are appearing on many of Indiana’s lakes

Geist Reservoir, Indianapolis
New construction on the lakeshore must be more sensible than this

Meserve Lake, IN
TOLL FREE 1(888)495-LAND

Available Waterfront Property Is Vanishing... Like A Sunset.

Claim Your Piece Of Nature. Call John Christianson

Wisconsin Lakes Partnership
in Indiana and other states - Cottages are being torn down...
...and replaced with dream houses
Is this good shoreline stewardship?

A $10 million re-development project on Lake Tippecanoe, Indiana
The slope at this re-developed property is too steep for the stone to stay in place.
Re-developed property on Lake Maxinkuckee...100% impervious surfaces
A common element in “modern” lakeshore development is a sterile shoreline with little ecological value or sustainability.

Little Chapman Lake, Kosciusko Co.
What 'ecological functions' are present on this shoreline?
By their actions, shoreland owners destroy the very features that attracted them to the lakeshore.
Habitat for people or habitat for Geese?
1940s development – Apr.-Oct. phosphorus/sediment runoff model

- maple-beech forest
- 6% slope to lake
- grass corridor 20'-wide
- cottage 700 ft² perimeter
- gravel drive 800 ft²
- 35'-wide buffer strip

Impact on lake (April - Oct.):
- 1,000 ft³ runoff to lake
- 0.03 lbs. phos. to lake
- 20 lbs. sediment to lake

Source: Wisconsin Dept. of Natural Resources

The Wisconsin Lakes Partnership
1990s development – Apr.-Oct. phosphorus/sediment runoff model

- maintained lawn, soil graded
- 6% slope to lake
- home 3,350 ft² perimeter
- paved drive 770 ft²

IMPACT ON LAKE (April - Oct.)
- 5,000 ft³ runoff to lake
- 0.20 lbs. phos. to lake
- 90 lbs. sediment to lake

Consequences

Source: Wisconsin Dept. of Natural Resources
Summary – Apr.-Oct. phosphorus/sediment runoff model

Impacts of Lake Development

- Water Runoff (cu.ft. x 100)
- Sediment (lbs.)
- Phosphorus (lbs. x 0.001)

Pollutant Loads

Source: Wisconsin Dept. of Natural Resources

The Wisconsin Lakes Partnership
Our shoreland reach extends out into the water

How many boats does one family need?
What is wrong with this picture?
With higher densities of people come higher densities of piers

Group pier for lakeside condos
Aquatic Toys

- Navigation hazards
- Shoreline impacts?
Un-permitted beach installation on Martin Lake, IN

Photo: Jeremy Price, IDNR
Homeowners love bulkhead seawalls

Poured cement seawall
Sheet piling seawall
Wood seawall
Why do people love seawalls?

1. Like the neat, clean appearance
2. Bulkheads are the default option
3. To match up with neighbor’s seawall
4. Snakes
Even when the shoreline is stable and vegetated...

Some shoreline owners will still install a bulkhead
And when aquatic plants somehow insist on growing, there’s always the weedwacker

Photo: Bob Robertson, IDNR
Shoreline Classification in Indiana

1. Significant wetland:
   a) >2,500 square feet of contiguous emergent vegetation or rooted vegetation with floating leaves; or
   b) adjacent wetland areas designated by a federal or state agency; or
   c) existence of animals or plants that are listed as extirpated, endangered, threatened, or rare

2. Natural shoreline: unaltered shoreline for >250 feet.

3. Area of special concern:
   a) >625 square feet of contiguous emergent vegetation or rooted vegetation with floating leaves;
   b) unaltered shoreline where bulkhead seawalls are >250 feet apart,
   c) bogs, fens, muck flats, sand flats, or marl beaches.

4. Developed area: none of the above
Current Permitting Problem

“Retaining walls” negate shoreline rules - A loophole big enough to drive a truck through.
Another retaining wall – soon to be a seawall

Photo: Jeremy Price, IDNR
New rule extends IDNR jurisdiction 10 feet inland beneath the legal lake shoreline.
Aesthetics

What feature of this lakeshore catches your eye?
‘We think of land as a civil liberty instead of as a social resource’ – Bob Korth
Dense trees remain for riparian stability

Sight lines maintained by trimming lower branches only

Lakeshore homes don’t have to ruin lakeshore aesthetics
Funneling aka Keyhole Dev.

- purchase and develop an ‘off-lake’ property
- purchase adjacent lake property to allow lake access
- extend riparian rights to entire parcel through one lake lot
- get huge group piers as a result
Even in a state with little zoning, there are those who think there is too much
Why the assault on shorelines?

- Ignorance about aquatic ecology
- “This is how we did it in town”
- Man over Nature Syndrome
- Selfishness – it is my property

Shoreland landscaping with purple loosestrife
Solutions?

• Education
• Continue to set good examples
• Economics
In the meantime, some people will continue to make poor choices