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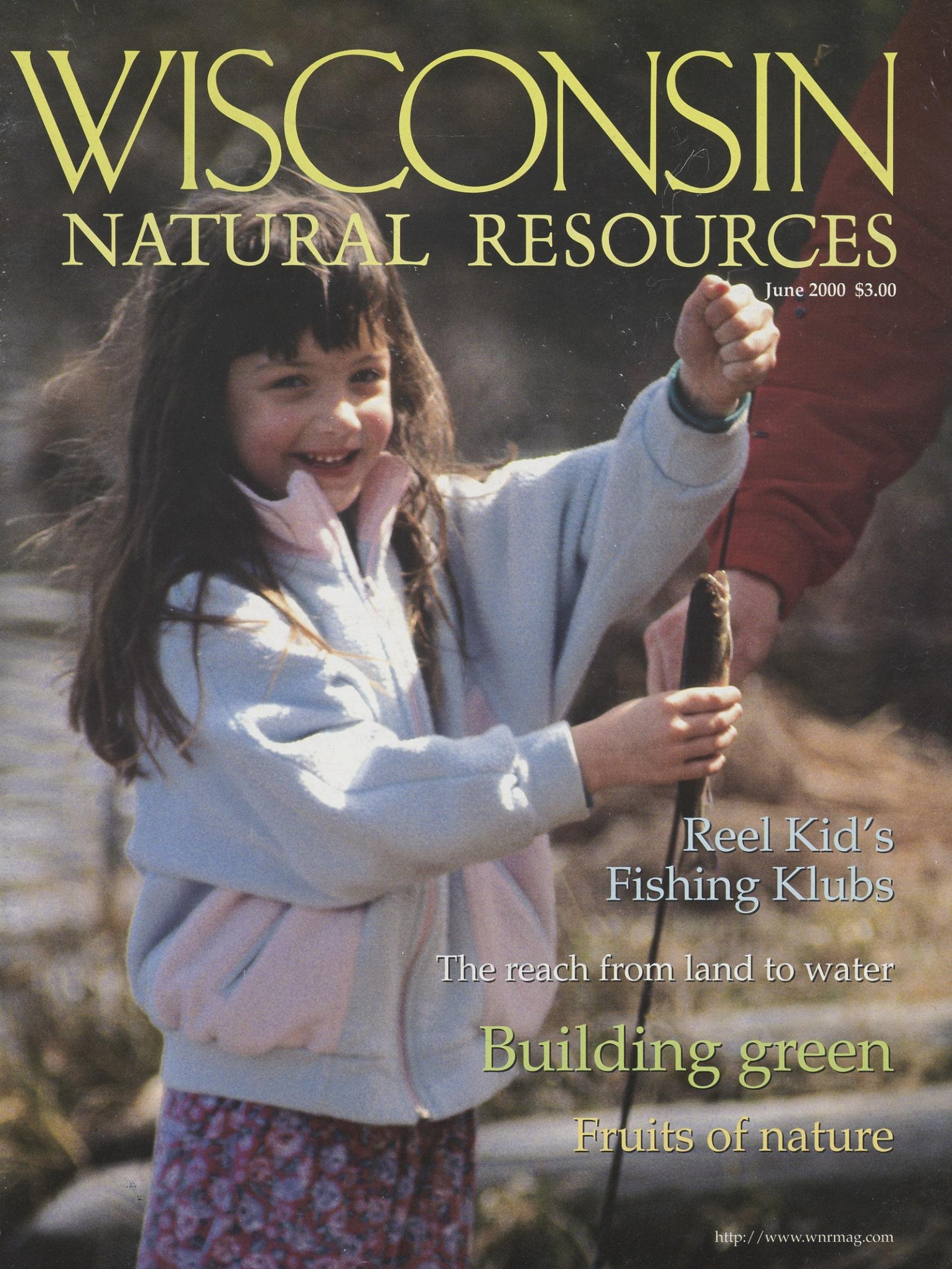
WISCONSIN NATURAL RESOURCES

June 2000 $3.00



Reel Kid's Fishing Klubs

The reach from land to water

Building green

Fruits of nature

http://www.wnrmag.com

DADDY LONG-LEGS

The elegant harvestmen are neither spiders nor insects.

Anita Carpenter

They seem to be everywhere: climbing over raspberry bushes and woodpiles, loping along woodland paths, or resting on cabin walls. With each trip outdoors we are likely to encounter these creatures that resemble split peas supported on eight long stilts. The gangly, fast-moving creatures are instantly recognized as daddy long-legs.

Although they resemble spiders, daddy long-legs, more correctly called *harvestmen*, are neither spiders nor insects. Taxonomically, they are arthropods, in the same class as spiders, Arachnida, but in a different order, Phalangida. Anatomically daddy long-legs differ from spiders because their three body segments — head, thorax and abdomen, are joined as one compact body segment. Spiders have two body segments — the head and thorax are joined as the cephalothorax, and the abdomen is the second body segment. Insects, which are taxonomically in the class Insecta, have three distinct body segments.

Let daddy long-legs crawl onto your hand. It won't bite and you probably won't even feel it unless its second pair of legs is gently touching and exploring your hand. Take a closer look. The tiny black dot on top of its body is a raised knob or tubercle with two minute black eyes peering out. The body supports six pairs of appendages, the chelicerae, pedipalps and four pairs of legs. The chelicerae or jaws, and the short leg-like pedipalps are used for sensing, capturing and holding food until it is eaten.

The harvestmen are graceful for creatures whose legs can be 30 times their body length.

continued on page 29

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WISCONSIN NATURAL RESOURCES

June 2000 Volume 24, Number 3

FRONT COVER: Children can get hooked on fishing if they are introduced early and it remains fun year-round. See p. 24
ROBERT QUEEN, Madison, Wis.

BACK COVER: Bogus Swamp State Natural Area, Langlade County. For a map or more information, contact the State Natural Areas Program, DNR, Box 7921, Madison, WI 53707.
THOMAS A. MEYER, Mount Horeb, Wis.

A BUILDING transforma

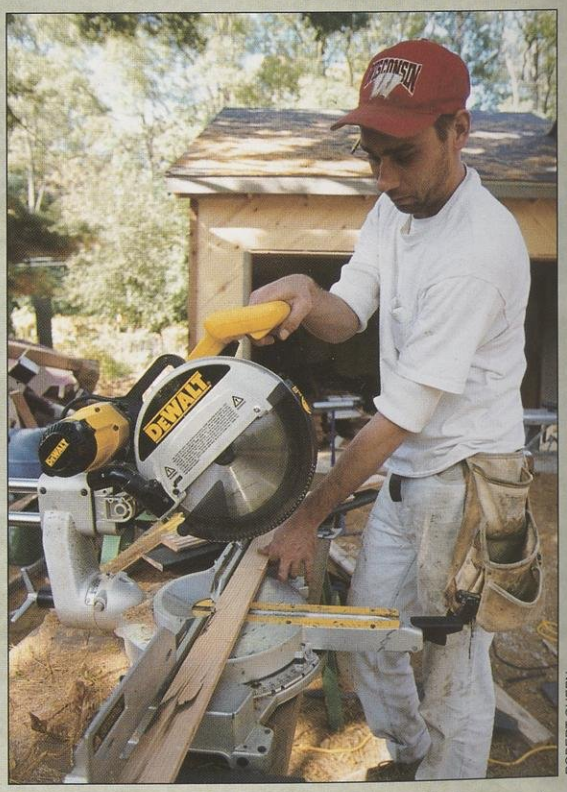
From the floor joists to the rafters, from the contractor to the community, the concept of "green building" covers every aspect of creating livable places.

Sherrie Gruder

Whether it's recaulking a bathtub, replacing flooring, remodeling a room, putting on an addition or building a new house, you can do it with less impact on the environment, your health and your pocketbook. How? By following "green building" or sustainable building practices.

Building green uses energy and resources more wisely during construction and occupancy. That's important, because buildings have a huge impact on our environment: Nationwide, they account for 35 percent of our total energy use, one quarter of the wood harvest, three billion tons of raw materials, one quarter of materials landfilled, and half the output of greenhouse gases. As with recycling, when each person does his or her part and builds green, it prevents a lot of resources from being wasted.

To build green, builders and owners take a long, broad view: How can the building suit the site and the surrounding community? Will trees, building orientation and design provide natural shading, cooling and wind protection? Can we minimize energy and water use during construction and occupancy? Are the construction materials nontoxic? What recycled materials can be used? Is the building designed to enhance indoor air quality and provide ample natural light? Is the landscaping based on native plants that require less water, fertilizers and pesticides?



ROBERT QUEEN

"Green building" is conservation by design that saves energy, water and materials, uses recycled, non-toxic products and durable products, reduces waste and erosion at the site, protects native vegetation and produces a healthier home that lasts a long time. *(above)* These techniques are equally applicable as homes are renovated or remodeled.
(facing page) Even when homes are taken down, they can be "deconstructed" instead of demolished to salvage usable materials.

tion

Ask these important questions at the beginning of any building project, address them with your designer and builder to meet your needs and budget, and you'll be well on the way to a healthier home and environment.

Whether old or new, make it green

Rather than build new, Brian and Laurie Joiner of Madison chose to remodel an existing home in a city neighborhood with stores and work within walking distance, and with good access to buses and bike trails — all green choices.

"We wanted to make the house as green as we could within our budget and timeframe," said Laurie. "Our main goals in remodeling were energy efficiency, comfort, natural lighting, indoor health and reworking the space to reflect our lifestyles. We tried to reuse as much of what already existed in the house to reduce waste. We were especially careful with the existing trees. We designed the house so we can live wholly on the first floor in our old age. We plan to live here the rest of our lives."

The couple worked closely with the builders from the very start to make sure their goals were understood. "Some practices and materials were unfamiliar to the subcontractors," said Brian. "It was a challenge to get them to work with a different routine. But they really appreciated working with more healthy materials, like shiplap siding rather than particle board with toxic adhesives. It took more effort from us to stay on top of what was going on, do research to find green building materials, and make time to consider the costs of buying and using more durable materials."

When possible, the Joiners purchased materials that had some recycled content, were nontoxic and were available locally. They reused most of the existing structure, trim, doors, flooring and topsoil. Old materials they couldn't use, like bricks and aluminum siding, were given away or recycled.

Despite their good intentions to build green, the Joiners had to deal with some tradeoffs. For example, to get a high R-value without losing ceiling height in an attic bedroom, they settled for a thin layer of liquid foam insulation, which released toxic vapors during installation. Late in the planning stages, they realized there wouldn't be enough of the original aluminum siding to cover the exterior. With little time to order new siding, find reused siding, or consider alternatives like Hardiplank, a wood fiber/concrete combination made from recycled materials, the couple ended up purchasing cedar. The recycled rubber slate roof shingles they wanted to use were considerably more expensive than conventional fiberglass, but would have lasted 50 years.

ROBERT QUEEN

By planning, the Joiners reused the structure, trim, doors, flooring and topsoil in a remodel project that produced a more open, comfortable, well-lit and energy-efficient home.

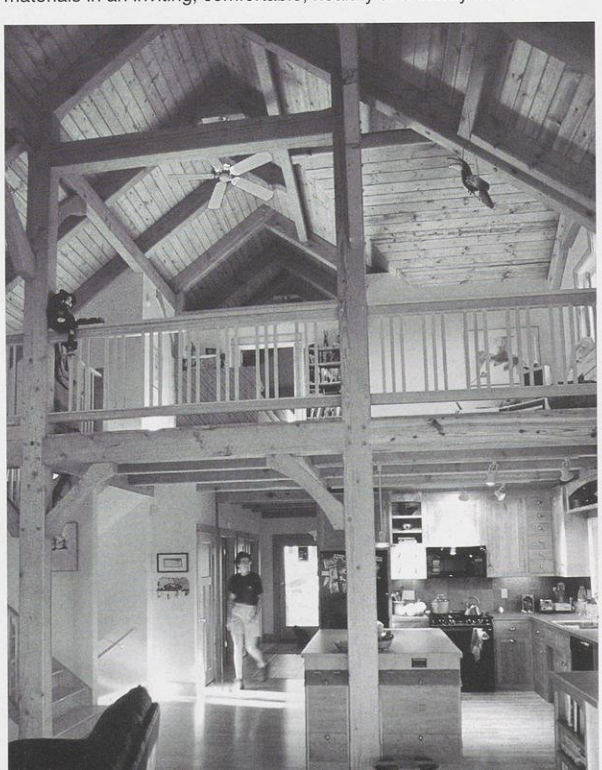
Overall, they met their goals. The Joiners feel building green will become easier as it becomes the standard way to build in Wisconsin.

Bernie Schmelzer and Denise Sullivan, both firefighters, took another approach. They built a new timber-frame house in rural Mt. Horeb, but reused 100-year-old Douglas fir beams recycled from the National Filter Building in Chicago, wood from a dairy warehouse in Sheboygan, and materials from a military installation in Joliet, Ill.

"Our priorities were energy efficiency, using nontoxic building materials and finishes, incorporating recycled, reused and sustainable materials, and minimizing waste," said Denise. "Our house is passive solar, has in-floor hot water radiant heating with a 95 percent energy-efficient stainless steel boiler, and uses trees to help with shading and cooling. Our highest combined monthly heating and electric bill is $100 in the winter for a 2,500-square foot home."

To maintain good indoor air quality — few indoor pollutants, fresh, moist air, and comfortable temperatures with good airflow — the couple used materials that don't emit unhealthy gases. They chose ceramic tile with nontoxic grout rather than carpet and low-VOC (volatile organic compounds) paints and urethanes. The insulated particle board wall panels were made from wood from sustainable forests, with nontoxic glues and an inner core of polystyrene foam expanded and bonded with air. An air-to-air heat exchanger circulates fresh air into the tightly sealed house. "This is the most comfortable house we've ever lived in," said Schmelzer and Sullivan. "It's built to last 100 years."

Bernie Schmelzer and Denise Sullivan *(right)* incorporated 100-year-old beams, passive solar heating and natural cooling, efficient appliances and mechanicals, natural landscaping and nontoxic materials in an inviting, comfortable, healthy and sturdy home.



ROBERT QUEEN

Elements of green building

These five elements are essential to a successful sustainable building plan:

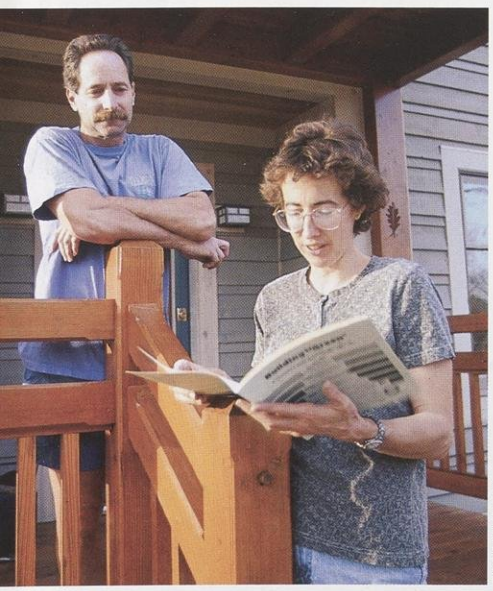
Site: Examine building location and orientation. Consider groundwater recharge preservation, historical preservation, mixed-use zoning (commercial and residential properties mixed), nearby transportation alternatives. Use erosion control during construction.

Energy conservation: Incorporate renewable and nonrenewable methods of conserving energy. Use energy efficient appliances, mechanicals, lighting and insulation.

Materials: Reduce, reuse and recycle materials. Purchase nontoxic, durable, recycled and sustainable materials. Consider the health implications of each material during construction and subsequent use.

Indoor air and environmental quality: Consider long-term health and welfare in construction. Account for thermal, moisture, visual and acoustic comfort of occupants.

Water conservation: Consider water use at both the building site and in the structure. Plan for landscaping that can sustain itself with little supplemental water.



ROBERT QUEEN

(BOTH PHOTOS) ROBERT QUEEN

Mark Harrell's home near La Crosse is self-sufficient: it does not rely on utility companies for heat, water or electricity. Plaster-coated straw bales provide both solid structure and excellent insulation.

You won't go green alone

The green approach is gaining ground around the country for residential, commercial and institutional building. Wisconsin homeowners can tap expertise from the Wisconsin Green Building Alliance and the Green Built Home Program sponsored by the Madison Area Builders Association, the Wisconsin Environmental Initiative and other partners. The program offers a detailed checklist of options that any builder can use to design and build a more resource- and energy-efficient home. Builders associations in Dane County, the Milwaukee metro area, the Fox Valley and Brown County are beginning to use it. You can give the checklist to the architects and builders you are interviewing and find out whether they have or are willing to build green.

The Wisconsin Energy Star Program offers homeowners rebates and consultation to save energy and improve air quality. Energy Star certification can add to your comfort and increase home resale value.

Some Wisconsinites are getting "off the grid" and building homes that provide their own heat, electricity and water. Mark Harrell, a commander with the U.S. Army Eagle Detachment built a straw bale house in the La Crosse area. The home design employs active and passive solar features, a solar greenhouse with a wastewater garden system and plaster-coated straw bales for structure and insulation. Harrell got help with straw bale construction from members of the Natural Building Support and Learning Group. The house cost less than $30,000 to build.

Wisconsin businesses are building green as well. S.C. Johnson's corporate headquarters in Racine, the Williamson Street Coop in Madison, Outpost Natural Foods in Milwaukee, and Erickson's Diversified corporate office in Hudson are a few examples.

Dan Davis of C.G. Schmidt, a Milwaukee building firm, said the company thought it was important to set an example for clients and the profession

ROBERT QUEEN

Green building is economical and good for business. Madison's Williamson Street Grocery Co-op walks the talk by reusing a downtown building, recycling onsite and using natural lighting and building materials.

Take time to plan

If you want to build green, give yourself enough time. How? By careful planning. With more planning up front, your contractor will be better able to allocate the right amount of time for each step in the construction process. Meanwhile, you'll have the opportunity to research products and methods, and to better analyze their immediate and long-term costs. A more efficient heating system, for instance, might cost more now, but lower monthly energy bills and fewer maintenance costs in the future will add up to real savings. Plus, you'll own a higher quality building that will have greater resale value.

If one of your priorities is to reduce waste, build salvage time into your plan. "Owners need to allow adequate project time for salvaging usable materials," says Bert Simmons of REEHouse, a Milwaukee-based deconstruction firm. "Otherwise there is time only to demolish, and materials are wasted. On some projects, we only were given time to salvage one quarter of the usable building materials."

by building green and doing so within a normal budget and timeframe. "We did something to address each category of green building," he said. "We focused on water and energy conservation, using natural, recycled and nontoxic building materials and maximizing indoor environmental quality. We put in native plantings that require less water and maintenance, and eliminated storm sewer settling basins in the parking lot. We incorporated natural lighting, energy-efficient windows, and installed quality ventilation systems."

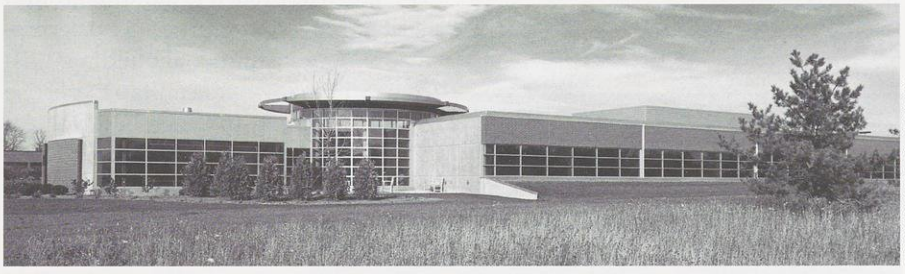
John and Cathy Imes integrated green building methods into the design, construction, maintenance and operation of the Arbor House Inn, a Madison bed-and-breakfast. The remodel and addition, built with nontoxic products, salvaged and recycled building materials, and sustainably harvested wood, has passive solar features, energy- and water-efficient appliances, natural lighting and solar hot water heating. The Imeses use organic cotton linens in the guest rooms, and nontoxic, biodegradable cleaners. The inn was designed around existing trees, has native landscaping, and is situated on a bus route and near bike paths.

Schools are also beginning to build green. Northland College built a green residence hall with offices. UW-Green Bay is building a green academic building with natural light and solar energy to reduce electric lighting, heating and cooling loads, and equipment; operating costs will be one-third lower than a standard building. Fond du Lac High School is designing its new building with natural light and geothermal energy.

There is evidence that people in spaces lit by natural light are more productive, miss work less, and are more creative. We spend 90 percent of our time indoors, so the quality of light is well worth our attention.

Some developers are applying sustainable design to entire subdivisions. Middleton Hills, developed by Marshall Erdman & Associates in Dane County, is one. It is a planned mixed-use neighborhood of homes and businesses, offering densely clustered single family homes, duplexes, live/work units (to eliminate commuting) and condominiums for the elderly. A small retail area, including a grocery and café, is within walking distance for residents. The community protects its watershed

C.G. Schmidt's headquarters in Milwaukee includes water and energy conservation; natural, recycled and nontoxic building materials; native plantings that require less water; natural lighting and operable, energy-efficient windows.
(bottom) Erickson's Diversified headquarters in Hudson was built as a "sustainable" office. "All aspects of a building — materials, land use, transportation — to the operation and remodeling or disposal of the structure leave a mark. You have control over the significance of that impact." — Greg Erickson.



COURTESY OF C.G. SCHMIDT

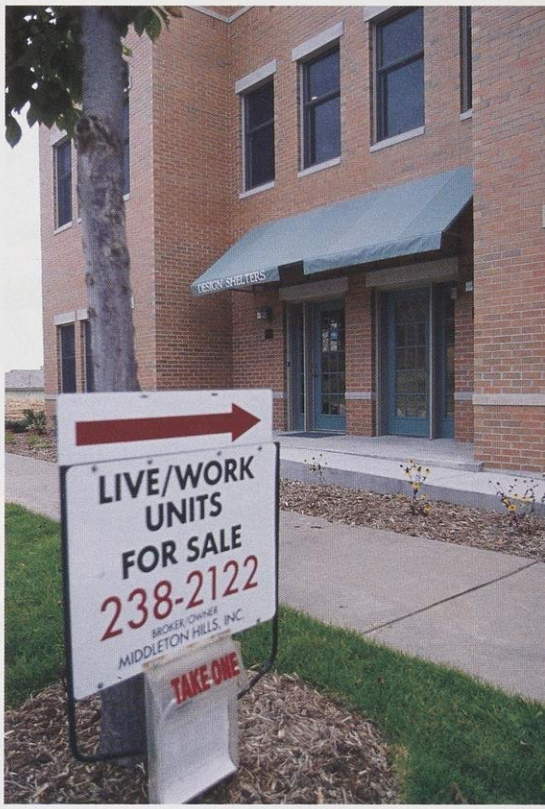
ROBERT QUEEN

DESIGN COALITION, INC. ARCHITECTS

Arbor House Inn in Madison combines green design, aesthetics and a profitable bottom line.

To go green

- Contact your local UW-Extension office for these two publications:
  — "Building Green: A consumer's guide to sustainable building"
  — "Building Green for the Future: Guide to Materials and Supplies"
- Wisconsin Green Building Alliance, 414-224-9422, *Wisconsin Built Directory of Energy Efficient and Sustainable Building Products and Services.* Member listing at www.wgba.org.
- Energy Center of Wisconsin, 608-238-4601. Their video, "Energy Efficient Home Building" is available through public libraries. They also provide information about daylighting.
- Wisconsin Energy Center, 1-800-677-8423 or 608-249-0122. The WISCONSIN ENERGY STAR Homes program works with owners and builders to promote higher indoor air quality and comfort, energy efficiency, safety and durability in home construction.
- Wisconsin Environmental Initiative — Green Built Home Program, 608-280-0360. Download the program checklist on the Internet at www.wi-ei.org.
- Natural Building Support and Learning Group, 608-437-7244, for a newsletter and list-serve, www.onelist.com/community/natbldg.
- REEHouse Development Company, Inc., Milwaukee, 414-535-8000, building deconstruction service.
- Sustainable Woods Coop, Spring Green, 608-588-7342, flooring and trim from sustainably harvested forests, www.execpc.com/timbergreen/.



ROBERT QUEEN

Sustainable developments create neighborhoods where condos, elderly housing, single-family homes, retail stores and services are developed within short walking distances. This unit in the Middleton Hills community combines home and office space in the same building.

Structural lumber is valuable and can be reused for other building projects.

ROBERT QUEEN

and hardwoods, and preserves its open space. Middleton Hills is on a bus route and encourages pedestrian and bike transit. Although most of the houses weren't built green, the layout of the subdivision balances social, economic and environmental needs. The attention to community needs helps curb sprawl, and stem the loss of farmland, water and natural resources while reducing traffic and taxes.

Green building creates jobs. In Milwaukee, a new community-based for-profit deconstruction business, REEHouse Development Company, trains young people to dismantle buildings and salvage the frame lumber, roof sheathing, rafters and joists, copper downspouts and other metals. Deconstruction keeps valuable resources, some of which are no longer available, from being buried in landfills while promoting community economic development.

With green building options available for all budgets and needs, energy efficient, affordable and healthy housing is within your grasp. Hundreds of green building materials and supplies are now available in stores and lumberyards. And there are many organizations and resources available to help you make smart choices. The time to start building for the future is now. □

Sherrie Gruder is a resource conservation and recycling specialist for UW-Extension and a university Distinguished Lecturer based in Madison.

of

FRUITS NATURE

What sweeter pastime could there be than picking berries on a summer morning?

Barbara Estabrook
Story photos by Robert Queen

I count 53 plastic bags in our freezer, each filled with 10 cups of wild Wisconsin berries: strawberries, blueberries, huckleberries, raspberries and blackberries. This tally doesn't include those eaten during picking, during packaging, baked in outstanding pies, muffins and breads, or shared with family and friends. For a berry picker, the warm weather brings a succulent harvest watered by the rains, ripened by the sun, and free for the taking in handfuls or by pails-full!

Friends who learn of our enthusiasm and tremendous success in the berry patch usually ask where we find them. The truth is we find them throughout the Northwoods and we are always scouting new spots. There are thousands of acres of state and county land in northern Wisconsin with wild berries. We use a county plat book to locate public lands, and each year we walk and drive their roads searching for wild fruits. We have followed cross-country ski trails and driven through paper company land that is open to the public. We always respect "no trespassing" signs and never cross fences to find berries. Rural roads and highway rights-of-way, especially up onto the hillsides, are also excellent picking spots. We avoid the shoulder and ditch areas where winter salt runoff, pet walking and herbicide treatments make the berries less desirable.

We get great tips listening to the old-timers. Some can no longer pick, but are eager to share their berry stories. Our dear neighbors John and Veronica, both in their nineties, have directed us to many berry patches. We, in turn, share berries with them and delight in seeing the sparkle in Veronica's eyes as she smiles and says, "Oh, goodie," then clutches a container of berries close to her as if it were gold.

We're also asked what we do with so many berries. We set aside an ample amount of fresh fruit for eating and for pies or jams we expect to make within a few days. The surplus is prepared for the freezer by cleaning off leaves, quickly rinsing off

Use plat books, take hikes, scout public lands and talk with seasoned berry pickers to find good patches.

tiny bugs and draining the berries well. One extra step with strawberries and raspberries — spread them onto a cookie sheet or jelly roll pan and place the sheet into the freezer until the berries firm up. That keeps the berries separated once they are frozen and makes it easier to pour and measure them later. I do not add sugar to the berries and use gallon-sized plastic bags for storage. I also double bag them to prevent condensation. In our opinion, the jams and baked goods made months later from berries frozen in this manner are every bit as delicious as those made with fresh-picked berries.

I make special jams by combining different types of berries, and adding orange rind, cinnamon or robust red wine to a batch or two. I prefer to make jam the old-fashioned way with no fruit preservatives. These tasty treats are a welcome gift, especially to those who have never tasted wild berry jams.

Mid-June is generally the beginning of the berry season in northern Wisconsin. The wild strawberry is the first to ripen and the most difficult to find in quantity. My husband usually bows out of picking wild strawberries. He tells me it takes a lot of patience, more than he has. I look in open fields, old garden areas and on sandy roads. I pick the berries as clean as possible and pass up the berries that rest on the ground; sand is difficult to remove and this berry is very fragile. Often I find only a cup or two of wild strawberries until the next outing, but it is worth it to me. Be persistent, strawberry pie is wonderful!

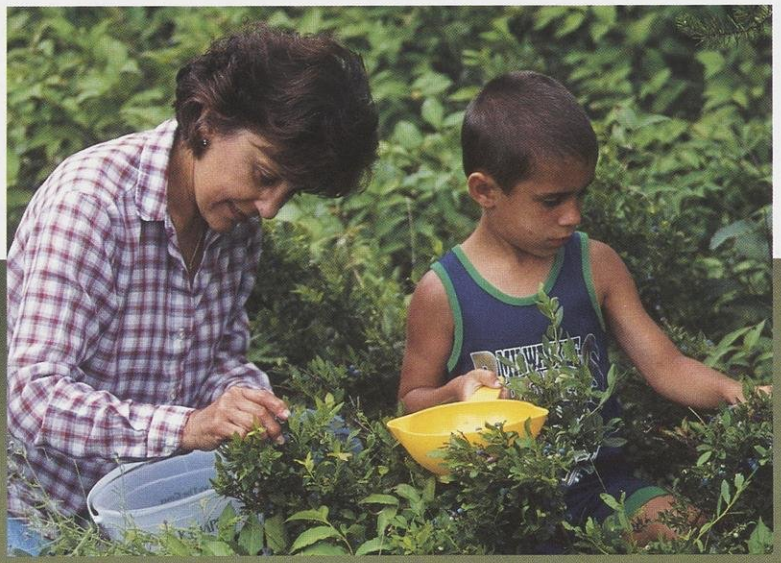
Blueberries and huckleberries, then raspberries are next to ripen, all in July and August, followed by the blackberries into mid-September.

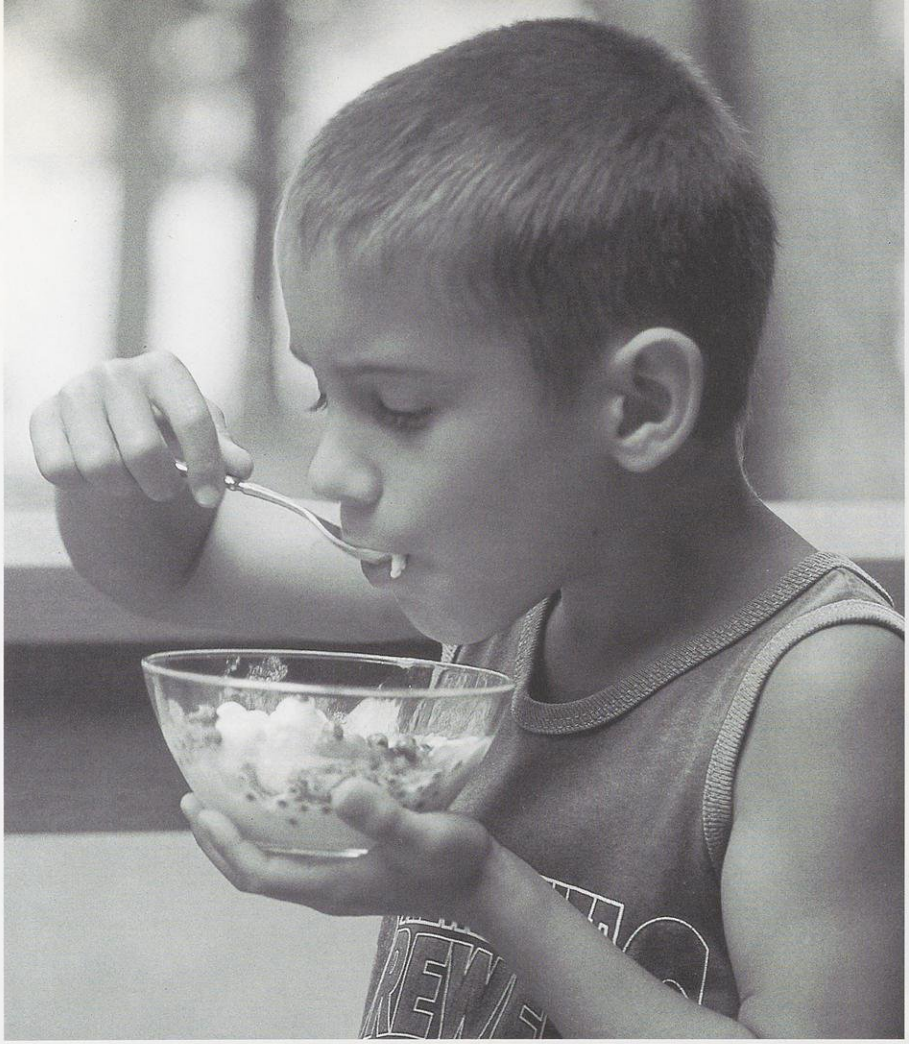
Blueberry and huckleberry bushes often grow close together in open areas, on sunny hillsides and burnt-over areas. I suggest sitting while picking these to make it easier on your back. The blueberry is lighter in color; the huckleberry tends to be deeper blue, almost purple. Sometimes it is difficult to distinguish between the two, but they are both delicious. Books from your public library can be helpful in identifying Wisconsin berries.

I call the wild raspberry a "diamond in the rough." Its specific, tangy flavor deserves tender loving care. We use a fine mesh colander to hold this berry. The holes provide ventilation. We've found early morning picking out of the sun is best; the berries stay in good shape, and we can avoid mosquitoes.

Last year we discovered a premier raspberry patch adjacent a public boat landing. How effortless can it be? They were huge

The author and her grandson pick in small batches, handle berries gently, rinse and drain berries lightly, then spread berries in a single layer on cookie sheets before freezing. Frozen berries can be double-bagged to retard moisture and retain their fresh flavor for pies and jams.





Nothing beats the simple pleasure of a bowl of fresh berries doused in milk, slathered in whipped cream or surrounded by a bit of vanilla ice cream.

and we returned several times to pick them. The prior year, no berries were there. Not all patches bear fruit each year, so be sure to check your favorite haunts several times a season.

Blackberries are most plentiful in our area. The bushes are about four to five feet high, which makes for comfortable picking, and they are easy to find. The berries are generally largest and juiciest early in the morning. We have picked several gallons of blackberries in just a few hours. I had to laugh when my son arrived home shortly after we returned from a berry-picking outing and was greeted by mounds of blackberries covering the counter tops. He stepped back abruptly in amazement and joked, "You know Mom, you could really tick off the bears."

If you have any concern about bears gathering their breakfast while you pick, follow this tip I got from a DNR bear expert: Carry a small can filled with a few pebbles. Shake the can when you hear a suspicious sound, or whistle or sing loudly. Since I cannot whistle, and singing "Jingle Bells" loudly in the middle of a berry patch in the hot sun does not appeal to me, I am more comfortable staying just a few feet away from the car. I leave the door unlocked for a quick escape. Do as you wish.

My berry-picking partner is my husband, who also likes to spend a lot of time outdoors. It's been fun for us to pick and pass the time in interesting conversation. If you see two people in awkward positions trying to anchor themselves to a hillside while picking berries, honk your horn; it's probably us!

My special buddy, seven-year-old grandson Jacob, likes to pick. This little guy has spent hours with me in the berry patch. We pass the time playing a game we call "Duck." The first to hear or see a car yells, "Duck!" and we hide behind the bushes. Jacob says this keeps people from seeing us and picking berries from our secret patch after we leave. He often complains that my butt shows when we hide. I shall always treasure this precious time with him.

Now that it is berry season, dig out your old pants, a long-sleeved shirt, comfortable shoes and high socks. Buy an inexpensive straw hat with a wide brim to keep the sun out of your face and the bugs out of your hair. Don't use chemical insect repellent, but take along paper toweling soaked in vinegar to wipe on your skin, or mix one tablespoon of vanilla extract with one cup of water. Both help ward off gnats and mosquitoes without running the risk of transferring chemicals to the berries.

Attach twine to a plastic pail (be optimistic) and hang it at waist level from around your neck. Place two or three large cookie sheets with edges in your vehicle and park in the shade. When your container gets heavy, empty and spread the berries onto the sheets and return to picking. Spreading berries in a thin layer prevents crushing and allows any little critters the freedom to crawl away before cleaning. Don't worry, they will not go very far.

As a young girl, my dad instilled in me a love for the outdoors and a respect for nature. I had many wonderful experiences in the time we spent together. During the summer months, he would remind me to carry a container so I could pick berries as I walked along Highway 51 to visit him at his work place. Then we would share his lunch and my berries. I was fortunate to share berries with him for more than 50 years before his recent passing.

If you live in the country, the berries are almost at your doorstep. Lucky you! If you live in the city, take the time for a country drive and a berry-picking outing. Search the rural roads and do not forget the wayside areas. Locate the closest state or national forest and take along a picnic lunch. Keep the picking fun, enjoy exploring the outdoors and savor the fruits of nature that are yours for the taking. □

Barbara Estabrook writes from Rhinelander.

WILD PARSNIP II

Itching for an update? Here are your tales of encounters with the "burning bush."

David J. Eagan

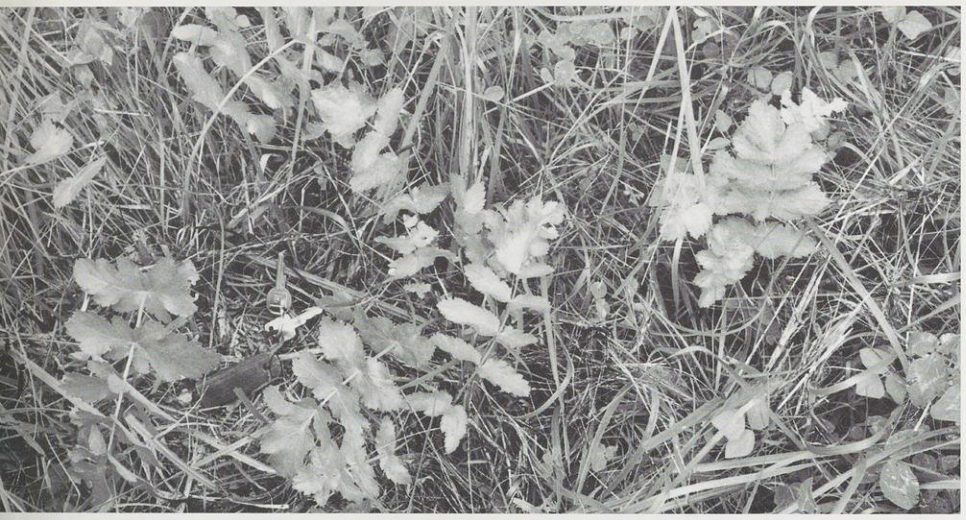
Editor's note: Last June we printed "Burned by wild parsnip," a comprehensive look at the life history and dramatic health hazards of exposure to wild parsnip (Pastinaca sativa). *We invited readers to write us via letter or e-mail to pinpoint where wild parsnip was found and describe their burning experiences with the plant. This update recounts some tales from the field and gives new health and plant control information. Thanks to all who responded.*

Learning the hard way

Of 80 e-mails received, most were from Wisconsin, but some came from Minnesota, Illinois, Iowa, Indiana, Vermont and Sweden. Wild parsnip was reported in 23 Wisconsin counties; the most reports from Dane, Iowa, and Grant counties. Many correspondents noted that the weed is invading areas that were formerly parsnip-free. Conservation set-aside programs and mowing restrictions along roadsides have encouraged its spread.

Many readers reported memorable encounters with wild parsnip. You may recall that under the right conditions, this common weed can cause reddened skin and painful, blistering rashes (medically, phyto-photo-dermatitis).

Several wrote of burns that were serious enough to warrant hospital visits.



DAVID J. EAGAN

In its first year, wild parsnip stays low to the ground in a rosette of leaves. By its second or third year a hollow stalk with clusters of yellow flowers will rise 2–5 feet high. It looks a bit like Queen Anne's lace, but the flowers are bright yellow and flat, oval seeds that form are more prominent.

Here is a typical tale: "Last year we did a lot of work outside in the hot sun. One day I noticed two or three nickel-sized blisters on the backs of my legs, which healed after a short time, though I still have faint, dark spots where they were."

Another reader made an interesting observation. The leader of a line of hikers — through a parsnip-infested field — was untouched, but as second in line, our writer suffered severe burns. Others were affected, though severity was "successively less" down the line.

Respondents confirmed that wild parsnip's rash often is misdiagnosed as poison ivy. Several mentioned that the article cleared long-standing mysteries. "After reading your article," someone wrote, "I (now) realize that I was burned by wild parsnip several years ago. I got huge blisters on my hands while on a canoe trip. I thought it was bad sunburn, but my doctor said it was poison ivy. Another doctor thought it looked more like a burn but didn't know where the burn came from."

Keep in mind that nobody is "immune" to wild parsnip. Some think that because they never have been burned — after close contact with the plant — they are safe. Getting the right combination of juice, sun and time, however, usually proves the point. One such burn-free doubter joined me in a parsnip-pulling party last July. He wore long pants but only a short-sleeved shirt, insisting he was immune. A few days later he e-mailed: "My arms are resplendent with blisters and pustules — but they don't hurt or itch. It's good to know that I'm normal."

New "research" and observations

Wild parsnip is not the only phototoxic plant found in Wisconsin. Cow parsnip *(Heracleum lanatum)*, a larger, native relative, produced some strong burns when tested on skin. And two garden plants — rue *(Ruta sp.)* and gas-plant *(Dictamnus sp.)* — were reported by readers as causing sun-induced burns.

I conducted experiments to better understand the burn reaction. In one test, I touched a freshly-cut parsnip leaf stem to my skin — a spot on each arm — then covered one spot with an adhesive bandage. Both arms then received much sunlight. Forty-eight hours later, the uncovered spot was red and became blistered, while the covered spot stayed normal. In another test, again on my arms, wild parsnip juice was applied in several places at sunset, but wasn't exposed to sunlight until the next day, resulting in faint redness or none at all. The sensitizing effects seem to diminish over a relatively short period. According to dermatology textbooks, the skin's sensitivity to ultraviolet light peaks 30–120 minutes after contact.

A few readers mentioned washing as a method of preventing burns. In my experience, washing might help but only if done *immediately* after contact. Because the active chemicals are lipid-soluble they are absorbed quickly into the skin. In a test, I applied two identical spots of juice indoors, at mid-morning. After 10 minutes I washed one spot thoroughly with soap and water, and washed the second after 30 minutes. I went outdoors around noon, making sure the spots were exposed to full sunlight. Both turned red in 24 hours and after 48 hours a blister formed on the 30-minute spot. Two days after that, the 10-minute spot also blistered.

Two readers noted that despite wearing protective clothing, they still got parsnip burns. One wrote, "Even when wearing gloves, old socks as wrist guards, long pants and long-sleeved shirts, I still had parsnip juice seep through onto my hands and wrists,

Formula for trouble

Here is how wild parsnip works:

wild parsnip "sap"	photo-sensitizing chemicals in juice from green leaves, stems and seeds.
+ sensitive skin	arms, legs, torso, face, and neck — any place exposed to daylight, usually not the palms of hands. Wet skin, sweat and heat increase the effect.
+ ultraviolet light	present on sunny *and* cloudy days.
+ time	24 to 48 hours after exposure redness, pain and blisters appear.
= parsnip burn	burn-like rash that, once healed, often leaves a brownish pigmentation that can last for years.

leaving those telltale blisters."

This happened to me last summer on a steamy day, resulting in mild burns on my arms and sides. While pulling parsnip, juice had soaked into my clothing, mixed with perspiration and got onto my skin. As soon as I was out of the danger zone, I peeled off my sweat-soaked clothes and put shorts back on, exposing my bare, sensitized skin. Lesson learned: next time, I know to change my clothes out of the sunlight and either put on dry, sun-proof clothing or stay indoors. Alternatively, do parsnip control in the early evening and quit after sundown.

Be observant and beware

This time of year, wild parsnip is green, mean and more widespread than ever. Many who responded to last year's query said they often teach about the plant's hazards and help spread the warning to others. One noted, "After my own experiences, I avoid it and educate about wild parsnip whenever possible." I invite you to do the same. With some effort, Wisconsin residents may someday be as familiar with wild parsnip as they are with the dandelion — though I hope it will never be as abundant. □

By avocation, David Eagan is a naturalist who battles wild parsnip on an Iowa County prairie remnant. (More parsnip stories are invited — e-mail djeagan@facstaff.wisc.edu or write P.O. Box 3020, Madison, WI 53704.)

ROBERT QUEEN

Controlling wild parsnip

If you discover an invasion early, concentrate on preventing plants from flowering and making seeds. For established populations, you will need to cut, pull or treat plants with herbicides for several years in a row. Visit the DNR invasive-species website, or contact your extension agent for advice. Don't forget protective clothing.

Cutting the root — With a sharp blade or shovel, cut the root an inch or two below ground level and lift plants out.

Pulling plants — When in flower and after a rain, mature plants can be pulled easily from the ground. Pull before seeds ripen. Roots can be loosened with a trowel or shovel.

Mowing — Large areas can be mowed, but wait until flowering begins. Flower stalks may resprout, so repeated mowing is often enough to prevent seed formation.

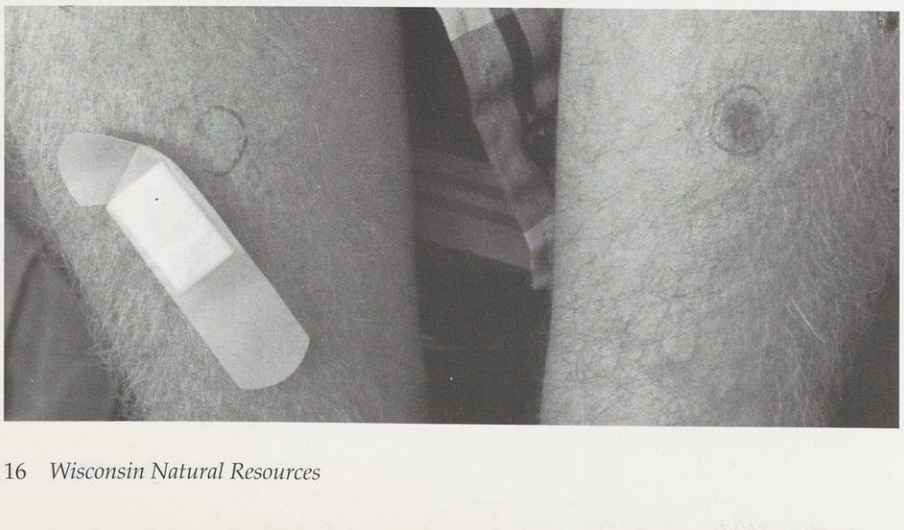
Chemical control — Use herbicides sparingly. Spot-spray early in the growing season.

Web resources

1. **Wild Parsnip — Ecology and control (Wisconsin DNR)**
   http://www.dnr.state.wi.us/org/land/er/invasive/factsheets/parsnip.htm
2. **USDA Plant Profile — Wild parsnip**
   http://plants.usda.gov/plants/cgi_bin/plant_profile.cgi?symbol=PASA2
3. **Parsnips & Webworms — A case history in chemical co-evolution**
   http://www.life.uiuc.edu/berenbaum/parsnip.htm

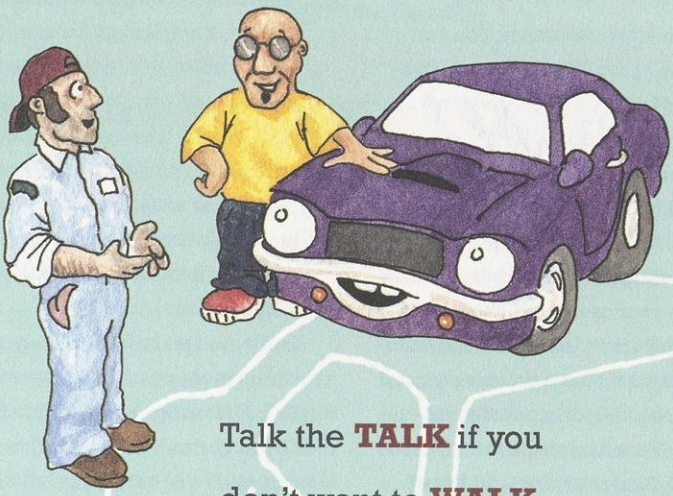
KATHERINE ESPOSITO

Wild parsnip only causes redness and blistering if the skin is exposed to sunlight on sunny or cloudy days soon after the plant's juices come in contact with skin. In this experiment the author dabbed spots on both arms (circled in ink) with wild parsnip juice. The spot on the arm to the left was covered with an adhesive bandage to exclude direct sunlight. Notice more pronounced redness on the other arm that was not covered.



DAVID J. EAGAN

Auto Log



Talk the **TALK** if you don't want to **WALK**. Use this handy log to **TRACK** car repairs, **REMEMBER** routine maintenance, and clue in your auto **REPAIR** technician.

Drive your investment

New brakes for your 1995 car: $200. Catalytic converter: $250. Driving a safe, low polluting, well-maintained set of wheels — priceless.

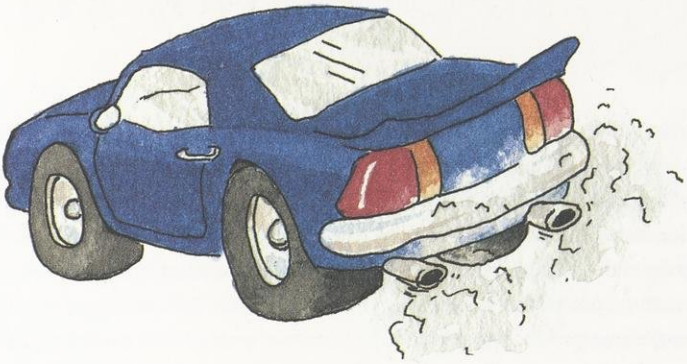
For many people, the expense of buying a car and keeping it in working order is second only to the investment they may make in purchasing a house.

As with any investment, you can make wise or foolish choices. A well-maintained car is a good investment: It costs less to operate. It puts out less harmful pollution from the tailpipe, and it will usually have a higher resale value.

Neglecting routine maintenance increases your operating costs, and you will pay more later for the maintenance you could have done today. What's more, a poorly maintained beater is more harmful to the environment and shortens the useful life of the car. For example:

- Most manufacturers recommend changing oil about every three months or 3,000 miles under normal circumstances. If the average cost of an oil change is $25, you'd spend about $100 a year protecting your car against excessive engine wear. Choose not to spend the $100, and the likelihood of major engine problems increases. Cost to repair those? Anywhere between $500 and $1,000. What's easier on your wallet, coming up with $25 every three months or shelling out $1,000 at one time?
- The average car travels about 12,000 miles per year. If a well-maintained car gets 25 miles per gallon, a neglected car may only get 20 miles per gallon. The maintained car would use about 120 gallons less fuel. At $1.50 per gallon, the owner of a well-maintained car saves about $180 a year in fuel costs alone. And burning less fuel also means less pollution.

Every auto manufacturer suggests a maintenance schedule in the owner's manual. Following that schedule is really pretty simple, and regular "check-ups" will keep your car expenses and your money under control.



No smoke, no choke

If you drive, you have the power to stop people from having asthma attacks — sort of. Cars dirty up the air with several types of pollution that worsen asthma. But if you keep your car tuned-up, it produces less pollution, and that helps clean up the air.

In Wisconsin, the two biggest auto-related air pollutants are ground-level ozone (smog) and particulate matter. Both attack people's respiratory systems and can trigger asthma attacks.

Even people who don't have asthma are susceptible to air pollutants, especially older people, young children (kids breathe more air than adults do in relation to their body weight), and people who work or exercise outdoors. Human health isn't the only issue — these pollutants hurt plants, animals and entire ecosystems.

Ground-level ozone forms when fumes from cars, paint, factories, lawn mowers, boats, and other sources sizzle in the hot summer sun. Two kinds of chemicals make up ground-level ozone: NOx, or nitrogen oxides (combinations of nitrogen and oxygen) and VOCs, or volatile organic compounds — hydrocarbons of hydrogen and carbon created mostly by cars, other engines, and industries that burn fossil fuels for heat or electricity, such as a coal-burning power plant.

Naturally-occurring ozone in the stratosphere (the layer of the atmosphere six to 20 miles above the Earth)

protects us from harmful UV (ultraviolet) radiation. But when ozone forms unnaturally down below in our breathing space, it stops protecting and starts causing damage. Ozone will break down rubber, plant tissue and lung tissue.

Burning any fuel — gas in a car, diesel in a truck, leaves in a pile or garbage in a barrel — releases sooty particles. The particles can be large or small, some so small that they are invisible to the naked eye. When you breathe in these fine particles, they clog your lungs. The smaller the particle, the more harmful it is because it can creep deeper into your lungs.

Two other auto emissions worth mentioning are carbon dioxide (CO_2) and carbon monoxide (CO). Burning gasoline, wood or oil produces CO_2. Incomplete combustion produces CO as well. Both are greenhouse gases, which means they contribute to global warming. Carbon monoxide is also a deadly poison.

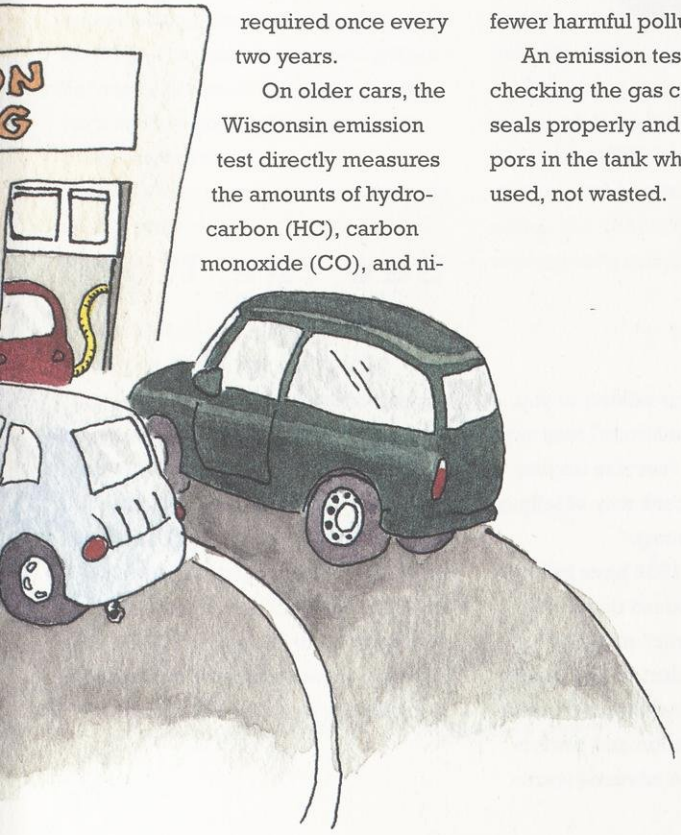
So keep your vehicle in tune, because air pollution doesn't stay where it's formed. It drifts over other towns and regions, even blows into other countries. Air pollution is everybody's problem.

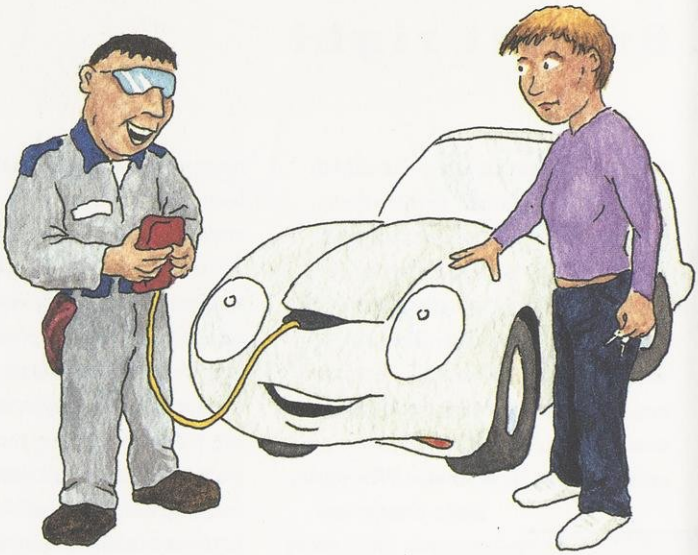
Burn it right

Seeing a dentist on a regular schedule can prevent small cavities from developing into more serious problems. It works the same way for your car. By regularly checking your car's fuel economy, you can often uncover small problems before they become major repairs. Another good way to check your car's health is to have an emission test. In southeast Wisconsin, these checks are required once every two years.

On older cars, the Wisconsin emission test directly measures the amounts of hydrocarbon (HC), carbon monoxide (CO), and nitrogen oxides (NOx) in the car's exhaust. Newer cars rely on a computer scan of the car's on-board computer to determine similar results. The pollutants measured are compared to the amounts that a "clean" car of similar age would be expected to produce. Cars that fail emission tests are wasting fuel and emitting more harmful pollutants. Cars that pass the test are burning fuel efficiently and emitting fewer harmful pollutants.

An emission test may also include checking the gas cap to make sure it seals properly and keeps gasoline vapors in the tank where fumes can be used, not wasted.





See the light

Blink. Hey! Your car is talking to you. The light on your dashboard may say "check engine," or "service engine soon," but it's your car's way of telling you something is wrong.

Cars built since 1986 have been equipped with on-board computers ("on-board diagnostic" or "OBD" systems) designed to alert you to the first sign of trouble. OBD systems monitor your vehicle's operation and performance, and give you advance warning to perform maintenance.

Sometimes the warning light (called the MIL — Malfunction Indicator Lamp) comes on for something simple, like a loose gas cap. Still, any time this warning light comes on, seek professional help. Don't wait for your normal maintenance time. If the MIL light comes on, see a qualified mechanic or service technician NOW.

Brain on board

Today's cars are factory-equipped with computer systems that have more intelligence than the spacecraft NASA sent to the moon. From 1986 to 1995, cars were equipped with first-generation on-board diagnostic (OBD-1) systems. Since 1996, cars have been equipped with second-generation OBD-2 systems. Due to several key changes between OBD-1 and OBD-2, today's technician must be specifically trained and equipped for OBD-2 technology to avoid potential costly errors in diagnosing your car's trouble codes and making appropriate repairs.

Like a complex nervous system, an OBD-2 system is a high-tech network of sensors and controllers that continually monitors operation and performance to keep your car running cleanly and efficiently. When the "check engine" or MIL light comes on, your car's central computer records an internal diagnostic trouble code, or DTC.

The DTC gives a properly trained technician a starting point to begin further testing to diagnose, pinpoint and repair the root cause of the malfunction. There's a modern-day myth among consumers that all a technician needs to do to find a car problem is to plug into the computer. This is miles from reality. The diagnostic code is only the first step in the process. To extract the code, a technician must attach an OBD-2 scan tool to a data link connector, which is usually mounted on the bottom of the dashboard to the left of the steering column.

Beginning January 1, 2001, the U.S. Environmental Protection Agency has mandated OBD-2 scan testing for all vehicles made after 1996 in all areas across the nation that have an emissions testing program.

Know your techmeister

Small backyard or "shade-tree mechanics" have become a fading image of our automotive past. To effectively service and repair today's high-tech cars, the professional automotive technician must have training and experience in a diverse range of subjects including mechanical engineering, electrical engineering, electronics, chemistry, physics, metallurgy, plumbing, safety engineering, welding and metal fabricating, lubricating and hazardous waste handling.

Today's automotive technician is likely to offer specialized services. Some common automotive specialty areas include:

- Emissions diagnosis and repairs
- Electronic (computer-related) repairs
- Electrical repair
- Brakes
- Exhaust
- Wheel alignment
- Engine repair & replacement
- Transmission repair & replacement
- Interior repairs
- Body repairs

Depending on the problem, it makes good sense to choose your auto technician according to his or her specialty. So, for an auto emission problem, visit an emissions specialist. A professional automotive emissions systems specialist will have:

- Special tools, including an exhaust

gas analyzer, a lab-scope, an OBD-2 scan tool and an engine analyzer.

- Certificates from continuing education courses to stay current with changing technology. Technicians unaware of the recent changes between OBD-1 and OBD-2 technology can cause unnecessary, frustrating, and often expensive errors.
- Professional certification in emissions repair by ASE (The National Institute for Automotive Service Excellence) with an "L1" ranking. ASE provides automotive repair technicians with a system for professional certification in a variety of automotive applications. ASE-certified technicians must take intense, thorough written exams that test their proficiencies in specific areas. Auto technicians are not required to have ASE certification. However, the time and effort it takes to become ASE certified provides an excellent gauge to measure the professional qualifications and dedication of an automotive technician. ASE Master Technicians are certified in all of the general automotive repair categories. A properly equipped, ASE L1-certified technician is a wise choice for automotive emissions diagnosis and repair.

Do the routine

Certain items on your car are going to need regular replacement no matter how careful you are. Brakes wear out. So do tires, exhaust systems and lights. Although there is no way to avoid these expenses, you should inspect the items that can wear while your car receives regular maintenance.

You don't need to change all the light bulbs in your car every four years, but you should probably change both headlights when one burns out. It's also a lot easier on your wallet to stagger replacement of those items that will wear out.

Use the seasons as a guide. For example, have your air conditioning system serviced in the spring, and have your engine coolant serviced in the fall.

Maybe you've just purchased a used car. It's in good condition, and you bought it for a fair price. You've taken it to your repair technician, who checks it thoroughly and pulls out a laundry list of suggested repairs. You can't afford to do them all at once. So how do you choose which ones to do first? If you've asked the right questions, this shouldn't be a problem. A qualified technician will be more than willing to work with you to develop a repair plan that meets your budget and will help you rank which repairs truly need to be made first.

At the top of any list are items directly related to your safety and the safety of those who share the road with you. Don't put off these repairs until later. Someone whose car has bad brakes, but has decided to fix them "in a few months" is the last per-

son you would want behind you on the freeway during rush hour. Other safety related items include:

- Steering, tires and suspension — for safe handling
- Exhaust system and emissions equipment — for your health and everyone else's
- Headlights, taillights, and warning lights — so you can be seen and see others
- Car horn — so others can hear you
- Windshield wipers and washer — so you can see where you're going
- Rearview mirrors — so you can see where you've been

Many repairs can be done more economically if they are done in combination. Grouping certain repairs saves extra labor costs that would come from doing them separately. For example:

- When replacing a clutch, replace the "throw-out bearing" while the transmission is removed.
- When replacing a radiator hose, replace both hoses.
- When replacing a water pump, replace the thermostat and hoses also.
- When replacing an "inner" belt, replace the "outer" belt(s) also.

Finally, there are some repairs that could be saved until later and combined with another repair:

- A transmission fluid and filter change can be combined with an oil change.
- Worn (but not broken) shock absorber replacement can be combined with a brake job.
- Marginally worn chassis parts can be replaced when CV boots or front struts are repaired.
- Always schedule a wheel alignment when you replace your car's tires. The car is used to "tracking" on the old worn tires, and proper alignment is needed to correct the change.

Exchange face data

A good automotive technician appreciates a good customer. You play an important role in quality repair. Providing more complete information means your technician will have an easier time diagnosing the problem and repairing it economically. Quality repairs result from effective communication:

- Listen (really listen) to your car.
- Keep track of your maintenance.
- Explain problems clearly to the repair technician. Helpful information for your technician may include:
  - What specifically is your car doing?
  - Does it only happen first thing in the morning, or does it happen all day long?
  - Is the outside temperature hot or cold when it happens?
  - Does it happen at specific speeds?
  - Is your car leaking any fluid? What color is the fluid if it is leaking?
  - Is the "check engine" light on?
  - When was your car's last emission test? Did it pass?

- What was your car's last repair? When was it done?
- Has your car been overheating easily?
- Have you noticed any problem with your car's exterior lights?
- Have you noticed any problem with your car's interior lights or accessories?
- Were any non-original equipment accessories recently installed?
- When you brake or coast do you hear any unusual noise?
- Do you hear any unusual noise when you are in park, in gear, or in neutral?
- Do you hear any unusual noise when you turn a corner? Right or left?

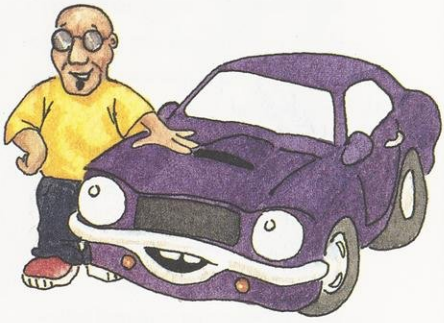
Make sure the technician listens to your complaints and understands what you want. Ask questions about:

- The diagnostic procedure used to determine the cause of the failure.
- What can be done to prevent the problem from recurring.
- The parts necessary for the recommended treatment.
- The usual durability of the recommended repair.
- The warranty on the parts and the repair.

Finally, listen to the treatment that the technician recommends, and follow through. With effective communication between you and your technician, your car will have fewer emissions, operate more economically, and have a long useful life.

Scribe it

Your car provides great freedom and great enjoyment, but you need to be prepared when it needs repair. As you've read here, the process is pretty easy if you've kept good records. Keep a simple summary or maintenance log in the car, and you'll have a record readily available. A good log is easy to keep; the basic steps are outlined here.



For each repair, write down the date, odometer reading, the nature of the repair, and the repairer. Also note when parts are replaced. It's also a good idea to log fuel economy. Changes in your miles per gallon can provide important clues to repair technicians.

Some maintenance chores should be done every few months, others are based on mileage. For instance, tires need to be rotated every 6,000 miles or so, but the radiator should be flushed and refilled every other year. Record routine care like oil and filter changes, transmission fluid changes, battery replacement and radiator flushes as well as major repairs like exhaust system replacement, new brakes, CV boots or transmission work.

Your maintenance log provides protection and information — protection from redoing unnecessary repairs, and information technicians can use to get a sense of your car's history and past problems.

The log is also a good place to write reminders when your car is due for routine maintenance, how long parts are under warranty and how many miles you have before the next scheduled repairs. Use the log, update it as soon as maintenance and repairs are made, and keep it in your car.

Keep a log of your car's fuel economy every time you fill up. It's an important piece of information that can help a repair technician determine your vehicle's normal performance.

Date	Odometer reading	Where serviced	Service or repair completed/ Parts replaced/Warranty work

Date	Odometer reading	Miles traveled since last fill	Gallons dispensed	**Miles per gallon** (miles traveled ÷ gallons dispensed)

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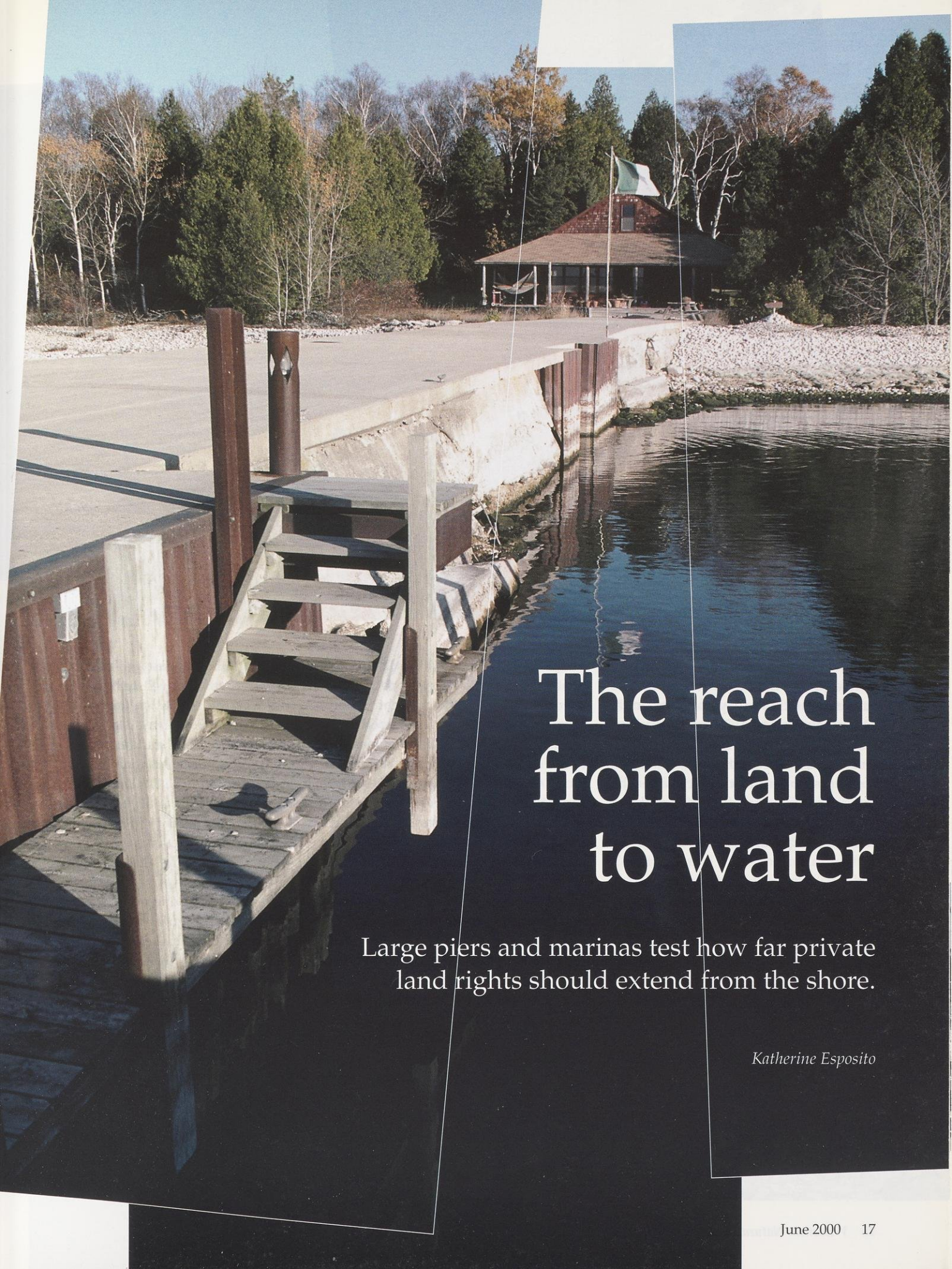


The reach from land to water

Large piers and marinas test how far private land rights should extend from the shore.

Katherine Esposito

DNR PHOTOS

The aerial view from Sister Bay on Door County's Green Bay coast shows a proliferation of solid piers and marinas. These permanent structures become physical barriers to flowing currents, fish, habitat and drifting organisms. They also change the nature of public access to the coastline. Growing numbers of permit requests for similar piers led DNR to examine how solid piers change the shoreline environment. *(previous page)* Unlike a floating dock or removable dock, a solid pier is a permanent structure of rock, concrete and metal that is built tough to withstand strong winds, buffeting waves and ice. This is the Standish family pier in Egg Harbor.

Warren Davis, a 73-year-old retired Chicago publisher, owns a summer home in the tiny village of Ephraim in Door County. The 1929 cabin, made of massive pine logs from a partly burned turn-of-the-last-century barn, nestles on a steep slope amid thick cedars. The trees drape over a narrow dirt road that leads to a dozen or so other well-kept homes on that part of Green Bay.

The Davis family in Ephraim wanted to replace their temporary dock with a solid pier. The permit was denied, but the matter is under appeal.

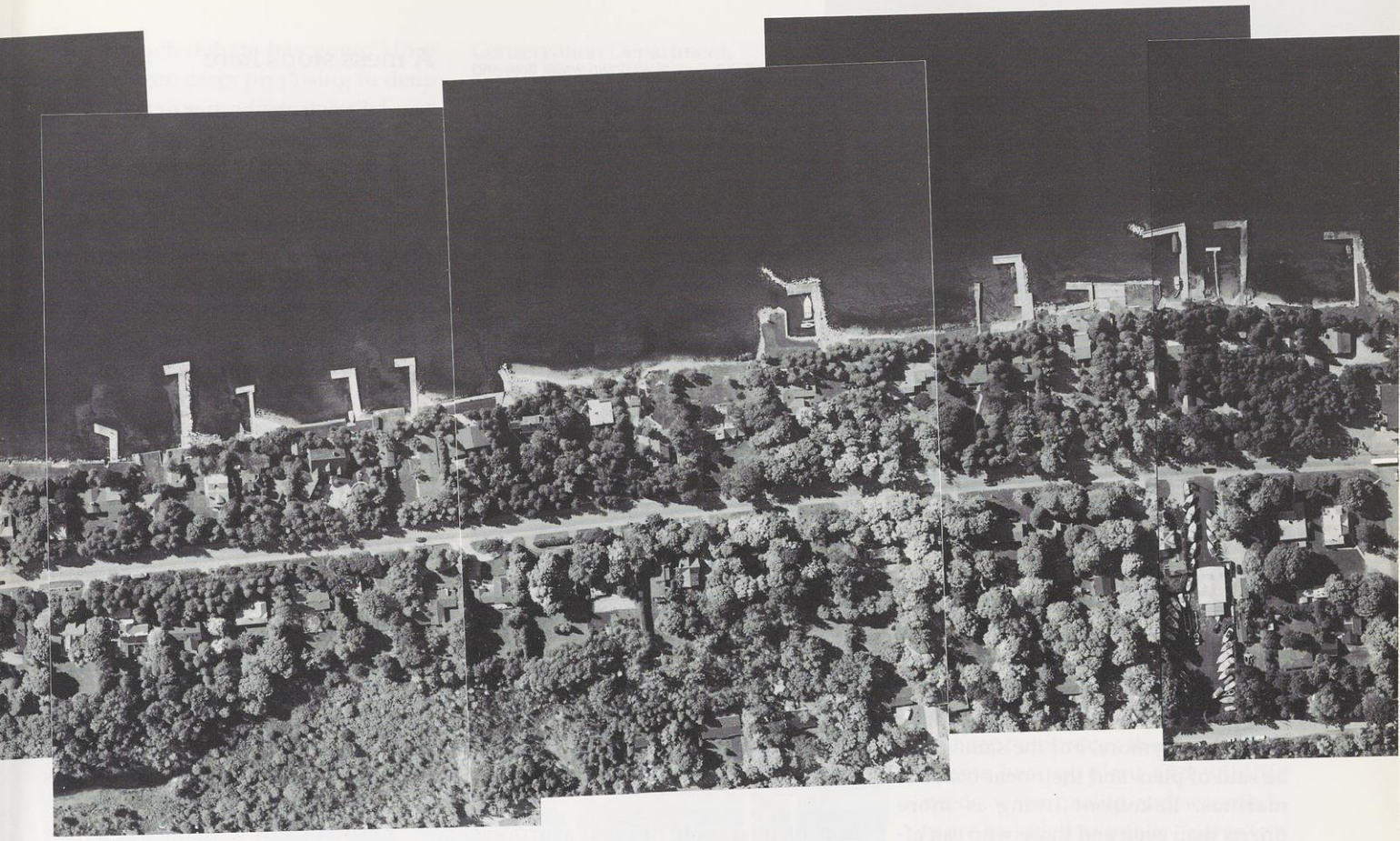
KATHERINE ESPOSITO

Davis and his wife, Polly, own a 22-foot Boston Whaler motorboat now moored in the Ephraim Yacht Harbor, which they would prefer to dock closer to their home. Many affluent Door residents do exactly that. But the docks of Door County are completely unlike those seen inland. Green Bay winters bring gale-strength storms, with winds, waves and ice floes capable of flinging commonplace wooden piers onto the shore and pummeling them into splinters. So residents desiring private piers spend anywhere from $20,000 to 10 times that much to build them out of solid concrete and steel pilings driven into bedrock, most as wide as a single-lane road and driveable as well, if a car could ever manage to get there.

The Davises want such a pier, and if they'd put one in 10 years ago, there wouldn't be much of a story to tell. Their dock would have been about the 310th built on the peninsula. Two existing permanent piers, one 400 feet northeast and a second 800 feet southeast, would have flanked it. Building the pier wasn't a priority for them until 1996, when they mailed in a permit application and became participants in a contentious issue.

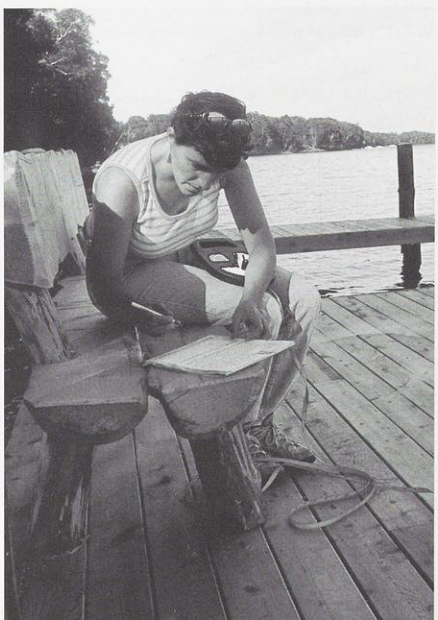
About that time DNR water regulators, dizzy from analyzing scores of solid pier requests in preceding years, held up their hands like traffic cops and yelled, "Stop!" The agency noted that many of the piers approved in the past were unsightly behemoths and poorly maintained, often blanketed by algae and encrusted with seagull droppings. Further, the piers raised legal issues and ecological problems.

The agency stayed permit reviews for over a year while it searched scientific literature for studies of pier effects on lakes and bays. The research concluded in a 1998 report that there were good reasons to start objecting to such proposals. The Davis permit request was one of the first denied. In March, that decision was upheld by a state hearing examiner who found that the combined effects of placing numerous



solid piers along the Green Bay shoreline would be a "significant threat to overall species richness" that can change "the stability and integrity of biologic communities," among other reasons for denying the permit. The ruling is under appeal.

DNR Water Management Specialists, like Liesa Nesta from Woodruff, examine dock and pier plans, review permit proposals, and inspect final products to balance the rights of all water users with those of riparian landowners.



KATHERINE ESPOSITO

A history of public rights to public waters

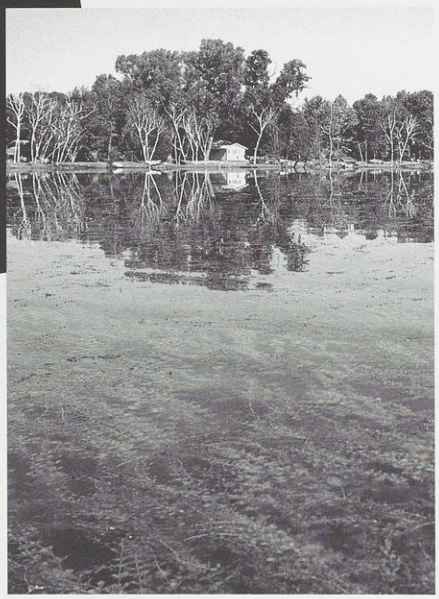
Legal issues in the Davis case test part of a unique body of law, called the public trust doctrine, that gives the state the right — indeed, the obligation — to scrutinize requests like theirs. It's old law, derived from an 18th-century body of principles in the Northwest Ordinance that governed the territory before statehood and drew on concepts from English common law and Roman law. Water rights in the public trust doctrine began as a simple sentence: that the Mississippi and its tributaries that linked eastern states to the frontier "shall be common highways and forever free." The doctrine later incorporated in the State Constitution is a founding tenet for anyone who wished to safeguard waters from danger. Now a large body of constitutional laws, court decisions, and statutory laws flesh out public rights and private limitations on public waters in Wisconsin.

As time went by, the public trust concept, as tested and interpreted by the State Supreme Court, was extended to define clean water, outdoor recreation, scenic beauty, and native plants and animals as public rights worth protecting. Those who would use the waters of Wisconsin bore the legal burden of showing that their actions would not cause substantial harm. The doctrine hasn't always solved problems, but it is a foundation, a starting point, and a Constitutional basis for adjudicating legal disputes. However, choosing between perceived public "harms" and "benefits" has proven immeasurably difficult.

Many cases were lost, as in 1901, when the renowned photographer H. H. Bennett lost a case that allowed damming and flooding of the beautiful Dells on the Wisconsin River. Other cases were won, as when Virgil Muench became the first person in Wisconsin to prevent the building of a hydroelectric dam on the Namekagon River, solely on the grounds that the river's natural beauty would be lost.

KATHERINE ESPOSITO

Solid piers slow down water flow and provide places for exotic organisms like zebra mussels *(left)* and Eurasian water milfoil *(below)* to grow and gain a toehold in lakes and on coastlines. Nuisance species can replace native animals and plants disrupting habitat and food chains.



ROBERT QUEEN

Piers form barriers

Those two cases inspired passionate stances on both sides. As with many public trust cases, the only thing that changes is the focus. Dams may not be going up anymore, but the same can't be said of piers and their near cousins, marinas. Lakefront living is more prized than ever, and those who can afford a home or a condominium aside water can usually afford a boat and a big dock.

A pier off one's property probably doesn't seem like a big deal. And certainly it's easier to step down into a boat from a sturdy platform. But beyond the usual entry point, known as the ordinary high water mark, the lakebed and the water above it is owned by the public, not the adjacent landowner. So building something offshore is akin to the land-based notion of trespass, with one major difference: the intruder has certain rights as well.

A bird's-eye view of the Green Bay shore near Ephraim, would reveal dense cedars nearly smothering the comfortable homes below. Offshore, the coastline resembles a gap-toothed comb, with docks jutting into the water at uneven intervals. If the Davises and everyone else who wanted a pier got one, the gaps would fill in, with disturbing results, opponents say.

Erosion is one such consequence, according to the 1998 report. When a pier is built perpendicular to the shore, it tends to slow the natural sideways motion of nearshore waves, a process known to scientists as littoral drift. Sand floating in the water settles out on one side of the pier, but the other side gets none, and eventually erodes. That disruption of flow is trouble both for species that naturally drift along the length of beaches as well as the beaches themselves, which can wear away without continuous sand replenishment.

After a team of scientists began looking more closely at Door County docks, they found even more reasons to object to them. All were found to be magnets that trapped exotic plants and animals, which then out-compete native ones. For instance, the invasive plant Eurasian milfoil was found growing around the inside corners of the L-shaped docks. Other nuisance species, including the zebra mussel and the round goby fish, accumulate where the drifting water slows down.

By granting permits for so many piers in the past, "we were allowing the creation of habitat that would support these invasive exotic species. We never paid attention to that before," said Ron Fassbender, the lakeshore team supervisor in the Door County area.

A mess stops here

Then there is the matter of the docks' appearance, a subject with which Mike Standish, a Door County mortgage lender, is all too intimate. Standish, the president of the Bay Shore Preservation Association, has frequently filed written objections to proposed docks. He owns one himself, yet he is quick to state his complaints that are vexing for pier owners and viewers alike.

His family bought their house and cottage along Bayshore Drive in Egg Harbor in 1982. The 220-foot long, wide concrete dock was crumbling even then, but removing it from its base of solid bedrock was pricier than fixing it, so they chose repairs. But Standish's labors didn't end there.

"It's a haven for dead fish," and a pit stop for algae, he said. "When [decaying material] gets to shore, it mounds up, and around the pier it will be two feet deep."

But, nothing tops what the seagulls do, Standish added.

"I know exactly what the seagull diet is," he said. "I know exactly when the seagulls start eating cherries. I know exactly when the crayfish are there. They regurgitate their food and eliminate their waste products. It's just a terrible mess. The only way to get it out is power washing."

Whether the concern is over habitat or scenic beauty, the public trust doctrine gives pier protesters a legal foundation. Beyond those considerations, there's a simple principle, according to Kurt Pagel, a retired DNR forester who's opposed to new docks. He calls it "takings in reverse."

If the value of private property declines due to a state action, the owner has a right to compensation, according to Wisconsin's "takings" law. However, if the value of public property reduces due to private actions, as Pagel believes it does, then the public should be paid.

"People are taking a chunk of public water and making it absolutely worthless," Pagel said. "They see it as property extensions, but they give nothing to the public." His idea has never been tested, he added. "But it would be wild to chase it around in court." And that's

where much debate has gone: More than a dozen cases proposing to deny pier permits are pending contested-case hearings. A legislative proposal to ban solid docks is in draft form.

It may never be overt, but in every discussion of piers and marinas in Wisconsin, there is only one real item on the table: the spirit and value of the public trust.

"It would be appropriate to say that the everlasting 'War of the Waters' continues on a fluid battleground, with individual engagements and skirmishes being won or lost each day," penned Walter E. Scott in 1965, in a lengthy monograph on the public trust doctrine. Scott was then the assistant director of the DNR's forerunner, the Wisconsin Conservation Department.

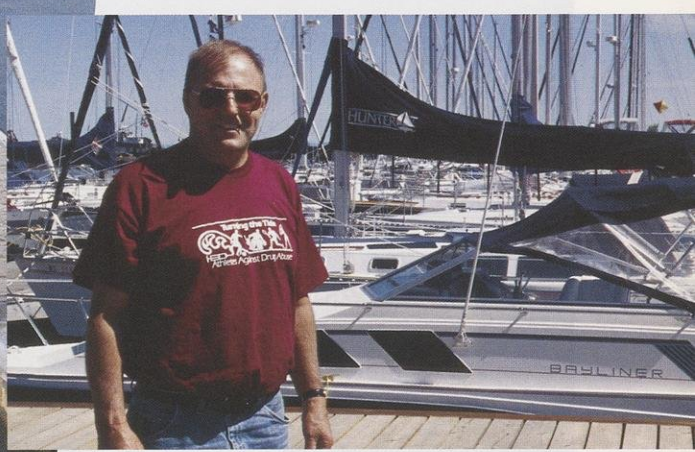
The Davis case and several others illustrate beautifully just how fluid that battleground still is.

A tool to slow shoreline development?

Those who own land along rivers and lakes carry a special name: riparian landowners. The Davises and Mike Standish have riparian rights, as does Stan Smith of Chicago, who would like to enlarge a pier in a sheltered cove in the Lauderdale Lakes of Walworth County; and so does ABKA Limited Partnership, the corporate owner of the Abbey Harbor and Marina on Lake Geneva. ABKA intends to convert the private marina into lakefront condominiums, called "dockominiums." The proposal spearheads a lively debate over the trust doctrine.

For DNR regulators, explaining how the doctrine can intercede in a summer's dive off a family dock seems hopeless. "[The public and riparian owners] don't want to understand it," said Ron Fassbender. "We tell people when they come in that part of the public trust doctrine gives them reasonable access to water. But it's not a well-defined term."

Historically, "reasonable" meant a pier that didn't interfere with others' boats, but it has come to mean much more. Dozens of court cases have expanded the public trust doctrine to convey an even vaguer idea, that of the "public interest." The concept embraces the notion that scenic beauty, plant and wildlife needs, water quality, and accessibility are included as public "rights" on public waters. Lately, as new homes, businesses and marinas sprout up all over the state, regulators believe the public trust doctrine should consider



Marinas also act as barriers to natural organisms and other water users. In cases where many people in a community want individual solid piers, a marina may be viewed as a better alternative that allows access and contains waterfront development.
(below) Duane Lahti, DNR Water Regulation Specialist, notes continued, unending pressure on the Lake Superior coast for new marinas, solid piers and waterfront development.

Pushing for private rights on public waters

Behind-the-scenes battles over private rights to public waterways take place in every state courtroom, but nowhere are the discussions more technical and arcane than in a little-understood case involving the Abbey, a famous resort on Lake Geneva.

The Abbey has long operated a private marina that makes a number of boat slips available to the public for a fee. In 1994, the owners, ABKA Limited Partnership, proposed to sever the harbor portion from the resort, and convert the entire resort to lakefront condos. These condominiums, however, would not have bedrooms, a kitchen and a place to park a car. The "dockominiums" would consist only of the docks, with their sole connection to land a mailbox with a key. Each of the 407 mooring slips would be considered a separate unit for tax purposes. DNR objected, arguing that converting all of the slips to private use would reduce the public's access to the lake. An administrative law judge agreed, and reduced the number of strictly private slips from 407 to 120. That was the number the judge considered "reasonable" under the public trust doctrine. DNR attorney Michael Cain called it a "fair balancing of public rights."

That seemed like a good thing for the public. But not everyone agreed with DNR's stance.

Bill O'Connor objected, for one. As the lead attorney for the Wisconsin Association of Lakes, O'Connor is convinced that the DNR's stance on the ABKA case could eventually eviscerate the public trust doctrine. "For all practical purposes, the ABKA condo proposal sells a rectangle of water in Lake Geneva," he said. "Everyone knows very clearly you can't sell water. You can't sell lots on the water."

At issue is the convoluted way that rights to the private piers will be conveyed. Under the trust doctrine, riparian rights cannot be severed from the land and sold. And under state condominium law, property transfers cannot include water. The ABKA proposal skirts these problems by giving each "dockominium" owner exclusive and perpetual rights to use a slip by virtue of owning a mailbox called a "lockbox" on land with riparian rights attached to it. O'Connor lauds the creative thinking, but contends that the methodology is merely a sneaky way to sell rights to use water, and that is illegal under the State Constitution.

The argument is "they're selling common interests in riparian land and a lockbox, and the pier rights are incidental," said O'Connor. "If that lockbox didn't include the perpetual right to use a boat slip, it would be almost valueless. The overwhelming value is the boat slip."

If the proposal passes muster, O'Connor is concerned that trouble could brew later if lake problems surfaced and the DNR wanted to change the permit conditions. "If that time came, the DNR might have to contact more than 400 slip owners or renters, leading to an unrealistic workload. Even though the ABKA proposal says their interests will always be subject to the state's interests, it's theory," O'Connor said. "As a practical matter, it would be out of the question."

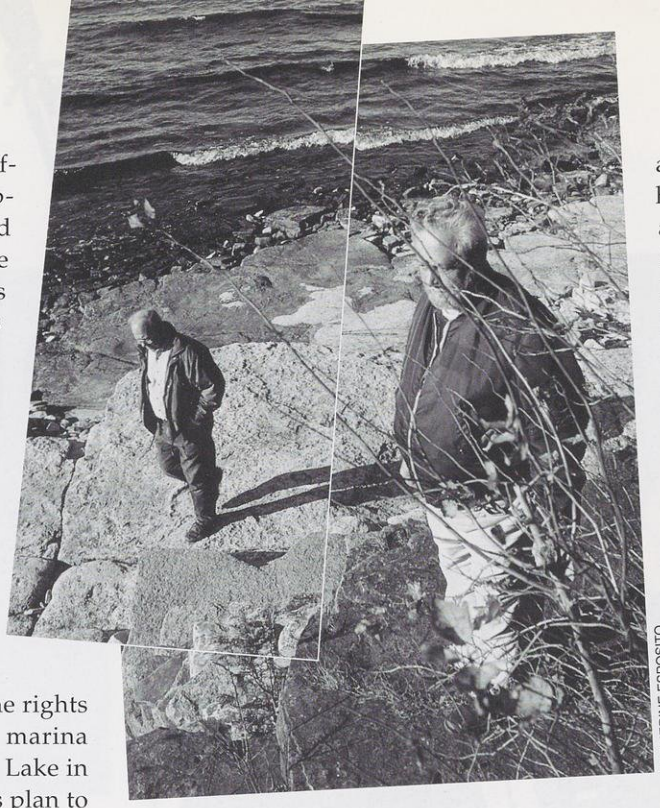
The case may eventually be heard by the Wisconsin Supreme Court.

KATHERINE ESPOSITO

One current legal battleground is determining what constitutes fair public access to private marinas build on water — a public resource.

the deleterious, cumulative effects of continuous development. If opponents of shoreland sprawl could appropriate the doctrine as a weapon, the shores around our northern lakes might look very different indeed.

A 1966 Wisconsin Supreme Court case, *Hixon v. the Public Service Commission*, first promoted the concept of "cumulative impact" of shoreline development and *Sterlingworth v. DNR*, a 1996 Wisconsin Court of Appeals case, strengthened the notion. That second case arose over the rights of a resort owner to expand a marina from 25 pier slips to 34 in Mill Lake in Walworth County as part of its plan to convert seasonal lodging to condominiums. The owner, Sterlingworth Condominiums, was denied a permit to expand based on likely cumulative impacts to the area's ecology. The resulting public trust language contained in the appeals court decision is some of the strongest yet written. "Whether it is one, nine, or 90 boat slips, each slip allows one more boat which inevitably risks further damage to the environment and impairs the public's interest in the lakes," the court stated.



KATHERINE ESPOSITO

Community members in Door County want a say in sustaining the public's interest in undeveloped stretches of shoreline.

How far do land rights reach?

Stan Smith's frontage is only a mile's paddle from those condominiums on the Lauderdale Lakes. But the Sterlingworth decision casts a long shadow.

The waters around the old wooden pier that Smith wants to enlarge are shallow, mucky and private. Greenery drapes the shoreline and chara, a native grasslike algae that shelters spawning northern pike, pokes up above the water surface. It's ideal territory for canoes and rowboats; anything with a propeller would only turn over once before kicking up a storm of swirling mud. Southeastern Wisconsin lakes used to boast acres of chara and bulrushes and yellow flag iris, and one place to still see them is the water off Smith's property, now designated by DNR as a "sensitive area."

Beyond the plants, almost a hundred feet out, the water deepens into a dredged channel and ventures close to homes on the other side of the bay. Each of those homes has a dock and a fine view of unspoiled nature that is Smith's land. Smith wants to build a new dock out 96 feet to the deeper reaches by adding seven slips that would be available to future homeowners. "Where we've placed it is in an area of open water, that doesn't disturb the marsh," he said.

Smith says he has remained conservation-minded. He has restored 20 or so acres of prairie adjoining the shoreline and promised to build fewer houses than local zoning would allow. After analyzing impacts from constructing and using a longer pier, the Department of Natural Resources recommended denying Smith's plan.

An irony of both the Smith and Davis cases is that each riparian owner believed he was following DNR's most recent advice about the best way to build their piers, and their projects were still rejected. "The thing that really bugs me is the inconsistency," said a bitter Warren Davis. "There is apparently no published procedure to handle pier applications."

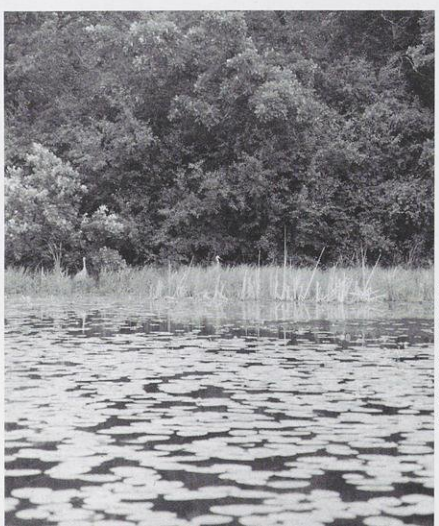
The state does have guidelines that all field staff use, but every situation is unique, said Ron Fassbender. And in today's development climate, if everybody received approval, those various "public interests" safeguarded by the public trust would be completely eroded. So every regulator examines each proposal with an eye on the whole shoreline.

And indeed, as Fassbender scans the scene from a boat off the Davis property, he sees a forest of cedars, and not much more. It's a view worth protecting, for the public's sake, he said.

"If a half-mile of shoreline doesn't have a lot of structures," meaning docks, "and you can't see the houses down the water, then in our estimation development would intrude on the natural scenic beauty," Fassbender said. "Nothing in the law says there is a right to a solid pier. You only have a right to access to water."

The solution may be more public marinas, places where one can cluster development and preserve the spirit of the public trust, said Kurt Pagel. "Would they let us build individual garages next to a state park, and run driveways through the park? I don't think so." □

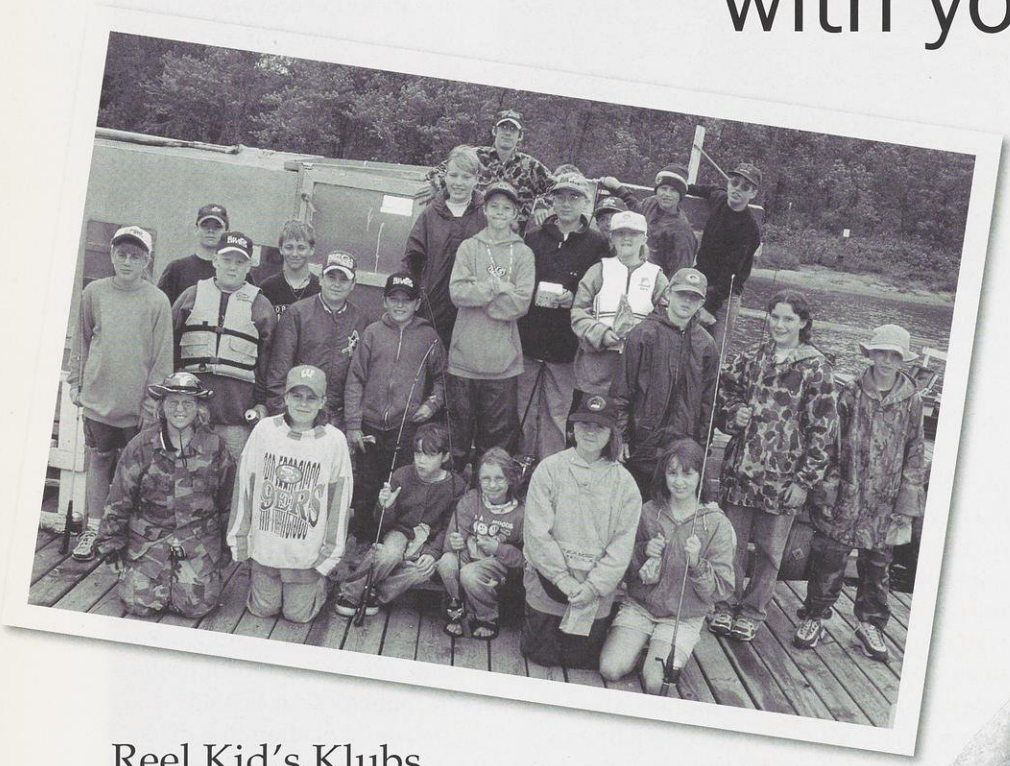
The view from Stan Smith's property on the Lauderdale Lakes in the area where he wants to build a permanent pier.



KATHERINE ESPOSITO

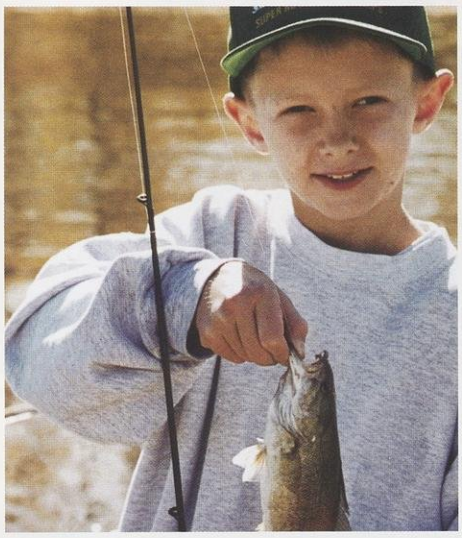
Katherine Esposito writes for Wisconsin Natural Resources *magazine from our Madison office.*

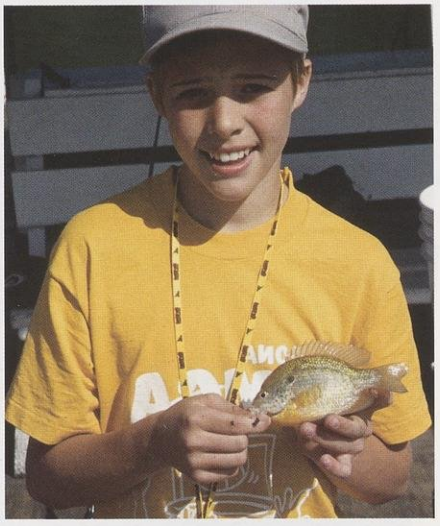
Get hooked
with your buddies



Reel Kid's Klubs provide a time, a place and a way for kids to enjoy fishing year-round.

The Reel Kid's Klub in Alma provides both enthusiasm and a forum to interest children in fishing as a lifelong hobby. The science and the fun of fishing are equally explored.



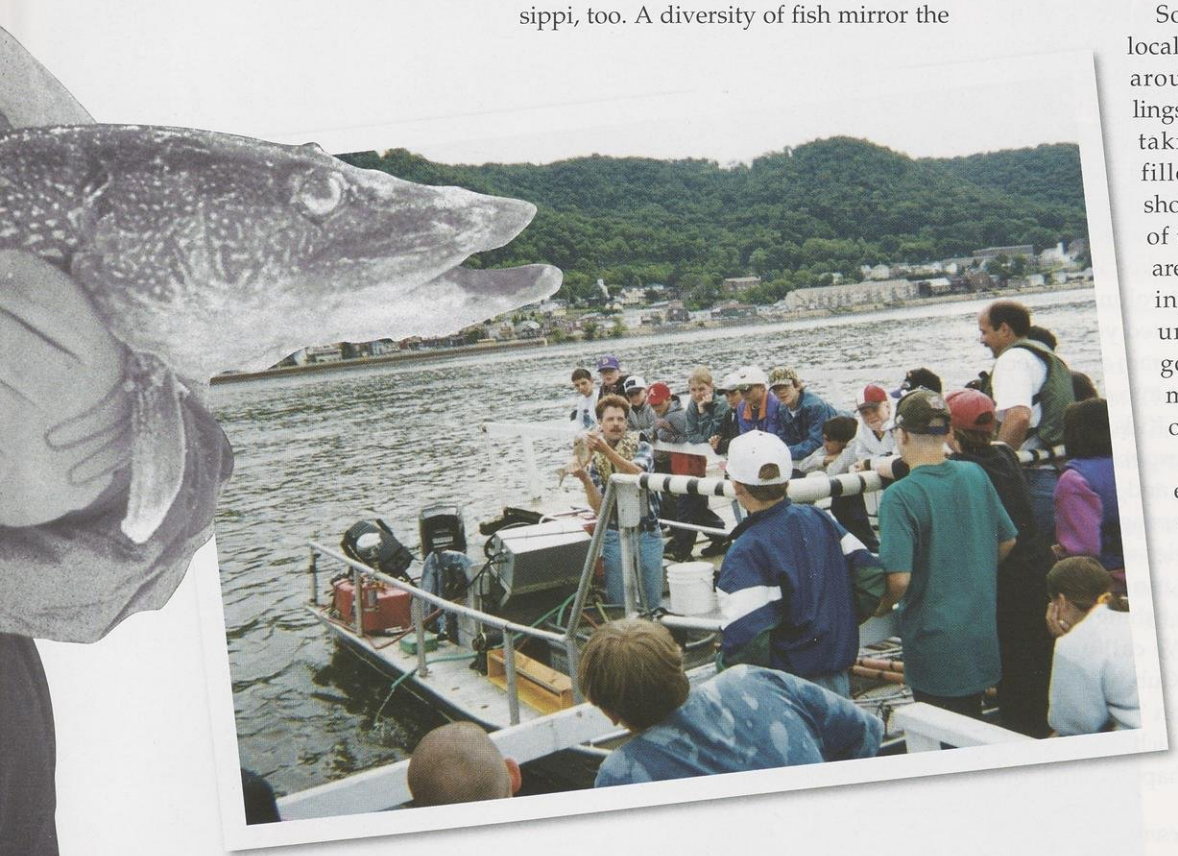


Nothing replaces the fun of catching fish, but the club equally fosters ethical behavior, knowledge and respect for fish.

Story and photos by Brian Brecka

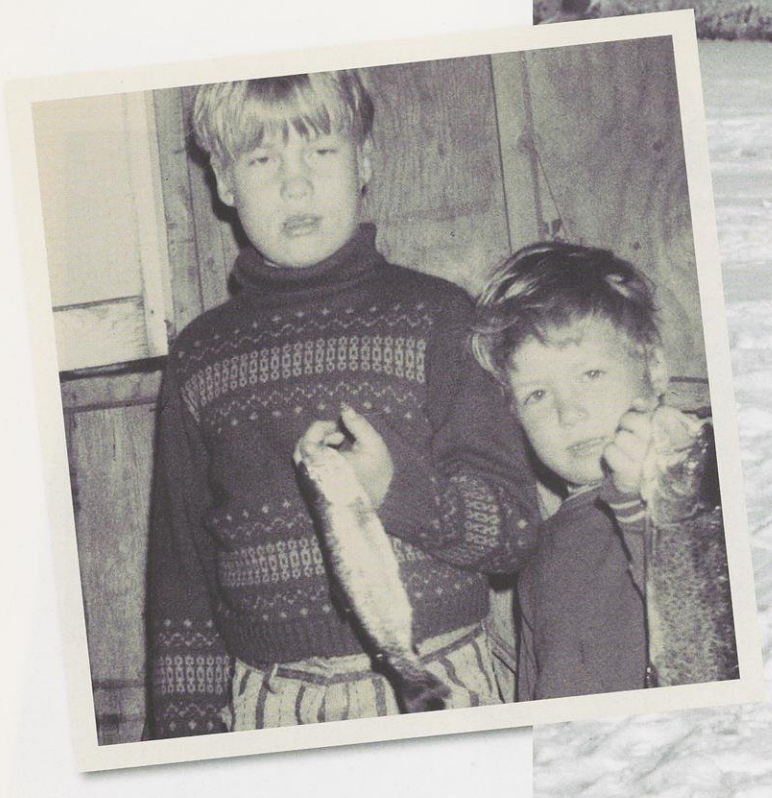
THE REEL KID'S KLUB

Wisconsin has a water-rich landscape — millions of wetland acres, nearly 15,000 lakes (two of them Great), thousands of miles of cold and warm-water streams, and the mighty Mississippi, too. A diversity of fish mirror the diversity of the surroundings. Nearly 160 fish species flourish here to delight everyone from cane pole and bobber fishers to anglers who battle chinook salmon and muskellunge. It's a perfect place to continue fishing traditions and foster new ones.



Soaking worms at a local trout stream, poking around a pond with siblings in search of bass, and taking family vacations filled with fishing and shore lunches are all part of the tradition. So, too, are the memories of fishing successes and failures; the big one that got away is often more memorable than the one that was caught.

Parents, grandparents, aunts and uncles who caught fishing fever as youngsters used to pass it on to children. Today, however, the demands of modern life consume our precious leisure hours like never before, and it seems



Fishing is explored in all seasons. Kids enjoy shanty time, tip-ups and jig-fishing in winter.

there's less and less time for fishing. As a fisheries biologist, I'm concerned. An attitude of indifference to the outdoors could develop if fewer people, young or old, lack first-hand experiences with nature. To prevent that, we need to recruit, educate and retain new anglers.

We've had some decent starts. Many one-day "learn-to-fish" events for kids offer a few hours of instruction followed by fishing. In Wisconsin, the Department of Natural Resources' Angler Education Program takes it further. Across the state, adult volunteers host fishing clinics to interested youngsters. In a few cases, this program and associated clinics are brought into schools.

But it's not enough. Kids need more than a single fishing experience to become life-long anglers and stewards of the resource. Three years ago, in DNR's Alma office, our fisheries staff sought a way to provide new, innovative and continued exposure to fishing and fisheries in Wisconsin. We call our pilot project the Reel Kid's Klub.

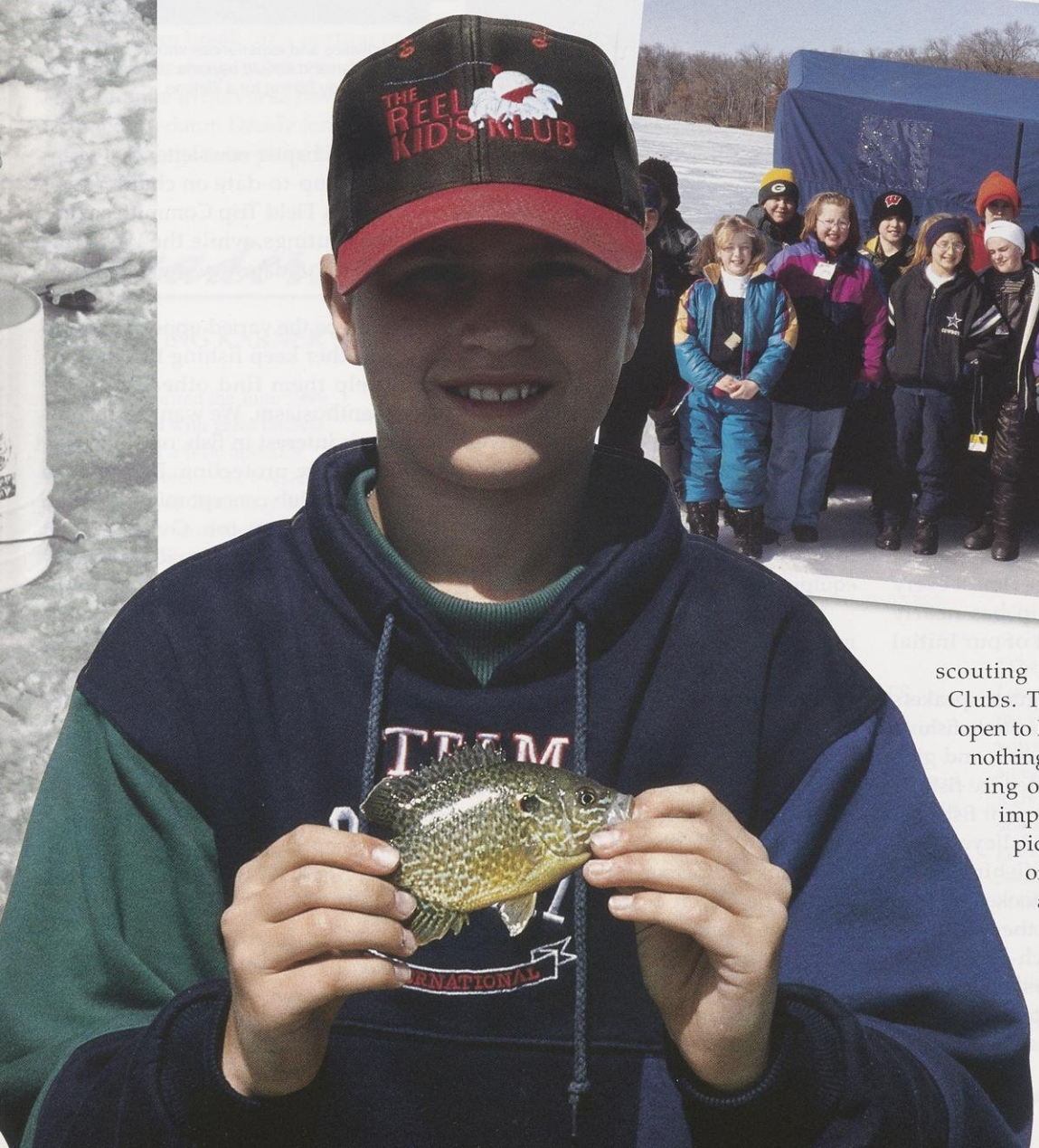
The club began as an "umbrella" or parent organization, which would eventually organize local chapters similar to

Reel Kid's Klub Oath

As a Reel Kid, I will...

- abide by all laws and regulations that conserve and protect fisheries and aquatic resources.
- respect anglers and all other users of the aquatic resource.
- fish safely and use common sense in all activities on and off the water.
- release all fish unharmed except those that I choose to keep and eat.
- promote a clean environment and not litter when I fish.
- conduct my fishing and other outdoor pursuits in ways that do not harm my environment, and educate others, including my family and friends.

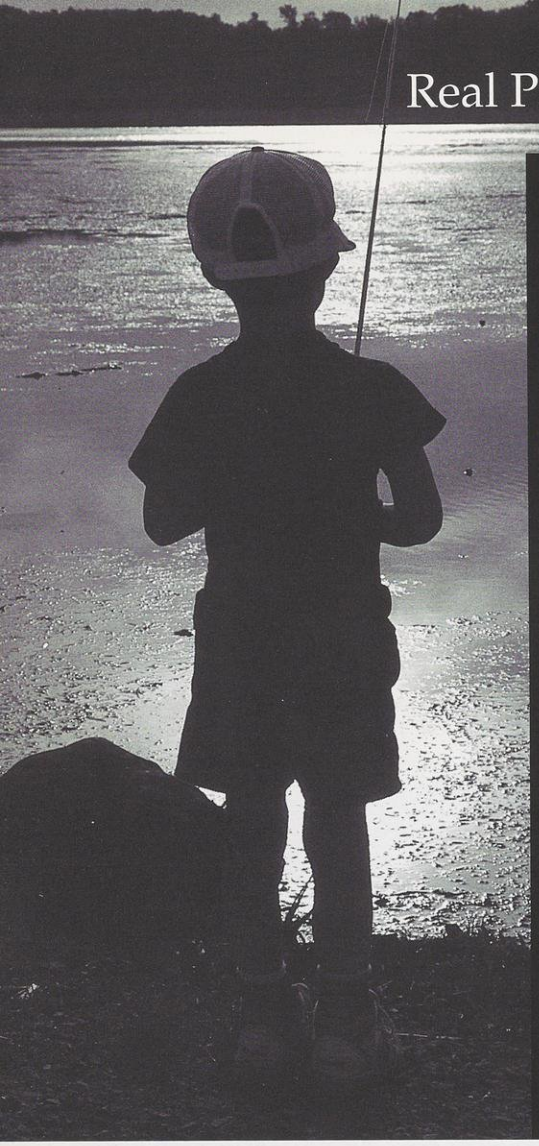
The club shows by example that much of the fun of fishing is the camaraderie of good friends sharing a good time together.



scouting troops or 4-H Clubs. The program would be open to kids ages 10–17, and cost nothing to join. Building a feeling of ownership would be important: Members would pick a chapter name, elect officers and plan activities and events, and serve on committees.

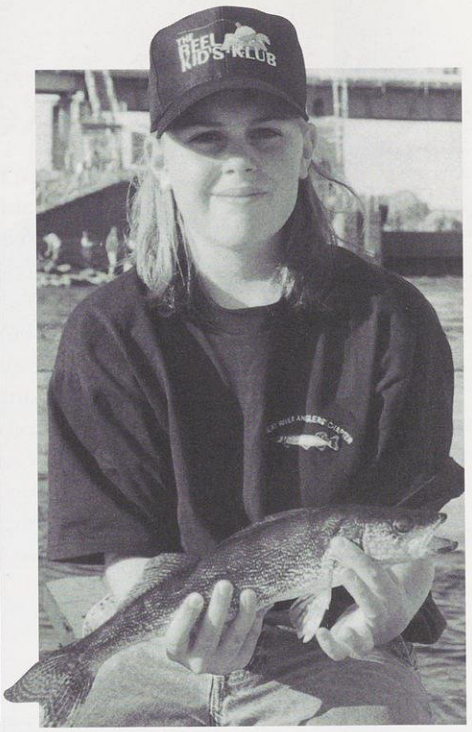
The first Reel Kid's Klub chapter in Wisconsin began in Janu-

Real Partners for Reel Kids



Twenty-one charter sponsors support Reel Kids. We thank:

- Brule River Sportsman's Club
- Buffalo City Bassmasters
- Buffalo County Conservation Club
- Durand Sportsman's Club
- Eau Galle Sportsman's Club
- Fin 'N' Feather Sportsman's Club
- Great Lakes Sport Fishermen–Ozaukee Chapter
- Green Bay Area Great Lakes Sport Fishermen
- Grizzly's Tackle Company
- Indianhead Bassmasters
- Kenosha Sportfishing and Conservation Association
- La Crosse Bassmasters
- Madison Fishing Expo
- Midstate Bassmasters
- Muskies Inc.–First Wisconsin Chapter
- Muskies Inc.–God's Country Chapter
- The Great Alma Fishing Float
- Trimbelle Rod & Gun Club
- Trout Unlimited–Coulee Region Chapter
- Trout Unlimited–Green Bay Chapter
- Trout Unlimited–Northwoods Chapter



Club activities and experiences show that boys and girls can and should become skilled anglers who can enjoy fishing for a lifetime.

DOUG STAMM WWW.PROPHOTO.COM

ary of 1998 in Buffalo County, along the banks of the Mississippi River. The 13 youngsters who joined that evening quickly anointed the Great River Anglers Chapter of the Reel Kid's Klub. They elected officers and began planning future activities and events. Since then, the chapter has met almost every month and membership has nearly tripled. Eighty percent of our initial members still belong.

At chapter meetings, guest speakers share fishing skills, demonstrate fishing tackle and other equipment, and give talks. Topics have included ice fishing safety, aquatic plants, ancient fishes of Wisconsin, trolling for walleyes, bass fishing, trout fishing, fishing large rivers, and joining the "Hooked on Wisconsin" Anglers' Club, the DNR program that promotes catch-and-release fishing, celebrates diverse fishing opportunities and offers patches for catching lunkers.

Our club holds field trips year-round. Members have fished streams for trout, fished the Mississippi River by boat and from fishing piers, and ice-fished on Mississippi River backwaters on several occasions. We've taken trips to nearby sports shows to see the latest equipment and listen to fishing experts.

Members participate in several committees. A Library Committee is collecting fishing books, videos and magazines that other members can borrow. The Equipment Committee set up a program to loan fishing tackle and equipment to members. The Wall of Fame Committee maintains a bulletin board featuring photos from chapter field trips and personal fishing adventures. The Catch & Release Fishing Challenge Committee tracks a fun competition that challenges members to catch, photograph and safely release as many species as possible. The Newsletter Committee compiles the *Great River Times*, the chapter newsletter that keeps members up-to-date on chapter happenings. A Field Trip Committee plans chapter outings, while the Web Page Committee updates www.greatriveranglers.com.

We hope the varied opportunities to get together keep fishing fun for kids and help them find others with the same enthusiasm. We want to encourage their interest in fish, outdoor play and resource protection. Perhaps the Reel Kid's Klub concept might work in your community, too. Over the next year, we'll develop more ideas and refine what we've already done. We hope this chapter provides a decent model and soon we'll add new chapters across the state with help from other anglers. Who knows, maybe the next "klubhouse" will be in your backyard. □

Brian Brecka is a DNR fisheries biologist and Reel Kid's Klub project coordinator stationed in Alma. Direct questions or comments to him at: DNR Fisheries Management, P.O. Box 88, Alma, WI 54610 or breckb@dnr.state.wi.us.

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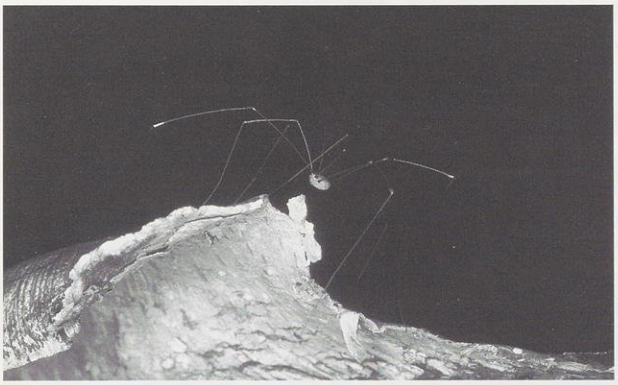


DON BLEGEN

Daddy long-legs is likened to a split pea walking on stilts — quite a balancing act!

The daddy long-legs' most impressive feature is its four pairs of long slender legs, which may be up to 30 times as long as its body. Each leg has seven segments and curves out at the tip. If the daddy long-legs is in danger of being caught, it can break off a portion of its legs and then escape while the detached legs continue to quiver in front of a confounded predator. Daddy long-legs can grow new legs to replace the broken ones.

That's not to diminish the value of those magnificent legs. They are so important that daddy long-legs spends considerable time fastidiously cleaning them. Each leg is gingerly held in its jaws and nibbled to clean the leg as it is carefully pulled through the chelicerae.

Adults ordinarily hide during the day and become active at twilight when they wander in search of food such as dead insects, plant juices and possibly living insects. When they walk, their bodies are always held a little distance above ground. As they move, seemingly on tiptoe, the second pair of legs, the longest, touch the surface sensing food. If something edible is detected, the daddy long-legs begins a teetering motion and tilts the body forward, enabling it to see over its legs and explore the intended object with its pedipalps. If the detected item is acceptable, the daddy long-legs grabs it with its pedipalps and eats it.

The more brilliantly colored males are smaller than females, but may have longer legs.

During the summer mating season, there is no formal courtship. The male simply climbs on the body of the female and transfers his spermatozoa into her gonopore. In autumn, the female uses a long, reversible ovipositor to deposit eggs into soil or crevices in wood. In Wisconsin, the adults most likely die in autumn, thus the species overwinters in the egg stage. The young hatch the following spring and grow by splitting and shedding their "skins."

Next time you are startled by a daddy long-legs scurrying across the woodpile, spare its life, for it is a beneficial and graceful creature in the complex web of life. □

Anita Carpenter keeps a close watch on nature's doings near her Oshkosh home.

Readers Write

ATTRACTING KARNER BLUES

I recently acquired the June 1999 issue and read with great interest "Big plans for a little butterfly," about Karner blues. We live on 10 acres west of Green Bay on the far eastern tip of the Karner blue's range. Many other butterflies make their home here in the plentiful goldenrod, milkweed and flowerbeds. Last summer was our best ever for monarchs and swallowtails.

I would like to plant wild lupine in hopes of establishing habitat for Karner blues on an acre or more. Where would I find lupine seed and what advice can you offer about planting it?

Joanne DeVetter
Green Bay

We forwarded the fact sheet "How to establish lupine from seed," planting directions, a list of nurseries that sell wild lupine, "A landowner's guide for planting prairie habitat for wildlife," a list of prairie nursery and restoration consultants and some general Karner blue fact sheets. Good luck and thanks for trying.

PERCH IN HIS PAST

The February story "In search of perch," reminded me of the old days. The Great Lakes perch were smothered in batter, deep-fried succulent, golden-brown; a fishy treat that's never been beat — all you could eat for $3.95. Peg's Supper Club is gone; the jumbo perch are gone. Perhaps we overindulged.

Kurt Sroka
Somerset

TOWERS & BIRDS

I just got done reading your piece on communication towers and songbirds ("Battered by the airwaves," February 2000). I have been shooting photos in Minnesota and discovered that foxes love to live under towers. They have learned that there are easy pickings during migration times. I decided to check into the tower issue in Duluth. The area was picked dry except for some feathers, but the bone pile was very large. I'm glad to see you took on this issue. It's been hard for me to get a cell phone since first reading about towers years ago.

Larry Mishkar
Minneapolis, Minn.

DAZZLING LIGHTS

We saw an amazing display of northern lights on Lake of the Falls during a snowmobiling trip to Iron County. Could you tell us where the northern lights photos were taken that you highlighted in your February 1999 story "Celestial shimmer?"

Curt Duchow
Oconomowoc

Wildlife Photographer Scott Nielsen took those gorgeous shots with splashy reds, orange, pink and green hues near Superior.

EE EXCELLENT

I want to compliment staff on the reporting in the April special section Environmental Education programs ("Learning to grow").

As a student and environmentally concerned citizen I was especially pleased with the section "The Community as Classroom." I was excited to read about all of the young students getting involved in environmental issues at an early age. I believe that projects like these help educate students not only about the value of getting involved in community issues, but also following a path of lifelong learning and environmental consciousness.

I hope you keep up the good work promoting these goals.

Mitchel K. Holliday
Menomonie

THE WHITE WHIRL

The critter caught our attention when our six-year-old schnauzer and 1½-year-old basset hound scurried to the corner of our old cottage erupting into canine cacophony. We dragged off the barking dogs. I donned leather gloves and picked up a flashlight to explore the dusty wasteland behind the corner bookshelf in our dining room.

I saw a little white rump.

It didn't look like a mouse's rump.

I moved the books and was eye-to-eye with an eight-inch long white animal that looked a bit like Stuart Little. It scurried back and forth behind the homemade pine shelves then rocketed upwards and disappeared into a cranny behind the brick-surround fireplace insert. I thought it was a ferret. My wife thought it was an albino rat.

Today I saw the skinny "whitey" scampering around our woodpile. It seemed to love both the snow and the scattered birdseed.

My son thought it was an ermine, and a search on the Internet brought us to your website. It was, indeed, a short-tailed weasel.

We live only a hundred yards from the southern shore of Georgian Bay just west of Collingwood, Ontario in the village of Craigleith. We see deer, foxes, rabbits, beavers, herons and Canada Geese, but this was our first weasel.

George Czerny
Craigleith, Ontario

ON DOVES

Concerning the mourning dove hunt under consideration in Wisconsin, I think it would be awful to stoop to hunting the Bird of Peace. I understand that animals have a food chain and that hawks and other animals will take doves for food. How any human could eat a bird that I regularly feed and fatten up in my backyard is beyond me. I'm not against hunting some animals, but this is ridiculous to me.

Paula A. Smith
Appleton

Proposals to hunt mourning doves are both cyclic and contentious every time they are raised in Wisconsin. Passions rise as some question the ethics of hunting a bird designated as the State Bird of Peace. Others have enjoyed hunting doves in surrounding states. Some view the issue as a hunting versus anti-hunting debate. And a vast majority of nonhunters either don't have an interest in the matter or don't have a forum to express opinions. The recent vote at Spring Conservation Hearings supported dove hunting by better than a two-thirds majority of the nearly 30,000 people voting. The Natural Resources Board will review the topic at its May 23–24 meeting, just as we go to press.

DEER 2000 REVIEW

In mid-June, seven Deer 2000 study groups will make preliminary recommendations available for public review. "We are planning a series of meetings in each county," stated Kevin Wallenfang, Deer 2000 Project Coordinator. "Recommendations will also be available on the Internet, and we are exploring other methods as well."

Meetings will be similar to those statewide last September. Each group's recommendations will be outlined and the public can respond via questionnaires in person, online or by contacting Wallenfang. Deer 2000 may also team up with popular outdoor writer and host of Outdoor Wisconsin, *Dan Small, to produce a special TV program highlighting recommendations for June.*

Comments gathered in June will be used to decide which recommendations will be forwarded for adoption as rules.

"Throughout this entire project, we've kept going back to the public," said Les Strunk, Deer 2000 vice-chairman. "The opportunity to participate in rulemaking at this level may not occur again any time soon, so we encourage people to attend and offer comments."

Contact Kevin Wallenfang at Deer 2000, P.O. Box 7921, Madison, WI 53707

MANAGING GEESE

I am trying to save the geese on our lake and have been studying egg addling. Your article ("Making peace with geese," December 1998) mentions that a person needs a federal permit to do this. How do you go about getting a permit? Our City Council is considering this option, and I want to be prepared.

Web writer
Savage Lake, Minn.

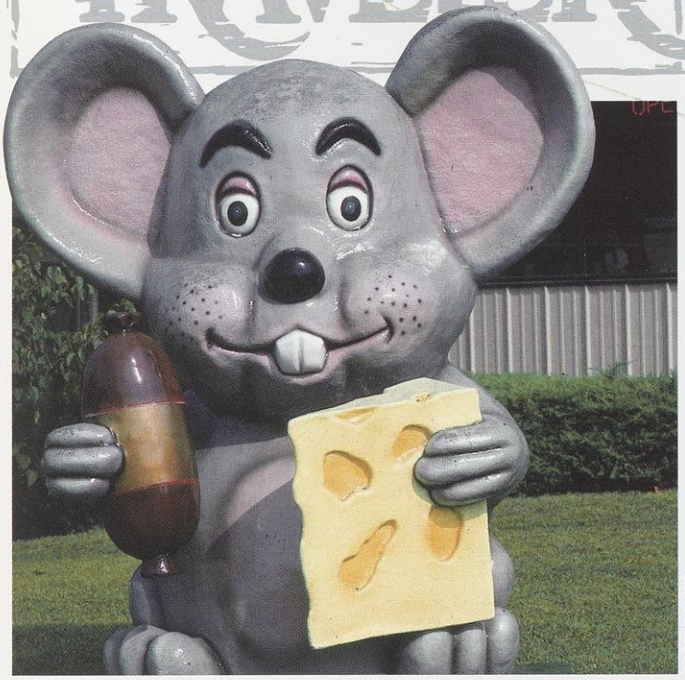
Thank you for not taking matters into your own hands and asking questions later. Urban wildlife management should be planned with local officials who are advised by the U.S. Dept. of Agriculture's Wildlife Services Division. Contact them at 1-800-433-0688 if you live south of Waupun. Call 1-800-228-1368 if you live north of Waupun. DNR wildlife biologists can also offer assistance, especially the urban wildlife specialist in Milwaukee, (414) 263-8622. Calls for on-site visits and nuisance animal control should start with the USDA Wildlife Services numbers. You might also contact the Migratory Bird Coordinator at the regional U.S. Fish & Wildlife Service office — Steve Wilds, BHW Federal Building, 1 Federal Drive, Fort Snelling, MN 55111-4056, phone (612) 713-5458. Permits are needed to control wild waterfowl populations and most other wildlife.

CONNECTING TO THE STARS

The April 2000 listing of planetaria in Wisconsin cities contains some errors as some of these facilities are not open to the public or only on a limited basis. Such is not the case here at the Barlow Planetarium at UW-Fox Valley, which has public shows four days a week, year-round. Contact us at (920) 832-2848, e-mail: kklamczy@uwc.edu or visit our website www.fox.uwc.edu/barlow/

James W. Perry
Campus Dean
University of Wisconsin-Fox Valley
Menasha

WISCONSIN TRAVELER



ROBERT QUEEN

Wildlife and whey

If there are two things that cause any true Wisconsinite to positively (and justifiably) puff up with pride, they must be our state parks and dairy products. Wildlife and whey, so to speak. Wisconsin has an abundance of both, each of such sterling caliber that the state is recognized worldwide by our conifers and curds, muskies and milk, chickadees and Cheddar, ice and ice cream…and so on and so forth.

June, the traditional month for celebrating the state's dairy heritage, will also witness a variety of events to honor Wisconsin's State Parks Centennial. (Some parks — High Cliff, Interstate and Kohler-Andrae, to mention three — have cleverly combined the two by hosting special ice cream socials for their centennial celebrations.) You'll want to set aside June 4 for the annual **State Parks Open House**, with free admission to all Wisconsin State Parks, and free birthday cake, too! June 3–4 is **Free Fishing Weekend** — when no license is required to fish Wisconsin's waters.

For additional park events in June, see the DNR website at www.dnr.state.wi.us/org/caer/ce/news/Events.html. You'll find more dairy-dos — including the scrumptious "Breakfasts on the Farm" — at the Wisconsin Department of Tourism website, travelwisconsin.com/calendar/0006.shtml.

Dairyfest, Marshfield: Tuck into a dairy breakfast, see the work of 200 art and craft vendors, watch a gigantic parade, and when breakfast wears off, there's a pie and ice cream social. June 2–4. 800/422-4541.

Great Wisconsin Cheese Festival, Little Chute: Calling all cheeseheads! Cheese curd eating contest, cheese carving, cheese tasting, cheesecake contest, and more. June 2–4, Doyle Park. 920/788-7390.

Poetry in the Park, Newport State Park: Every Friday evening at 6 p.m. the voices of local bards reading nature-inspired poems and essays will echo off Newport's rocky shores. Bring a blanket and a picnic. June 2–August 25. 920/854-2500.

Outdoor Skills Day, Governor Dodge State Park: Learn about camping, rock climbing, wildlife rehabilitation, muzzleloading, archery and boating safety. Fishing clinics for adults and kids. June 3. 608/935-2315.

Centennial Ice Cream Social and Open House, Kohler-Andrae State Park: Enjoy an old-fashioned ice cream social with birthday cake. Special programs, hikes, and movies. Free admission! June 4. 920/451-4080.

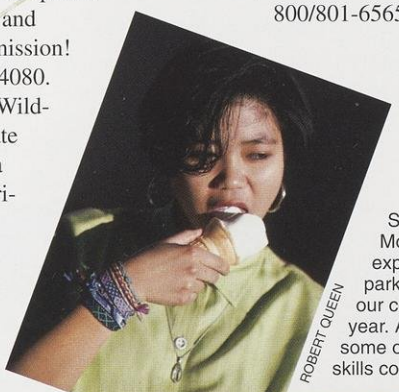
Fish Count, Wildcat Mountain State Park: Ready for a "shocking" experience? From 11 a.m. to noon, a DNR fisheries technician will shock Billings Creek to show how fish counts are done and how species are identified. Ice Cave parking lot. June 4. 608/337-4775.

Seth Peterson Cottage Open House, Mirror Lake State Park: Free tours from 1–4 p.m. of the delightful cottage designed by architect Frank Lloyd Wright. June 4. 608/254-2333.

Butterfest, Sparta: Three days of family fun dedicated to America's favorite fat. Large parade on Sunday. June 9–11, Memorial Park. 800/354-BIKE.

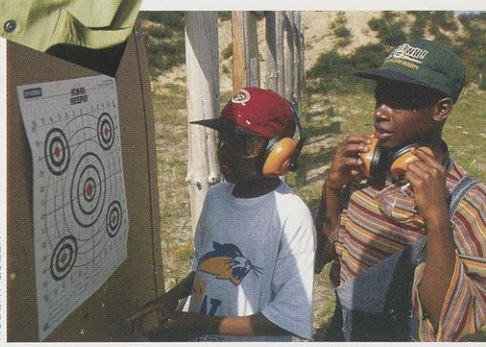
Moonlight Ride, Glacial Drumlin State Trail: Starts at 7 p.m. Ride from Deerfield to Cottage Grove, enjoy the Cottage Grove Fireman's Festival, then bike back to Deerfield in the moonlight. June 17, 920/648-8774.

Ice Cream Festival, Menomonee Falls: Utter indulgence — dig into sundaes, splits, floats, and flavors galore. June 24–25, Old Falls Village. 800/801-6565. □



ROBERT QUEEN

Spend Dairy Month exploring state parks during our centennial year. Also try some outdoor skills courses.



ROBERT QUEEN

Nicolet Area Technical College's **Summer Institute Outdoor Adventure Series** offers courses throughout the summer in canoeing, kayaking, sailing, natural history, wildlife and plant identification, biking, fly fishing and more — all with a Northwoods twist. Call 715/365-4480 or 1-800-544-3039, ext. 4480 (days) or 715/356-6753 or 1-800-585-9304 (evenings) to request a brochure, or visit www.nicolet.tec.wi.us/sumsched/summer1.html on the World Wide Web for course descriptions, schedules and registration details.

Wisconsin, naturally

BOGUS SWAMP STATE NATURAL AREA

Notable: Despite its name, this is the real thing: a huge *sphagnum* bog and northern wet forest of tamarack and stunted black spruce. A portion of the 900-acre natural area supports a "patterned bog," one of only two known in the state. Patterned bogs have "strings," or ridges of vegetation, alternating with "flarks" — shallow, water-filled swales. Plants found here include cranberry, Labrador tea, bog laurel, pitcher plant and sundew.

How to get there: Start at the junction of U.S. Highway 45 and Forest Road in the Langlade County community of Summit Lake. Go southwest on Forest Rd. about four miles to the west side of the swamp. Walk east into the site. The natural area is owned and managed by Langlade County. *Wisconsin Atlas:* page 77, grid B7.