



LAKE TIDES

Autumn 1987
Vol. 12, No. 4

Community Focus: Bear Lake District

by Richard Lemanski

Bear Lake is a 315-acre gem in Oneida County, with 4.2 miles of shoreline and 102 residences, most of which are seasonal. The lake lies within the boundaries of two townships, Minocqua and Hazelhurst, with most of the district falling within the Town of Minocqua. The lake holds panfish, bass, northern, and walleye, but no muskie. Bald eagles are a common sight, and this winter two osprey nesting platforms were erected in an attempt to entice these beautiful birds to take up residence. When the district was formed ten years ago, the major concerns were water quality assessment and preservation, and protection from real estate exploitation. Since then, lake use, weed control, and fishing quality have become issues to be confronted.

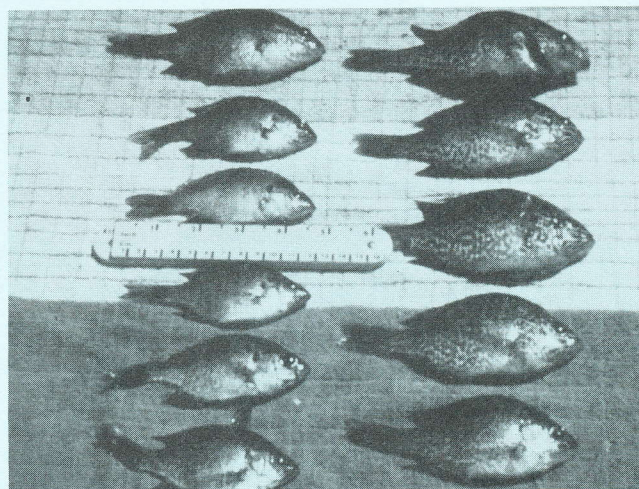
At present, the district is involved in two progressive and experimental projects, one environmental and one recreational. The environmental project is an attempt to address the problem of septic system maintenance. The water quality assessment performed as soon as the district was organized indicated that the water in Bear Lake was in excellent condition, and the residents expressed a commitment to keep it that way. The problem was to develop a management plan to prevent water quality degradation. Knowing that the primary threat would come from septic system leachate, the district searched for a way to determine what threat existed. Using a device called a Septic Snooper, it was determined that very little, if any, septic leachate was finding its way into Bear Lake.

The district wanted to devise a plan to keep it that way. The result was a program of education, awareness, and incentive. A survey was sent to all property owners to determine the age, condition, use, and maintenance of existing septic systems; seventy-five percent responded! A mailing was then prepared that presented the results of the survey, suggestions for trouble-free septic maintenance, and an offer from the district for a \$25 cost-sharing each time a septic system is serviced. Only in place since August 1986, almost 10% of Bear Lake District members have already taken advantage of the program. We hope the plan will provide for property owner awareness, incentive to keep septic systems in order, and permanent records for the district on septic maintenance to be shared with new property owners.

Bear Lake District's second project involves the fishery. In the last several years, property owners have lamented the fact that walleye fishing was becoming non-existent, and bluegills were stunted beyond the point of being desirable. At a complete loss for a practical management plan, the district turned to Steve McComas and Applied Research and Technology for advice. It was determined that the balance between panfish and predators had to be regained and maintained. In addition to spawning habitat improvement and increased walleye planting, it was decided to attempt to reduce the excessive number of panfish through trapping. With the assistance and guidance of AR&T, the permission and cooperation of the Department of Natural Resources, and volunteer manpower from the District, the panfish removal program is in its third year.

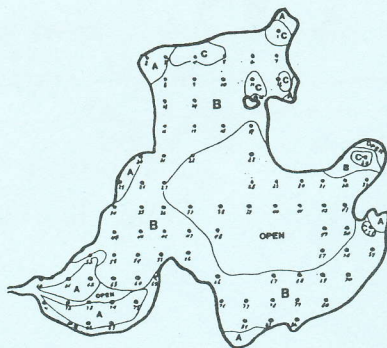
Fyke nets are used during the two-week period of roughly the second and third weeks of June to capture the stunted sunfish as they move in to spawn. 85,800 stunted fish were removed in 1985 through 1987, or 6704 pounds!

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A representative sample of bluegills (left) and sunfish (right) shows stunting.

Bear Lake District continued



Accurate records are being kept in an attempt to measure the impact, if any, on overall sunfish size in the lake. All fish caught are recorded, and all fish removed are counted, sorted, and weighed. In addition, a substantial sample are measured and weighed individually.

In addition to the benefit to Bear Lake, the pioneer program will provide accurate and valuable data that could predict the success potential for such management programs on other lakes under similar circumstances.

By being active in carrying out a progressive management plan, the Bear Lake District is a dynamic force in keeping Bear Lake a great place to be!

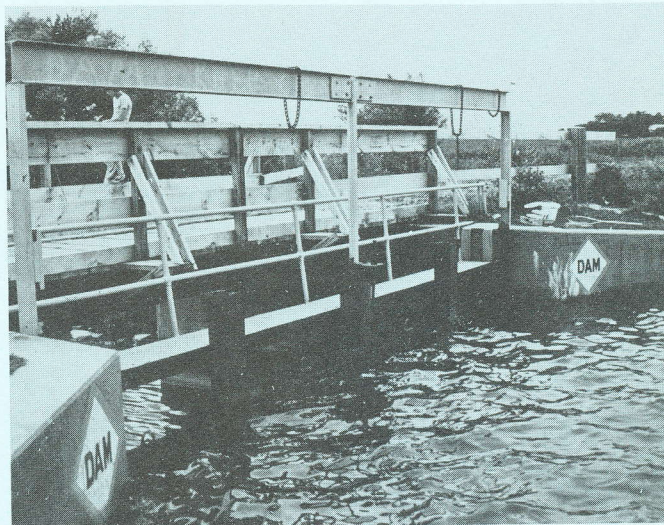
Richard Lemanski is treasurer of Bear Lake District.



Bear Lake members are counting and sorting a sample of stunted fish so that accurate records can be kept.

Share the Tides

If you know of neighbors who would like to receive *Lake Tides*, please send us their name, address, lake, and county.



Dam Safety Inspections

Dams have created or raised the water level of many of Wisconsin's lakes. Ownership of these dams includes power companies, private parties, and local government units such as lake districts. To insure public safety, the DNR has been given the responsibility of regular inspections.

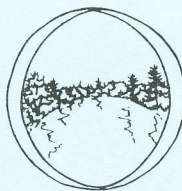
Administrative Rule NR 335 in 1984 created the program in which all dams more than six feet high or holding back more than 50 acre-feet of water would require mandatory 10-year inspections. Inspection fees, which must be paid by the owners, have typically ranged between \$150 and \$2500. Prior to May 1987, payment of this fee was required within 30 days of receiving the dam inspector's report. The payment schedule was recently changed to allow owners to spread the cost over ten years through annual installments.

Assembly Bill 279, recently introduced in the State Legislature, would eliminate these dam inspection fees for owners. The bill would instead provide funding for the inspection program from Wisconsin general tax revenue. Interested organizations and individuals should contact their elected officials to express opinions or participate in hearings related to AB 279.

Richard Knitter of the DNR Dam Safety Unit noted the findings for 52 dams inspected in 1986. Only 12% needed no repair.

Type of Repair	Percentage of Dams
Reconstruction or major repairs	23%
Specific, emergency repairs	10%
Tree removal and maintenance	55%
No repairs	12%

Mr. Knitter invites interested parties to attend DNR's dam safety seminars held throughout the state. For more information, call 608/266-1925 or write DNR Dam Safety, Box 7921, Madison WI 53707.



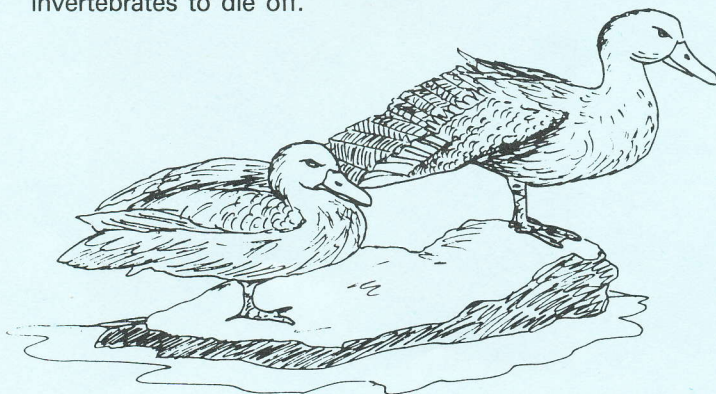
Black Duck Population Decline

by Terry Daulton

Since the mid 1950s there has been a dramatic decrease in black duck populations throughout their range. While this has led to much speculation and some research, no clearcut causes have been established. Some researchers suspect loss of habitat, competition from mallards, or the ingestion of lead shot as the cause of decline. Still others suggest that black duck interbreeding with mallards has swamped the gene pool with hybridized ducks. A recent article in *Audubon* suggested another alternative. The article, by Jon Luoma, cites a recent Izaak Walton League report suggesting that the nearly 60% decrease in black ducks since 1955 might be attributable to acid deposition.

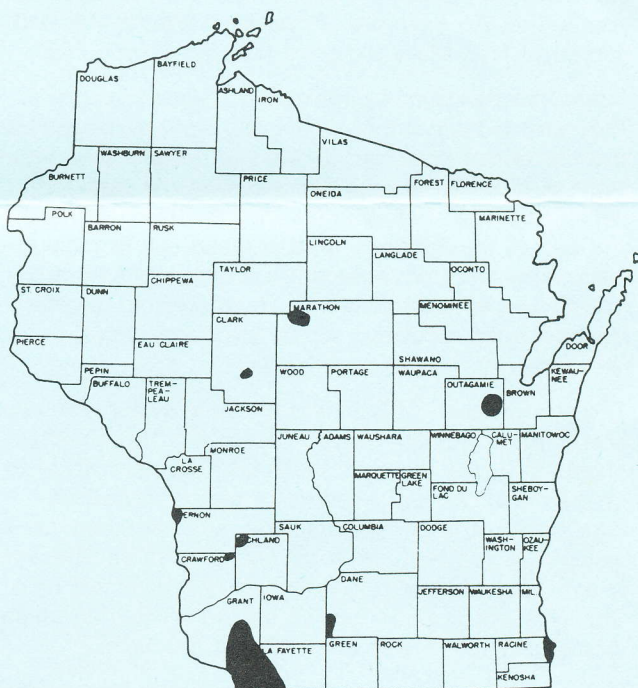
Documentation of lower reproductive success in ducks nesting on moderately acidified lakes was recorded in Ontario. In Quebec, scientists noted increased competition between fish and ducklings for forage on moderately acidified waters. One US Fish and Wildlife Service study at Patuxent Wildlife Research Center in Maryland was particularly dramatic. Nine broods consisting of a female black duck and four ducklings were placed on small, artificially-acidified wetlands. Nine other similar broods were placed on controlled, non-acid waters. Fifty percent of the ducklings on the acidified waters died compared to 14 percent on the neutral waters. This difference was attributed to the lack of high-protein forage in acidified waters at a critical time in duckling development.

Some research points to a lack of invertebrates in acidified waters as a cause of this protein deficit. When female ducks are laying eggs, they need high-protein forage. Ducklings, too, require a high-protein diet in order to survive and develop properly. Invertebrates such as mayflies and caddis flies, along with mollusks and gastropods, are all important sources of protein. Unfortunately, these aquatic insects are also particularly vulnerable to acidification. When snow melts in the spring, acid waters rush into lakes, pot-holes, and streams. This sudden rush of acid causes invertebrates to die off.



While direct links between acidification and black duck declines have not been confirmed, these studies suggest that acid deposition could be a factor. Other possible causes such as over-hunting, competition, pollution, or habitat loss should be investigated along with links to acidification. It may be that a combination of factors is contributing to the population change. If acid deposition is indeed a cause or factor in the black duck decline, the safety of other waterfowl species may also be threatened.

Terry Daulton is a graduate student in the College of Natural Resources, University of Wisconsin Stevens Point.



Wees-kon-san* is blessed with tremendous water resources — not the least of which is its lakes. This map of Wisconsin shows that, except in the shaded areas, you will never be more than 15 miles from an inland lake 15 acres or larger. Wisconsin really is "a gathering of the waters."

(*Ojibwa for "a gathering of the waters")



The Planning Process: Where to Get Involved

by Scott Olson

Many lake organizations feel that they have little impact on the policies of state agencies. Indeed, lake organizations have their greatest impacts locally. But organized lake groups can also increase their impact on decision making — both regionally and in Madison — through greater involvement and better local planning.

There are typically three important levels of public planning and decision making occurring in Wisconsin.

The first level is strategic planning. Agencies must determine their "strategic" outlook toward the 10 to 20 year future. An example of one such plan is the DNR Bureau of Fish Management's *Fish Wisconsin 2000*.

Agencies often start by reviewing their stated goals. They also look at the available and potential resources and the trends occurring in the way people feel about and use those resources. Emphasizing the new long-term goals, the strategic plan directs the coordination and use of the agency's limited resources to maximize the achievement of these goals. Thus, strategic planning serves as a guideline for more specific, shorter-term decisions occurring at the state level, and, more frequently, at the regional level.

The second level of planning for state water resources occurs on a regional basis. Policies and programs emphasized by the strategic plans can be customized to fit the resources and needs of a region. Increased knowledge of these areas allows regional personnel to respond to regional and local concerns more effectively and efficiently with information and technical help. Deciding which water bodies should receive an agency's or program's efforts is done at this level.

Planning and decision making is probably best understood at the third or local level. Often lake associations and districts are formed to allow strong participation at this level and to internalize much of the decision making. However, this decision making should be based on local plans that look ahead at least five years. A well-written plan is just as important at this level as at the other levels, as the following key points show:

Benefits of Developing Local Plans

- Organizations and agencies are realizing that involving many interest groups (e.g. lake users) in the planning process and in vital decisions makes achieving goals easier, because more people have an interest, or ownership, in seeing the goals succeed; and so, more people volunteer, are willing to pay, etc.
- Writing down decisions in the form of a plan helps prevent "reinventing the wheel;" decisions can be reconsidered, of course, but basic information and reasoning are preserved as a starting point.
- A written plan is an easy way to effectively inform new residents or new interest groups about the hows and whys of actions that may affect their pocketbook or their lake use.
- A written plan implies a well thought out operation, one that grant-making agencies and other decision makers will feel more confident to invest in and work with. The probability of influencing state and regional decision makers is also enhanced regarding permits or general agency policies.

WFL Names New Legislative Liaison

The Wisconsin Federation of Lakes has named Susan McComb as its new legislative liaison. Ms. McComb's role is to inform the Federation of proposed, pending, and enacted legislation; to represent the Federation's interests in legislative matters; and to maintain liaison with key legislators and staff.

McComb hails from Madison where she is administrative secretary of a religious education program. Besides being a volunteer for the Wisconsin Historical Society, Susan has been active in various environmental groups and is a member of the Post Lake Improvement Association.



Susan McComb



Capitol Report:

by Paul Heinen

As fall approaches in Madison, it signals the beginning of another Legislative Floorperiod starting October 6 and ending October 30. Since the budget has been signed and partially vetoed, there will also be a Veto Override Session September 29, 30, and October 1.

So, let me bring you up-to-date on what is in the budget and what are the key legislative issues of interest to you.

Budget Highlights:

1. **Non-point Program Changes.** The DNR and Department of Agriculture, Trade, and Consumer Protection (DATCP) will administer the program jointly, with DNR as the designated state agency for the federal non-point program. Three DNR positions were transferred to DATCP to support greater DATCP involvement. The program should be more efficient as DNR and DATCP will develop a single grant application, reporting system, and evaluation process for the non-point and soil and water resource management programs.
2. **Beaver Damage Control.** An additional \$100,000/year was added to the current Beaver Damage Control program to establish control areas and provide counties with grants to subsidize beaver removal. In northern Wisconsin, the large numbers of beaver have caused serious flooding and tree damage in and around lakes.
3. **Aquatic Nuisance Control.** An additional \$14,000/year was added to reflect the increased DNR activity in supervising aquatic nuisance control programs statewide.
4. **Toxic Materials Management.** \$715,000 and 5 new positions were added to increase the DNR's capabilities for identifying and dealing with toxics. Of particular interest is the money to set up and staff a biomonitoring/bioassay laboratory for on-site testing for toxics.
5. **Yahara Watershed Management District.** There was a section of the budget that created a Yahara watershed management district to protect and rehabilitate water quality within the Yahara watershed in Dane County. The provisions provided the district with authority to levy taxes, collect special assessments and fees, regulate land use and surface water regulation and safety, receive grants, issue bonds, and other special district powers.

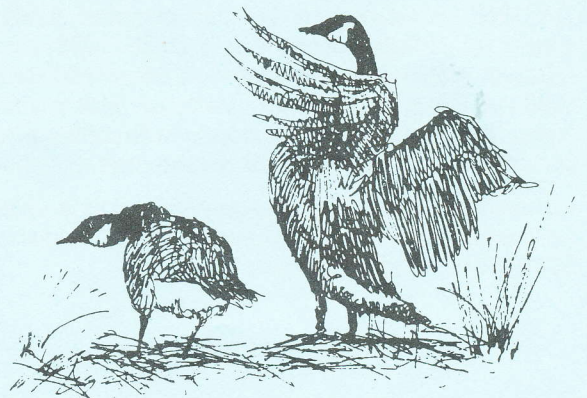
The Governor vetoed the section, however, because he felt the proposed district was a local matter and should not be included in the state budget. He felt further that it was a significant policy issue that merited full Legislative review. A bill to create a Yahara Watershed Management District will be introduced.

6. **Motorboat Gas Tax Formula.** The motorboat gas tax formula was increased from 35 to 50 gallons, which provides increased funding for water-related recreational projects and local park and boating aids. A provision to broaden the types of projects eligible for grants from these funds was vetoed.

Bills of Interest:

1. **Chapter 30 Rewrite.** This proposal makes a series of changes needed to improve the efficiency of the water regulation permit program found in Ch. 30, Stats. These changes would be achieved through a reduction of mandatory procedures, creation of a new "general permit" procedure, and improved enforcement effectiveness.
2. **Chapter 31 Rewrite.** This proposal would delete archaic and outdated language, clarify how dams and bridges will be regulated, reduce the number of mandatory notices, and increase penalties for violations of the chapter. Chapter 31 was enacted in 1915.
3. **Piers/Boathouses Regulations.** Rep. Holperin has introduced AB 172 and Senator Kincaid has introduced SB 268 which would redefine piers, boathouses, and berthing areas to allow municipal regulation of these structures. Both bills have been referred to committee, and Rep. Holperin has introduced a substitute amendment to AB 172.
4. **Dam Inspection Fees Eliminated.** Rep. Bolle has introduced AB 279 and Senator Harsdorf has introduced SB 227 which eliminate the fees currently charged by the Department for dam inspections. The fee is replaced by a general tax supplement. Both bills are in committee.

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5. **Scenic Urban Waterways.** Three separate bills have been introduced designating various waters as scenic urban waterways. Rep. Thompson has introduced AB 75 designating the Portage Canal as a scenic urban waterway. Rep. Magnuson has introduced AB 104 designating the Yahara River, and Rep. Schmidt has introduced AB 304 designating the Fox River. All three bills are currently in the Assembly Committee on Natural Resources.
6. **Wisconsin Fund Grants.** There have been a number of bills introduced expanding eligibility for Wisconsin Fund grants. The most important of these, SB 89 introduced by Senator Mac Davis, has passed as an amendment to the budget. It allows unsewered communities to receive funding for hook-up to a sewage treatment plant.

Paul Heinen is legislative liaison for the Department of Natural Resources, and welcomes your questions and opinions at Box 7921, Madison, WI 53707 (608/266-2120).

Stewardship Award Nominations Requested

Hundreds of citizens across Wisconsin spend their evenings and weekends keeping our state's lakes clean. In recognition of these efforts, the Wisconsin Federation of Lakes, Wisconsin Association of Lake Districts, Department of Natural Resources, and UW-Extension will again be sponsoring two stewardship awards recognizing outstanding individual and group contributions.

If you would like to nominate an **individual** or a **local organization**, please submit a typed description (no more than 100 words) of efforts and accomplishments during the past two years. The nominations should include innovation, statewide value, and long-term impact. The nominations may be accompanied by supporting documents such as letters from cooperators, flyers, newspaper articles, etc.

The 1988 award winners will be presented at the Wisconsin Lakes Convention, March 25-26, 1988. Although the nomination period is open until February 1988, now is a good time to write up your nominations. Nominations made last year will continue to be considered, and need not be resubmitted.

Nominations should be sent to Marion Urlich, Wis. Federation of Lakes, 25 Ironwood Circle, Madison, 53716-1419, 608/222-8514.

Jargon Busters: A Piece-Meal Glossary

Beginning with this issue, Lake Tides will periodically present lake management terminology accompanied by simple definitions. Where better to start than with the letter A?

Aeration: Treatment of water with air (sometimes pure oxygen). In lake restoration, aeration is used to prevent anoxic conditions which might lead to fish kills or the release of phosphorus nutrients from the sediment. Hypolimnetic aerators maintain the summer stratification with cold water recycled back to the bottom after being aerated. Other aerators destratify the thermal layers of the lake and result in complete mixing. The claim that aerators can also reduce muck levels is the subject of debate among lake managers.

Alkalinity: A quantitative measure of water's capacity to neutralize acids, expressed as the concentration of calcium carbonate that would have an equivalent capacity to neutralize strong acids. Lakes with less than 10 parts per million (20 microequivalents per liter) of alkalinity are considered susceptible to acid rain.

Alluvial: Sediments gradually deposited by moving water.

Anoxic: Devoid of oxygen.

Aphotic zone: Deep zone of lake receiving insufficient light for photosynthesis and thus has no rooted plant growth. In Wisconsin inland lakes, sunlight normally does not penetrate more than 12 feet; much less in lakes with high algae populations.

Aquifer: Underground bed or layer of earth, gravel, or porous stone that contains water.

Artificial recharge: Addition of water to the groundwater reservoir by activities of man, such as irrigation or induced infiltration.

Mark Your Calendar

November 3-7, 1987 North American Lake Management Society - 7th Annual International Symposium. Orlando, Florida. Contact: NALMS, PO Box 217, Merrifield, VA 21116 (202/833-3382).

March 25-26, 1988 Wisconsin Lakes Convention - Stevens Point. Contact: Diane Lueck (715/346-3783). Participants who need lodging are encouraged to make reservations now, as only a small block of rooms is available at the Holiday Inn (715/341-1340). Other nearby motels are Roadstar Inn (715/341-9090) and Super Eight (715/341-8888). The Best Western Royale (715/341-5110) is at the junction of Hwys 10 and 51.

Tax Certification for Lake Districts

Just a reminder that taxes to be collected in 1988 must be sent to the local municipal clerk by October 30. Certification forms are available from our office.

Special Third Class Bulk Mailing

Lake Tides is interested in knowing if any lake association or district has obtained status from the US Post Office to use the *Special Third Class Bulk* rate.

To do so would require recognition of the association or district as a non-profit organization in one of the following categories:

- | | | |
|----------------|------------------|-----------------------------------|
| 1. Religious | 4. Philanthropic | 7. Veterans |
| 2. Educational | 5. Agricultural | 8. Fraternal |
| 3. Scientific | 6. Labor | 9. Qualified Political Committee. |

If yes, did you do so by successfully applying to the IRS for recognition as a 501(C)3 organization?

Successful lake organizations are asked to contact Lowell Klessig, College of Natural Resources, UWSP, Stevens Point, WI 54481 (715/346-4266).



Aldo Leopold — 1887-1948

Reflection: Aldo Leopold on Tampering with Lakes

Nineteen eighty-seven marks the 100th anniversary of Aldo Leopold's birth. Wisconsin is especially proud to claim this great conservationist as our own. His *Sand County Almanac* has become the "bible" of modern environmentalism. His "land ethic" is quoted around the world by those attempting to foster land stewardship. The following passage by Aldo Leopold was presented at the 1987 Wisconsin Lakes Convention by Curt Meine.

This passage is the opening from a 1941 paper called "Lakes in Relation to Terrestrial Life Patterns." It was written for a landmark symposium on hydrobiology that was held at the University of Wisconsin in honor of that great pioneer in aquatic biology, Edward Birge. Leopold's perspective was typically broad:

"Mechanized man, having rebuilt the landscape, is now rebuilding the waters. The sober citizen who would never submit his watch or his motor to amateur tamperings freely submits his lakes to drainings, fillings, dredgings, pollutions, stabilizations, mosquito control, algae control, swimmer's itch control, and the planting of any fish able to swim. So also with rivers. We constrict them with levees and dams, and then flush them with dredgings, channelizations, and the floods and silt of bad farming.

"The willingness of the public to accept and pay for these contradictory tamperings with the natural order arises, I think, from at least three fallacies in thought. First, each of these tamperings is regarded as a separate project because it is carried out by a separate bureau or profession, and as expertly executed because its proponents are trained, each in his own narrow field. The public does not know that bureaus and professions may cancel one another, and that expertness may cancel understanding. Second, any constructed mechanism is assumed to be superior to a natural one. Steel and concrete have wrought much good, therefore anything built with them must be good. Third, we perceive organic behavior only in those organisms which we have built. We know that engines and governments are organisms; that tampering with a part may affect the whole. We do not yet know that this is true of soil and water.

"Thus men too wise to tolerate hasty tinkering with our political constitution accept without a qualm the most radical amendments to our biotic constitution."



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A newsletter for people interested in Wisconsin lakes



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DNR Coordinator: Mary Ellen
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Assistant Editors: Scott Olson
Terry Daulton

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Diane Lueck
College of Natural Resources
University of Wisconsin
Stevens Point, WI 54481
715/346-3783