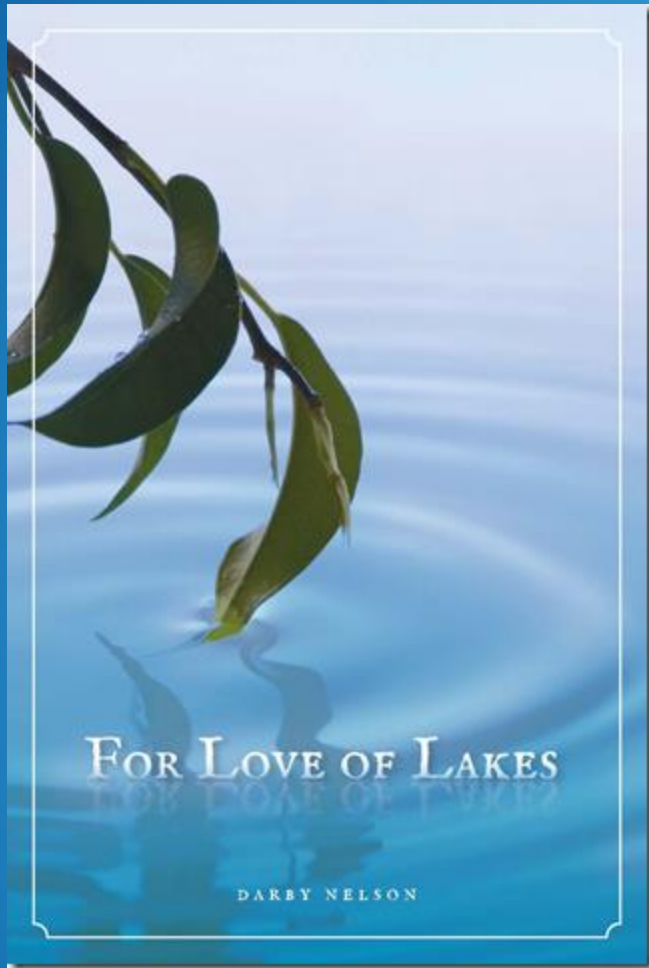


For Love of Lakes

by Darby Nelson



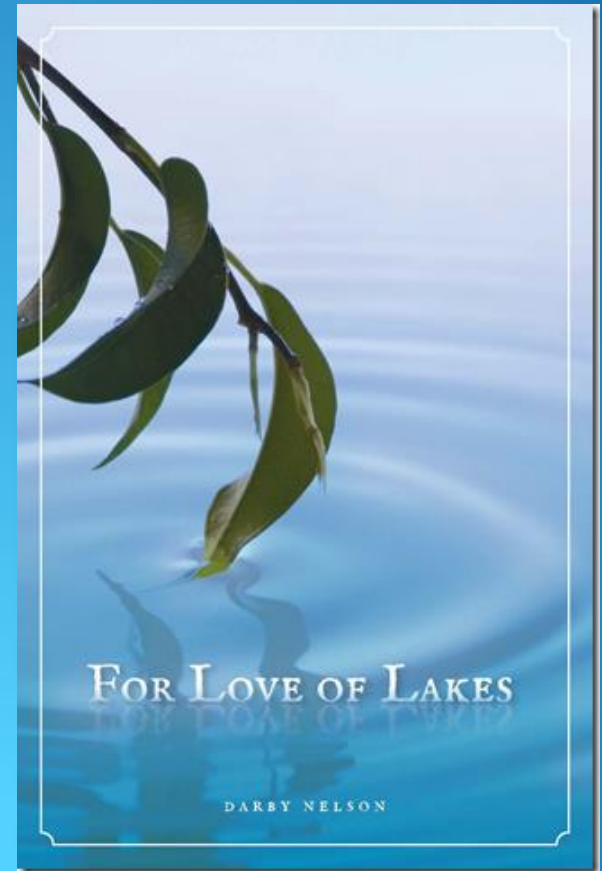
Finalist

What did I learn from writing the book?

- I'll ask you what you learned when I'm done.

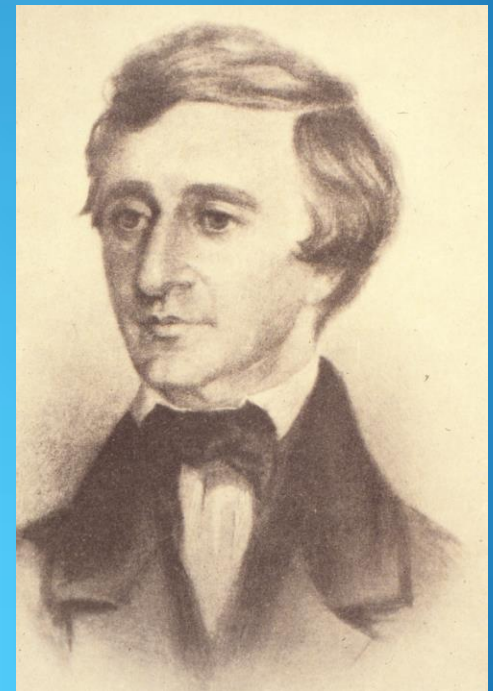
For Love of Lakes

Introduction



“A lake is the landscape’s most beautiful and expressive feature. It is earth’s eye; looking into which the beholder measures the depth of his own nature.”

Henry David Thoreau



Our Relationship with Lakes is Puzzling

We love our lakes yet we not only allow but participate in their deterioration.



EPA did a National Lake Survey of over 1000 lakes.

43 % of surveyed lakes &
80 % of urban lakes don't meet water quality standards.



Most Significant Stressors:

- Poor habitat conditions along lake shores
- Lack of physical habitat complexity
- High levels of phosphorus & nitrogen
- And more, including Aquatic Invasive Species.

National Lake Survey 5 year follow up

Key findings:

- Shorelines and shallow waters suffer the most stress.
- Inadequate shore habitat was the most widespread stressor.
- Using the habitat measure, 40% of Minnesota and Michigan lakes rank in poorer condition than the national average.

Several factors appear responsible for the paradoxical behavior and the state of our lakes.

Let's look at eight.

1. Lack of Knowledge

- Most people know little about the dynamic biotic and abiotic factors that create the inter-connected, inter-dependent entity that is a lake.
- Example: Chara

Chara: a green alga

- Crusty alga the size of a wild blueberry bush
- Meadows provide hiding places for minnows, young game fish, and daphnians
- Keep waves from riling bottom muds and releasing phosphorous
- Help keep lake water clear



Chara raked off lake bottom



Conclusion:

- People often unknowingly engage in behaviors that produce unintended negative consequences.
- Increasing aquatic education is an important tool.
- But, can education alone get the job done?

2. Inadequate perception of lake

The contrast between our perception of aquatic and terrestrial systems is stark.



We are visual creatures.

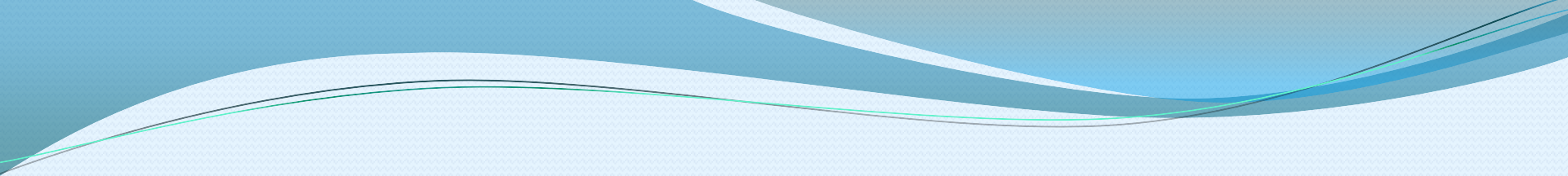
- If we can't see it, can we believe it even exists?



It is as if a lake were a metaphorical theater. I have often taken my seat at this theater, on a log at the shore or in a canoe on a lake surface. But for me, as a creature of the land, the curtain never truly goes up. It remains closed but for a snippet of monologue here, a moment of repartee among a few members of the cast there, that whispers out through tiny scattered rents in the curtain. The rest of the time I can but wonder about the truths in the watery depths, wonder about life behind the curtain's veil.

We cannot swim with the whitefish skin by scale. We cannot accompany lake herring in the heat of summer as they face lethal warm water above and oxygenless water below, where life's choices become death by asphyxiation or heat stroke.

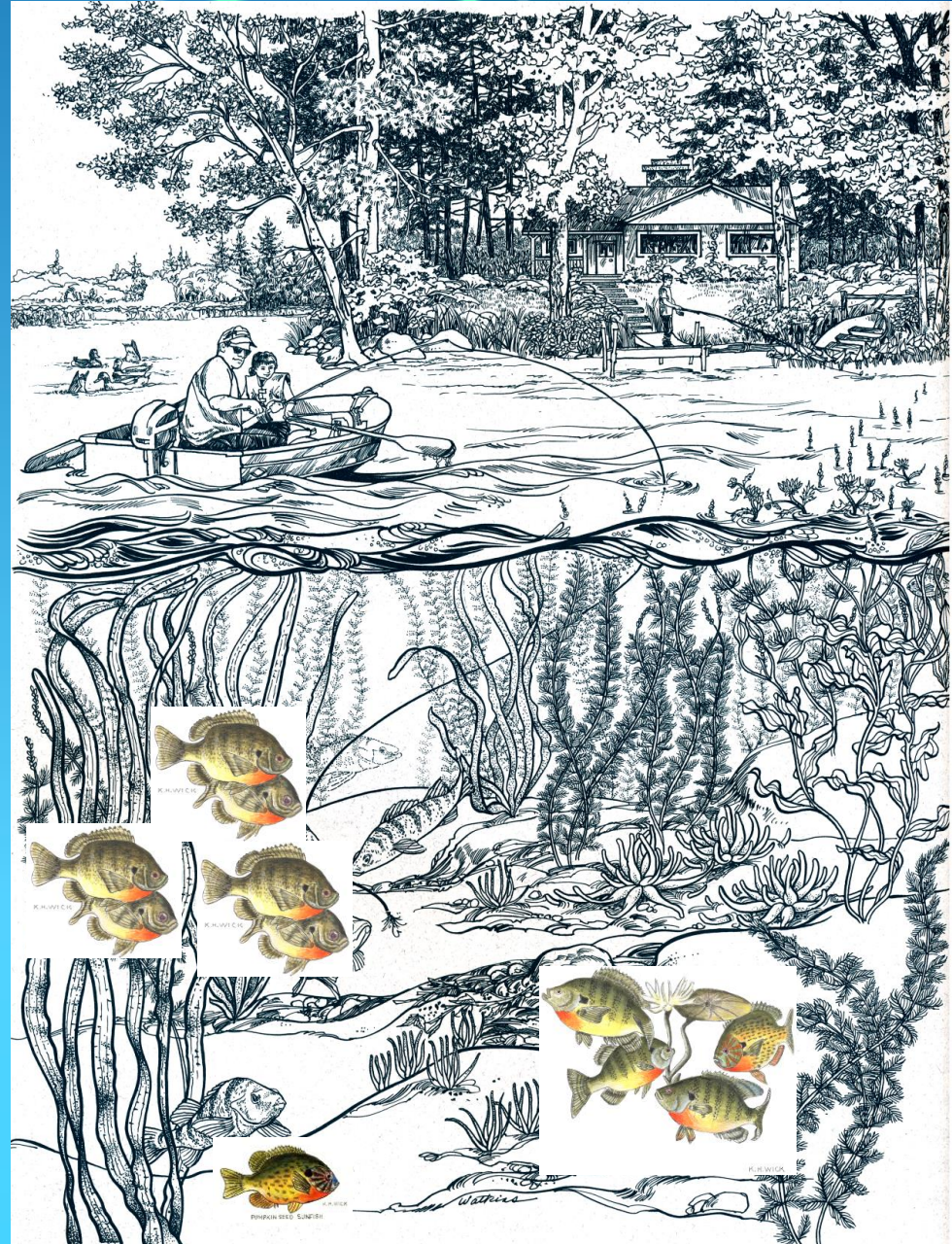


- 
- Perception determines behavior.
 - Inadequate or incomplete perceptions can produce undesirable behaviors.

What's wrong with this picture?



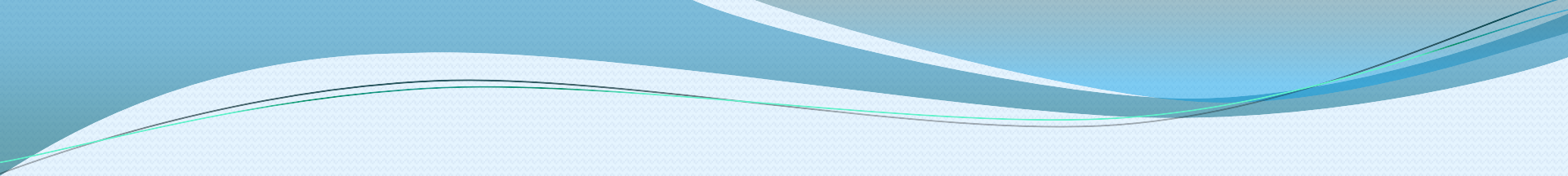
Discovering Eden



The vegetated zone of the lake is more than a place to delight the senses. It is a sacred garden. Loss of the garden plucks the pulsing green heart from the lake.

For Love of Lakes





3. Innate habits of mind can block reason.

Conflict between reason & emotion:

The mind is a charioteer driving twin horses of reason and emotion—except cognition is a smart pony, and emotion is an elephant.



Public Health Study

- Showed that an emotional video on hand washing was six times more effective at changing behavior than information pamphlets



Emotion typically trumps reason

- To break unhealthy habits, we need to target the emotions, because they are the decision makers. Where the heart leads, the habits will follow.
- The challenges facing the public health community strongly parallel challenges facing lake leaders.

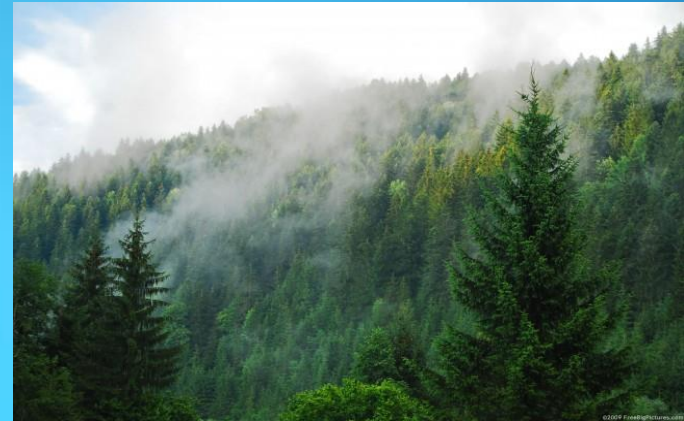


4. Different cultures have different cognitive wiring patterns.

What do you see?

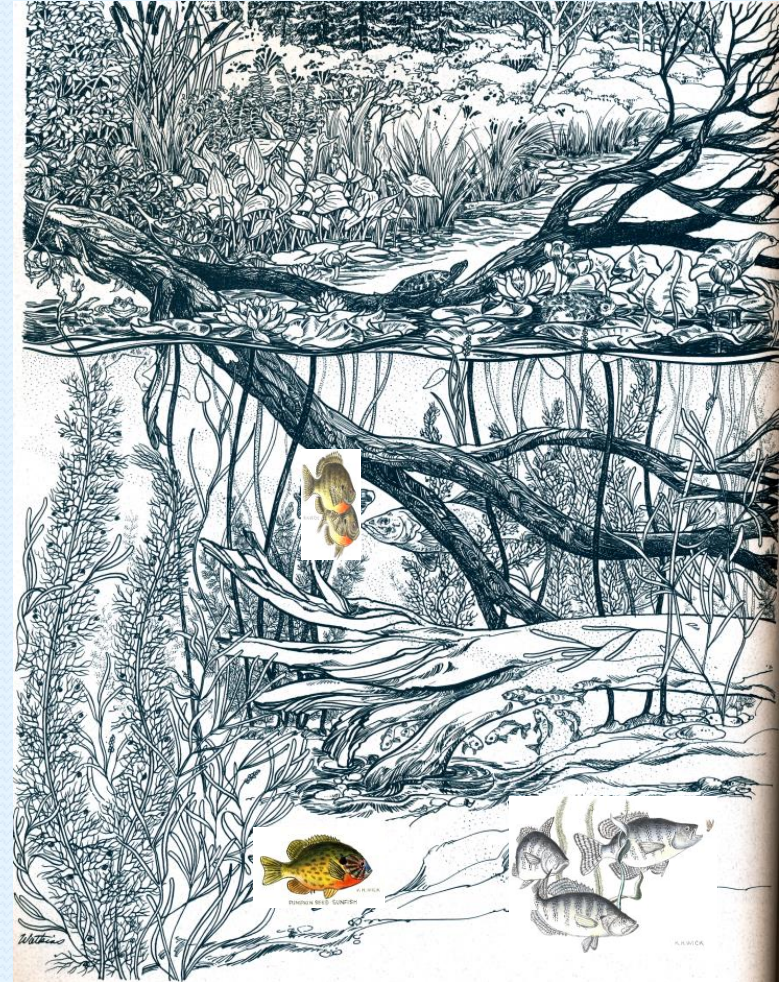


5. Scientific and Natural Areas Story



Where are the lakes???

6. We see what we want to see.



Experience of an aquatic scientist:

“Denial of firmly established science?

That’s quite common.

People just don’t accept what they don’t like.”

7. Preference for a Savanna Landscape

- Regardless of cultures world-wide, humans are powerfully drawn to a landscape of short grass, scattered trees and shrubs, set among gently rolling hills *by standing water*. In a word: Savanna.



- We denude our lakeshore properties of their original trees and shrub cover to be replaced with lawn grass.



Consequences of mowed lawns compared to natural vegetation at the shore:

- 7-9 times more phosphorus enters the lake
- 18 times as much sediment enters the lake





Natural Shorelines:

- Resist erosion
- Dampen wave impacts
- Reduce phosphorous entering the lake
- Reduce sediment loading into lake
- Provide important habitat for fish
- Provide basking sites for turtles
- Reduce bird predation on fish
- Enhance dragonfly presence



An Unbuffered, Developed Shoreline:

- Increases erosion
- Increases phosphorus entering the lake
- Increases sediment entering the lake
- Reduces fish habitat
- Reduces basking sites for turtles
- Increases bird predation on fish
- Reduces dragonfly presence

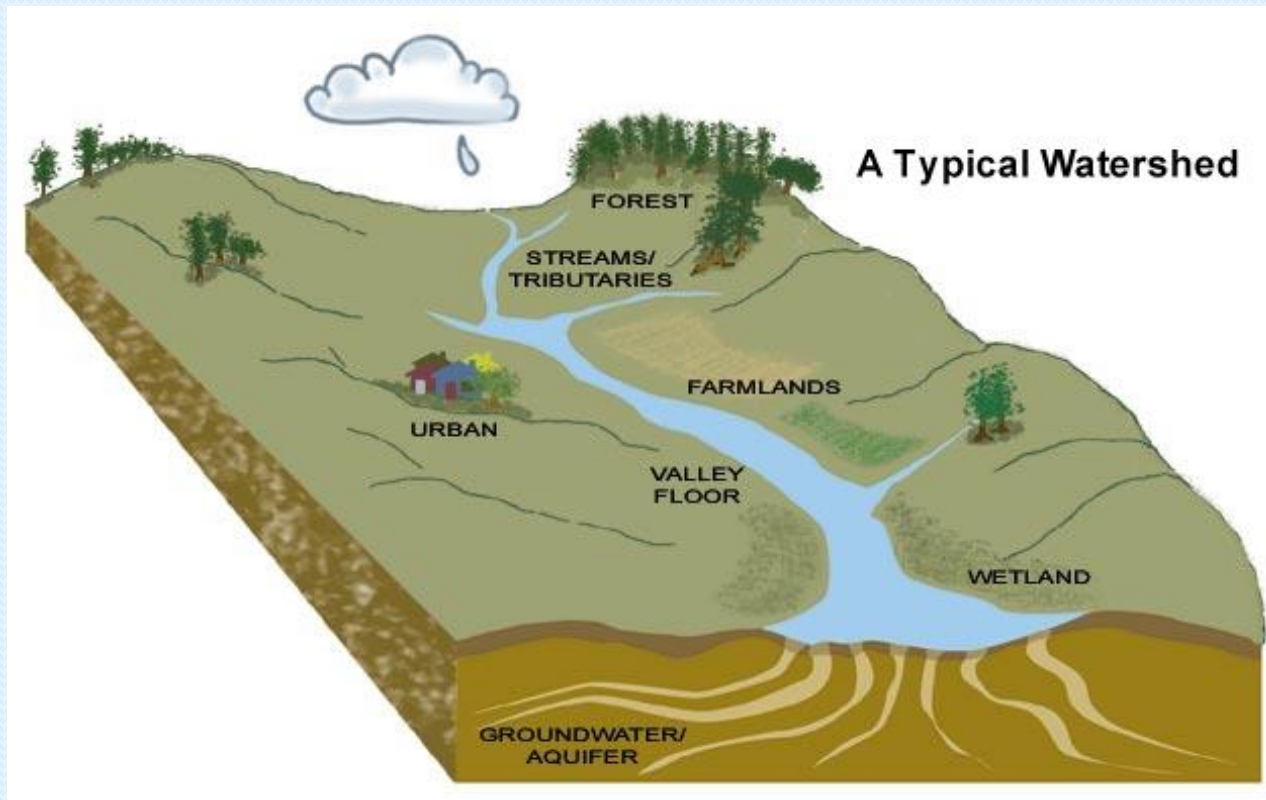




What plant has caused the
greatest trouble for our lakes?

Kentucky Blue Grass
(Lawn Grass)

8. Few citizens understand watersheds & their link to lake health





What did you learn from the book?

Lead Quotes

Frontspiece

- Landscape is our unwitting biography, reflecting our tastes, our values, our aspirations, even our fears. If we want to understand ourselves, we would do well to take a searching look at landscapes.

—Pierce Lewis

Introduction

- We are a landscape of all we have seen.

—Isamu Naguchi

Landscapes

Lake Magic

- What we call landscape is a stretch of earth overlaid with memory, expectation, and thought. . . . Landscape is what we allow in through the doors of perception.

—Scott Russell Sanders

Limnos I—Walden Pond, Massachusetts

- A lake is the landscape's most beautiful and expressive feature. It is earth's eye; looking into which the beholder measures the depth of his own nature.

—Henry David Thoreau, 1854

On Seeing

- The eyes may trick us into a sense of mastery, but the ears know better. Sight insists on separation; hearing, like touch or taste or smell insist on connection.

—Scott Russell Sanders

Hastening Slowly

- What is it that we are not seeing?
What is it that we are not hearing?

—Terry Tempest Williams

Lakescapes

Edges

- A man sees only what concerns him. . . . How much more, then, it requires different intentions of the eye and mind to attend to different departments of knowledge. How differently the poet and the naturalist look at objects.

—Henry David Thoreau

Mindscales

Blue-Green Nemesis

- Everything has indirect effects and interconnected functions, so if you alter one process, you are bound to disturb a thousand other processes you did not even know existed.

—Nancy Langston

Thinking Like a Tullibee

- Meaning is there to be discovered in the landscape if only we know how to attend to it. Every feature, then, is a potential clue, a key to meaning rather than a vehicle for carrying it.

—Tim Ingold

Riding the West Wind

- It is easy to long for the clarity of the early days of the modern environmental movement when the problems could be seen and smelled and the villains were obvious.

—James Speth

Futurescapes

The Future in a Raindrop

- All we do leaves a mark by which others, now and later, may understand and judge us. In this respect our art and our lakes are alternative mirrors to our society.

—Brian Moss

Lake of Dreams

- Is it because we see things not as they are, but as we are?

—Anaïs Nin

Lakescapes of the Mind

- There are innumerable avenues to a perception of truth. . . . It is not in vain that the mind turns aside this way or that: follow its leading; apply it whither it inclines. Probe the universe in a myriad points.

—Henry David Thoreau

Darkhouse

- Our perceptions of nature and how it works often tell us less about what is actually out there in the landscape and more about the types of mental topography, biases and projections that we carry about with us in our heads.

—Duncan Taylor

The Upshot

As lake advocates,

- Can we beat the paradox with aquatic education alone?
- Must we acknowledge that to successfully elevate stewardship and reach positive outcomes, we need to recognize and confront core elements of human nature?
- Ought we to acknowledge that to change behavior at the lake and watershed, we need to factor in our human tendencies?

How can we engage people emotionally?

- Let your passion and enthusiasm show.
- Build enlightened peer groups to be visible examples. (We humans are copycats at heart.)
- Get folks thinking about the lake legacy they are leaving their grandkids.
- Get people to experience the magic of the underwater lakescape. (think snorkeling)
- Use creative non-fiction writing as a way to connect people emotionally.
- Other ideas?

Good News Stories



Leaf Bags

- 5 leaf bags contain 1 pound of phosphorus
- 1 pound of phosphorus stimulates growth of 500-1000 pounds of algae



Day Brightener

- 20,000+ Girl Scouts removed leaves from storm grates, preventing thousands of pounds of algae from degrading lakes and streams.



Lake Volney: a good news story



Wisconsin model

Partnership between

- WI Lake Associations
- University Extension
- DNR

Creates the Wisconsin
Lakes Partnership



Partnering for Lakes

Protecting Wisconsin's Waters

Lake Leader Training

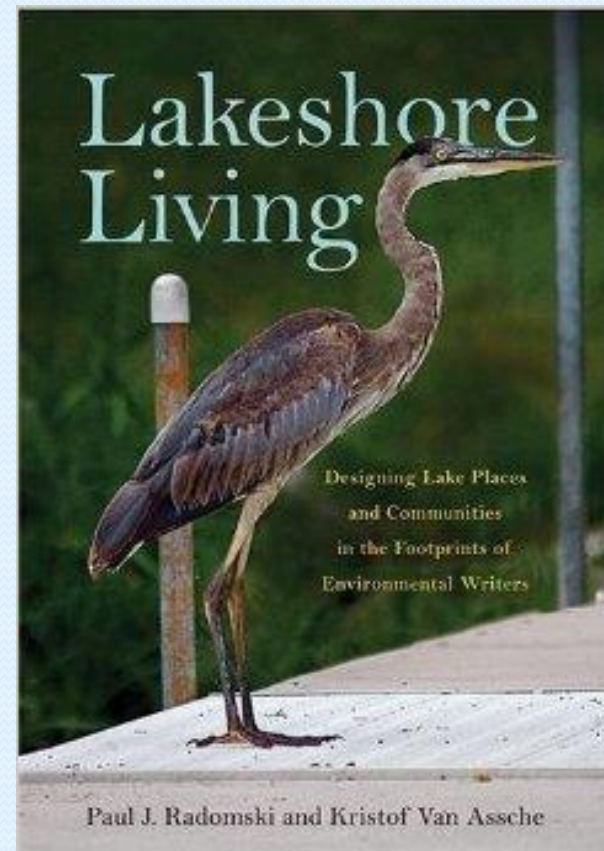
- Wisconsin
 - 3 Retreats
 - 28 Leaders trained every 2 years
- Indiana Watershed Leadership Academy

“Strengthening the capacity of local leaders for successful watershed management.”



Lakeshore Living

- New book by Paul Radomski & Kristof Van Assche
- The book stimulates one's thinking.



Chapter Titles

Part I

1. Lake Parts
2. Lake Ecology

Part II

3. Aldo Leopold & living in harmony with the land
4. Sigurd Olson and protecting wilderness
5. William Whyte and human habitat

Part III

6. Asset Preservation
7. Asset Creation
8. Connecting People and Things

Part IV

9. Culture and Governance
10. System Changing
Rethinking Invasive Species Management
11. Our Lake, our Responsibility

Quotes from Lakeshore Living: Rethinking Invasive Species Management

- “A considerable amount of energy and resources is now dedicated to invasive species management in our lakes.”
- “However, the benefits of this effort have not been thoroughly questioned.”
- “Resources now dedicated for mitigation of short-term negative consequences of species migration could be redirected to efforts ensuring effective long-term lakeshore management practices...”
- “To many, it appears that the current management approach for exotic or invasive organisms is unsustainable or ineffective.”

A loon calls a single note from mid lake, a coda in the song of the garden, a sign my adventures have ended for the year. Loons will soon flock up and fly south. Thoreau played a game with the loons of Walden Pond, guessing where they would pop to the surface next. He always lost. Thoreau attributed metaphorical powers to loons. Because they could penetrate the surface and dive deeply, they could get closer to the hard bottom of truth than humans. “Seek truth?” asks the loon. “Come beneath the water and find it.”



For Love of Lakes

From the final chapter: Darkhouse





Eutrophication



Pollution

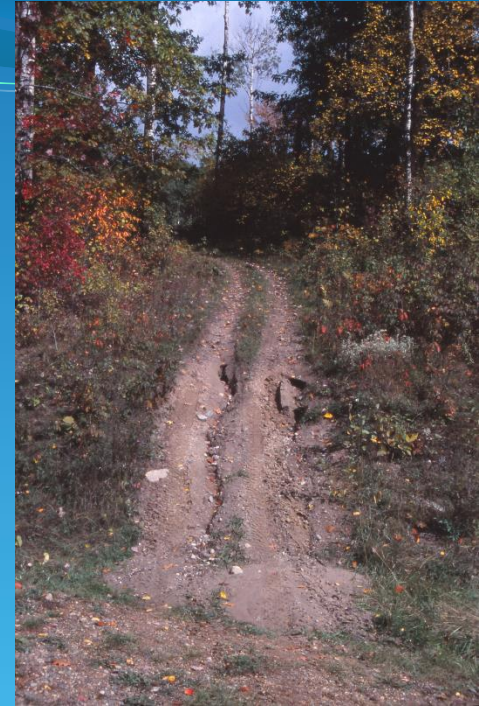


Removal of shore vegetation



Invasive Species

Erosion



Removal of native aquatic plants



Final Notes:

Website: www.darbynelson.com

Check out Darby's blog on lake issues

Contact me with comments & questions

Books available for \$25

Royalties to Conservation Minnesota