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Paying for the past, investing in the future: Wisconsin plans for cleaner harbors.

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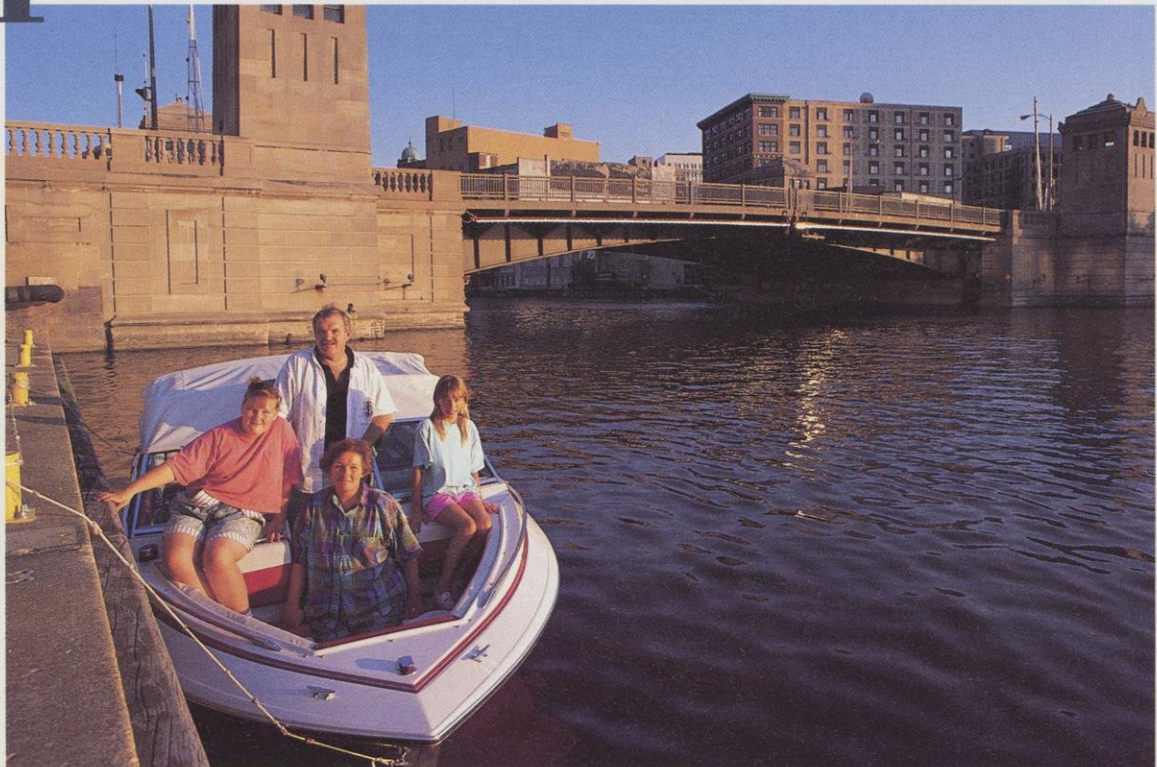
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PAYING FOR THE PAST



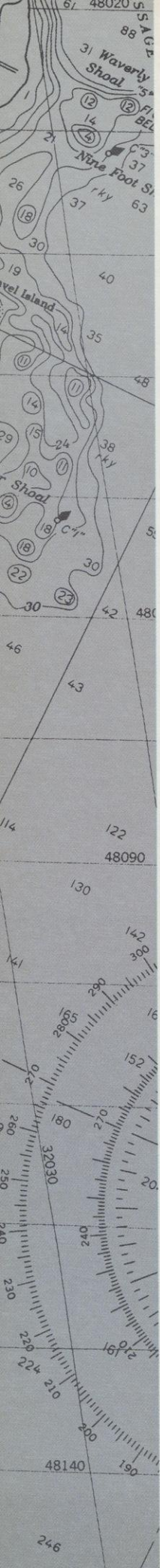
ETCHING OF MILWAUKEE HARBOR COURTESY MILWAUKEE COUNTY HISTORICAL SOCIETY

INVESTING IN THE FUTURE



FAMILY OUTING ON THE MILWAUKEE RIVER BY TORSTEN KJELLSTRAND

WISCONSIN PLANS FOR CLEANER HARBORS



UNDERSTANDING RAPS



“Paying for the Past, Investing in the Future” focuses on two of Wisconsin’s most precious resources: Lake Michigan and Lake Superior. For over 250 years, we’ve used these waters as routes of exploration, sites of commerce, and sources of drinking water, food and recreation. As the decades passed, the lakes also became repositories for the wastes of a growing region.

One solution to solving our lake waste problems is called a Remedial Action Plan (RAP) — a community plan for restoring harbors polluted with toxic sediments. There are five plans underway in Wisconsin.

Successful RAPs emerge from discussion and debate among the people who live and work near the harbors. Local citizens join representatives from state and local governments, in-

The Sheboygan River boardwalk: Visitors and residents stroll and shop along the scenic wooden path while crews of commercial fishing and charter boats use the walk to repair nets and sort the day’s catch.



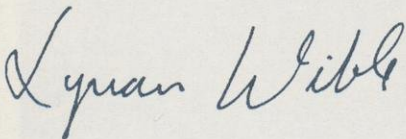
dustries and special interest groups on a Citizens Advisory Committee to ask questions, propose ideas and build consensus for harbor restoration.

Most environmental cleanups focus on one pollution problem at a time. RAPs acknowledge that land, water and air are interconnected in harbors. Soil erosion adds sediment to rivers. Air pollution settles into the water. What you throw in the garbage may affect groundwater quality. RAPs deal with the links between air, water, land, wildlife and humans — an ecosystem approach to restoring environmental quality.

RAPs cross political as well as ecological boundaries. Pollutants don't honor political borders; effective solutions can't stop at those boundaries, either. In that spirit, the International Joint Commission (IJC) was formed in 1909 to manage the waters shared by Canada and the United States. Three U.S. and three Canadian representatives sit on the commission. Under the auspices of the IJC, harbor restoration plans have been proposed at most of the 43 pollution "hot spots" around the Great Lakes.

Wisconsin's harbors are vital avenues to the Great Lakes. As you read, please consider what you can do to help restore the vitality of our lakefronts. Every individual is important. You can get involved through your job, a civic or social organization, youth group or your own personal actions. Whatever route you take, it's sure to lead to an invigorated, attractive Wisconsin Coast.

Sincerely,



Lyman Wible, Administrator
Division for Environmental Quality



"We have to approach our resources and environment with an attitude of stewardship."

David Conley

"For a long time, I've been a person interested in the decision making process," says David Conley, who sits on the Douglas County Board of Supervisors and the St. Louis River RAP Citizens Advisory Committee (CAC). "I haven't always been happy with the decisions that were made, and I believe that the best way to deal with a situation you're not happy with is to become involved and try to influence the process."

Conley got involved with the CAC after showing up at a meeting for people concerned about the environment in the Superior area. Soon, Conley was appointed as the Douglas County representative to the CAC.

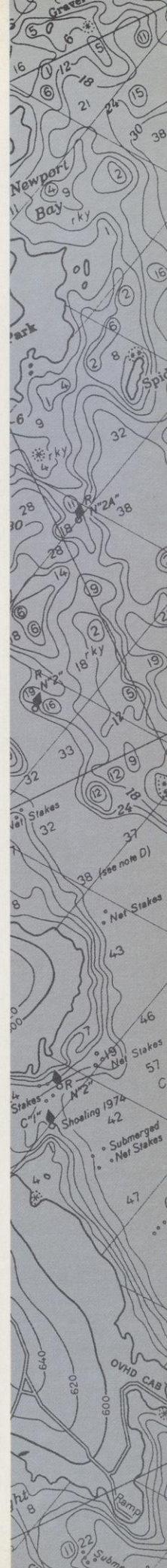
"I was concerned about what values would be reflected in the committee," he says. "During my involvement in local government I've heard a lot of rhetoric about the need for economic development and I've become concerned that not enough value is being placed upon the quality of life that can be gained only through a healthy, diverse and natural environment. So it was a pleasant surprise to discover that even though the CAC is a broad group of business, environmental and agency people, most members are very concerned about the quality and future of our natural resources.

"We realize that our past practices have had a tremendous impact upon our present environment. Much of that impact has been negative. I believe it's important that we begin approaching our resources and environment with an attitude of stewardship. We must recognize and understand the complex relationships involved in our area's ecosystem and be willing to take the corrective action necessary to maintain its integrity.

"Also, we can expect that future demands on our resources will keep changing, as will those components, from both inside and outside of our region, that we now see impacting the system.

"In this sense, it may be useful for a group like the CAC to continue monitoring and planning activities even after the conclusion of the RAP.

"Meanwhile, I want this RAP to be successful. I have a lot of confidence in the people involved in our CAC. For me, this is an opportunity to be part of the solution, to be part of the process when the rules are written and decisions are made. This is working within the system, spending the time to make a cleaner, healthier future for us all."



WEAKENING THE CHAIN

A **food chain** is an intricate system of links transferring energy, mostly in the form of food, between different species. Humans are at the top of many Great Lakes food chains. At the bottom are the small plants and animals that live in and eat sediments on the bottoms of harbors, rivers and lakes.

Sediments contaminated with toxicants like mercury, dioxin, DDT and PCBs threaten all the species in a food chain, but the organisms at the top of the chain especially are at risk. That's because of a process called **bioaccumulation**: Toxicants consumed by species at the bottom of the chain are not excreted, but stay in the body. As the smaller animals are eaten by larger species, the toxicants are passed up through the food chain, accumulating and concentrating in the tissues of the larger animals.

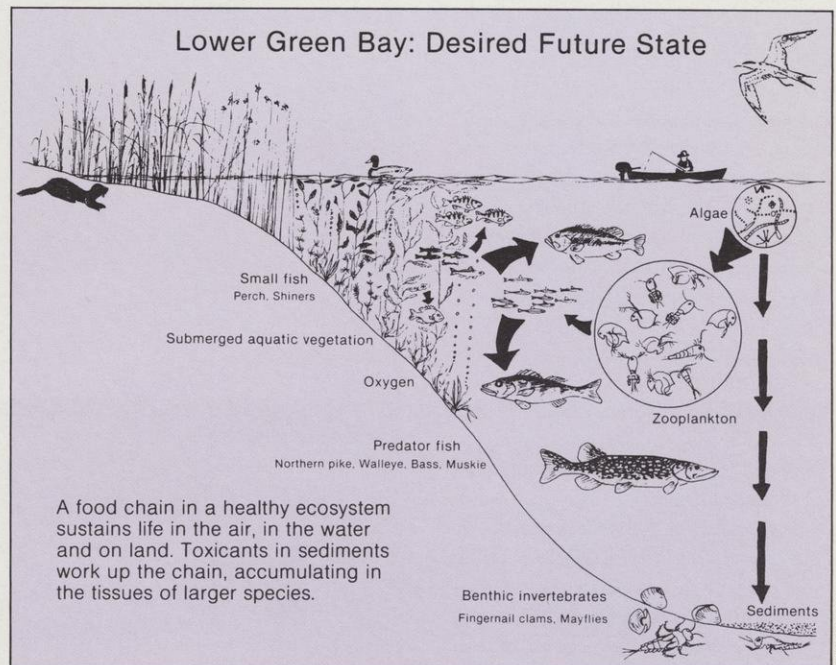
- Because humans are top predators with long life expectancies, we may be one of the species most susceptible to the effects of toxicants, like birth defects, cancer and skin diseases.

- A steady diet of contaminated fish causes terns and other fish-eating birds to lay infertile eggs or produce malformed chicks. As businesses and communities release fewer toxicants into the water, terns are breeding more successfully in Green Bay and other areas.

- Toxicants accumulate in the tissues of mink, which live near the water and take most of their food from the water. Contaminants cause infertility in the species.

- Walleyes cannot spawn successfully on breeding grounds that are low in oxygen and covered with sediment from sewage and chemical runoff. When pollutants are cleaned up, walleyes will return — as they did to the Fox River. But the unseen toxicants that have accumulated in the walleyes' flesh are the reason advisories must be issued to warn against eating the fish caught in certain areas.

- Small aquatic plants and benthos — little worms, larvae and other creatures living on the bottom of rivers and bays — are the base for many water-based food chains.



Tern back time: Now that businesses and communities release fewer toxicants into Green Bay, populations of terns and other fish-eating birds are on the rebound.





Our job is to see the possibilities for the water resource we've got."

Anita Doepke

"The river is important to the Menominee/Marinette area, as a source of community," says Anita Doepke, environmental affairs director for the Menominee Paper Co., Inc. "So much of our history is tied to the river. They used to float white pine logs and lots of commerce down the river and we built a lot of our character based on those kinds of things. The area is still significantly based on the forest products industry."

Doepke oversees the mill's wastewater treatment plants, solid waste and landfill projects, air quality, hazardous wastes "and anything that falls between."

"The water quality in the Menominee River is important to the mill," she says. "There's shipping on the river, we use water in the mill and we discharge into the river."

Doepke joined the Citizens Advisory Committee (CAC) for the Lower Menominee RAP with some specific ideas for improving the area's resources. She hopes the RAP will alert citizens in the Marinette/Menominee community to the economic and aesthetic possibilities a clean harbor can bring to the area.

"I'd like to see a thorough, complete, usable document," said Doepke, "something comprehensive, not just a document that is put on a shelf."

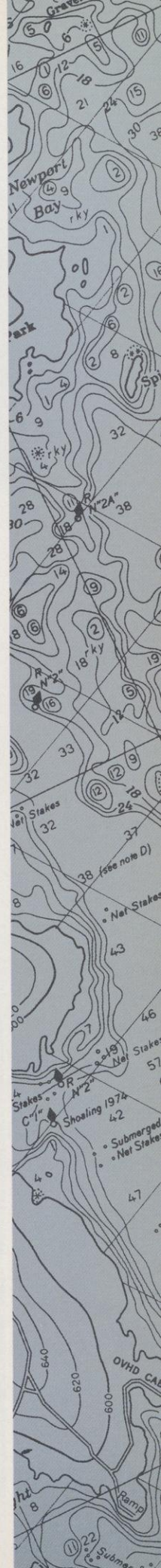
"The key to using the RAP plan is public relations, getting the public to know that it exists and is workable."

"A big obstacle is funding. But a bigger obstacle may be in answering 'Who has responsibility for making sure this plan gets done?'"

"The RAP takes a new approach. There's no one agency to oversee the whole implementation. Every problem we try to deal with gets into some agency's traditional territory. Sometimes that leads to conflicts. Yet as controversial as developing a plan has been, developing a plan is a whole lot less controversial than implementing a plan. There's no black and white here — it's all gray areas."

"In the future I'd like to see even more businesses and people involved in water resources for this area. It's a new industry, trying to attract tourists to the waterfront. We've already got our waterfront festival, but we need to do more."

"So often we drive to work, drive home, drive to the store, drive back home and we don't see our community anymore. Our job is to see our community again and give some guidance on the problems and possibilities for the water resource we've got."



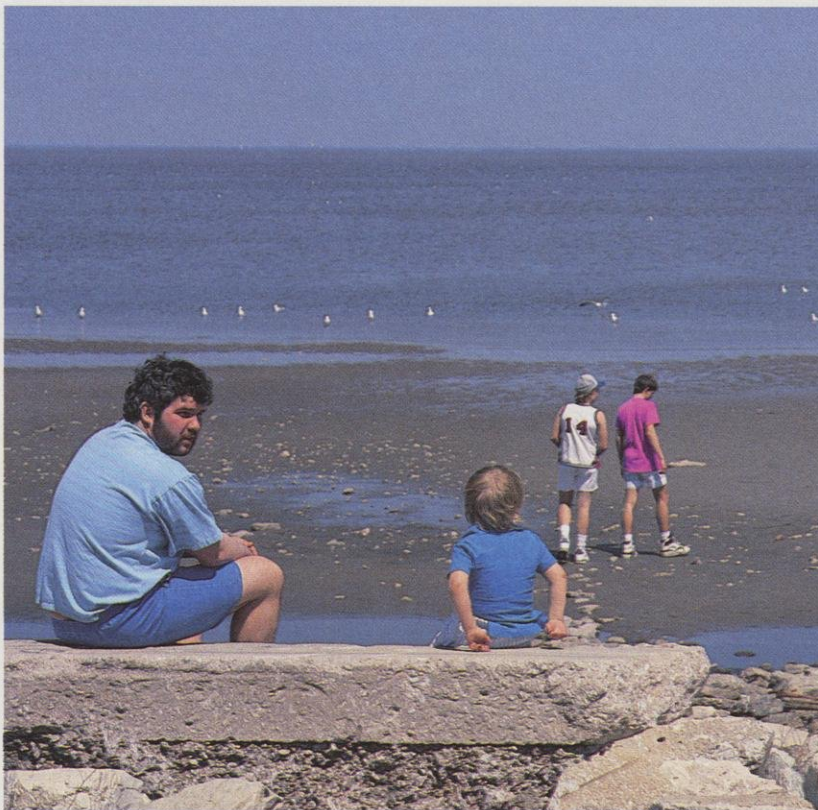
SEDIMENTAL JOURNEY

Memories of our toxic past linger in pollutants at the bottom of lakes and rivers.



A.T. BURKHART & C.G. WINSCHER

Last one in is a rotten egg on this turn-of-the-century Sheboygan beach, but no one at Green Bay's Bay Beach can claim that dubious honor — it's been closed to swimmers for 50 years. Toxic sediments built up over the decades thwarted the recreational potential of this lovely expanse of sand and water.



It's bad enough when soil — carried off by rain from farm fields, construction sites and streets — clouds the water in lakes and rivers. The really difficult problems arise when arsenic, mercury, dioxins, PCBs, DDT and other alphabet-soup chemicals enter the air and water from industries, households and farms.

These persistent Great Lakes pollutants bond tightly to small particles of soil suspended in the water. The particles settle to the bottom of a lake, river or harbor, building up layers of contaminated sediment.

"One thing all these toxic compounds have in common is that they are not very water soluble and in fact are kind of water-hating," says Jack Sullivan, a DNR water quality specialist. "They'll cling to any sediments that come along."

If the toxicants captured in sediments stayed put, organisms at the base of aquatic food chains wouldn't absorb them while eating. But sediments are loosened by fish and other organisms moving along the bottom and by temperature changes, storms, waves and currents. Human activity also disperses toxicants: Large ships as well as small motor boats raise the muck; dredges used to remove sediments stir them up, too.

Resuspended contaminants get mixed in with the water and food consumed by aquatic animals. Many toxicants stick around so long they endanger an ecosystem for decades, threatening a host of organisms, including humans.

Finding the source

Nowadays, fewer and fewer toxicants enter the air or water as point source pollution — coming from a smokestack or the end of a pipe. We're working hard to reduce nonpoint source pollution — the soil, leaves, chemicals and oil that enter our waters when rain washes over city streets and farm fields. But these steps won't take care of the toxicants hiding in sediments.

"The big question now is how do

we control the toxicants in sediments over the next 30 or so years," says Sullivan. "Sediments are reservoirs for toxic compounds discharged long ago. As we clear up current pollution, we're still finding tremendous amounts of toxicants. Sediments are clearly the major source."

An additional source of toxicants to the environment is often overlooked: individual households. Tom Sheffy, a DNR sediment management specialist, echoes Sullivan's views on the success of industry in limiting point sources of toxicants, but fingers households as an unrecognized source of toxicants to the environment. Some of the products we use to treat lawns and gardens, open clogged sinks, polish silver, clean cars, wash floors and strip paint contain chemicals that can contaminate water. Rinsed down the drain or dumped on the grass, the household toxicants flow into municipal sewage treatment plants, which are not equipped to remove chemicals. The toxicants end up in river sediments and harbors.

Toxic compounds are also carried through the air. Recently, scientists have found PCBs on Isle Royale, nearly 25 miles from shore in Lake Superior. Since PCBs were not shipped from the mainland and there are no natural dumps containing PCBs on the island, researchers concluded the PCBs were deposited on the island by air currents.

Additional research suggests nearly 90 percent of the PCBs entering Lake Superior are carried by air. Like acid rain research, PCB and DDT research has taught us there are no natural borders to airborne pollutants. Most of the airborne toxicants falling into the Great Lakes will end up in sediments and work up the Great Lakes food chains.

No easy answers

Sometimes the solution to one problem creates another. For example, the Western Lake Superior Sanitary District (WLSSD) along the St. Louis River Estuary collects industrial and municipal wastewater, reduces most of the solids to a sludge, and burns the sludge with other solid wastes.

This treatment has noticeably improved the river's water quality: Wall-eyes spawn where they once didn't,



"The problems these RAPs face is getting funding."

Trygve Rhude

"I was interested in water quality issues in this area before there even was a RAP," says Trygve Rhude, who sits on the Menominee River RAP's Citizens Advisory Committee. He mobilized people early on to investigate the Menominee River's water problems.

"I think it was me who let the DNR know that there were people who were interested in being involved," he says.

Rhude was born and raised in Marinette. After getting a degree in Soil Science from UW-Madison in 1982, he returned to Marinette and began working for his family's business, Sentinel Structures, which makes laminated wood components for everything from beams for church buildings to minesweepers for the Navy. Today he is the vice-president of quality control for Sentinel Structures.

He is also the president of the 120-member Chappée Rapids Chapter of the Audubon Society.

"As part owner of a business and as an environmentalist, I've got a perspective that's unique," says Rhude. "I feel I know the concerns of both interested parties and can make wise, educated decisions regarding environmental problems. The environment isn't always given the weight it needs in relation to the other interests represented on the committee."

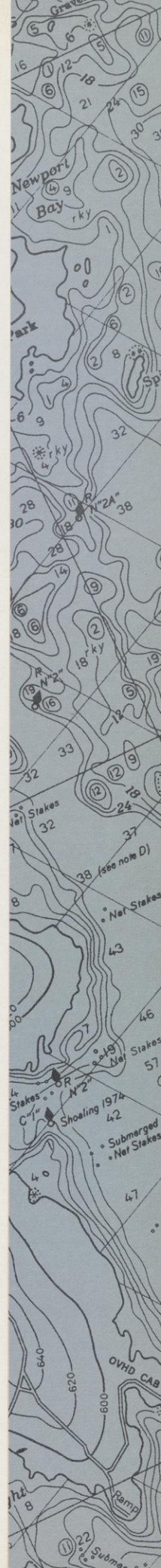
But Rhude says that the main problem in the RAP is not the politics of decision-making on the committee.

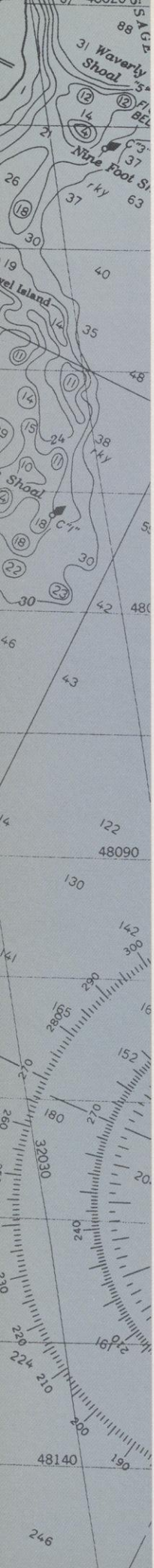
"The real problem these RAPs face across the board — and the Menominee River RAP is no exception — is getting funding," he said. "It's really important that these improvements are made, so we have swimmable, fishable clean water in our area.

"And it's really important that the community, the people, not just the industries and municipalities, get involved and seek funding and implementation of these remedial measures.

"It's a voluntary thing, really. Too many people are saying 'Okay, we'll make this plan and then stick it on the shelf.' That's not okay.

"My personal goal is to get the community involved and get the RAP implemented. Sometimes I look at that goal and say 'God, this will go on forever.' And it will, but it's important that we keep working on it."





the harbor doesn't smell like an open sewer and waterfowl are attracted to wetlands along the shores. But both the wastewater and solid wastes contain mercury — much of it from household products — and when the sludge was burned, it pumped mercury into the air.

WLSSD installed scrubbers on their smokestacks to remove mercury and other heavy metals. These scrubbers trap metal emissions in a water solution. The scrubber water can't be discharged into the river, of course, so it is treated further and reduced to a concentrated sludge, which is then put into a clay-lined landfill.

Landfilling sediments presents problems, too. When contaminated sediments are put into special landfills or other confinement facilities there's a chance the toxic compounds will leach out into groundwater.

Some paper mills, including those that make recycled paper, use chlorine bleach to whiten the paper they make. Chemical reactions in the bleaching process can form dioxin and other toxic substances that often end up in the sediments of our waters.

Raising the muck

People working on RAPs will propose ways to clean up the contaminants we've already dumped into our water. Some areas will need to be dredged and the contaminants stored. Other areas will be capped with impermeable layers to isolate sediments from the ecosystem. In some places, contaminated sediments may be buried naturally with newer, less contaminated sediments.

But the truth is, we don't have any great solutions to handling and disposing of contaminated sediments. Wherever we put them, we'll have to spend a lot of money to keep sediments from threatening the environment and humans.

The challenge is to take care of contaminated sediments, then reduce the toxic load to our waters from industries, agriculture and households.

A cleanup in progress at a Superfund site on the Sheboygan River. PCB-contaminated sediments are placed in metal containers for transport to landfills or special treatment areas. Workers must scrub down before they leave the site, otherwise toxic PCBs will cling to their clothing.



A fishing charter heads out of the Duluth-Superior harbor with passengers eager to wet a line in Lake Superior. Great Lakes anglers should consult fish advisories before eating what they catch.

Good advice

Our waters and our bodies carry some substances nature didn't mean for them to contain. PCBs, pesticides like DDT and chlordane, dioxin, furans, mercury and other heavy metals build up in the tissues of people, fish and other organisms that are part of aquatic food chains.

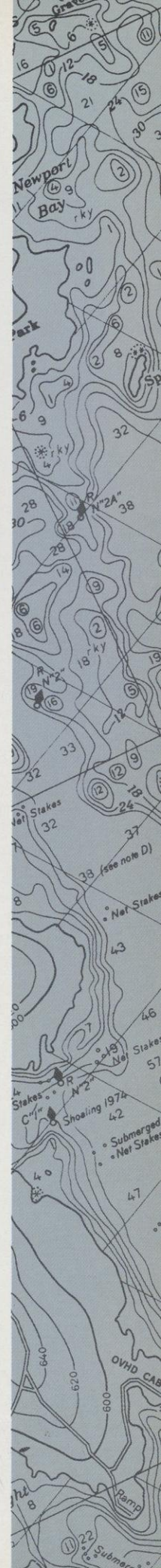
The Wisconsin DNR and Division of Health write and distribute fish consumption advisories each fall and spring to help people make better choices about the kinds and quantity of fish they eat, and how frequently they eat fish caught in Wisconsin waters. You can't be arrested or fined for violating the guidelines, but you may jeopardize your health if you grossly exceed the suggestions.

Most consumption advisories on Wisconsin Great Lakes fish are set to protect you from PCB exposure. PCBs stay in the fatty tissue of animals, concentrating with each move up the food chain. Things go awry when PCBs accumulate in an organism: Bird eggs won't hatch, embryos are deformed. Fish develop lip tumors. Mammals, including humans, may be at risk for liver damage, birth defects, cancers and depressed immune systems.

Fish contaminated with mercury have been found in inland lakes; only the St. Louis River RAP area near Superior has to include plans to reduce mercury in the Great Lakes. Naturally occurring toxic levels of mercury are rare, but we have created toxic concentrations in the environment. Mercury is released when we burn coal and garbage, mine for metals, make and use batteries and agricultural chemicals, use fungicides and latex paint. Carried by winds, smoke and runoff, mercury settles in sediments and enters aquatic food chains.

Mercury is water soluble and people excrete much more mercury than they absorb. A sustained diet of mercury-laden fish, however, can overburden the body's ability to get rid of mercury. Fetuses and very young children are most vulnerable to mercury poisoning.

Each of the five Wisconsin RAPs will work to eliminate fish consumption advisories by cleaning up the water so toxicants no longer present a risk to human health. Until then, the advisories are the best way to stay informed about eating fish.



Wisconsin's Remedial Action Plans



The St. Louis River harbor covers a big area, including wetlands and big stretches of water emptying into the Duluth-Superior harbor. Minnesota and Wisconsin cooperate on the St. Louis River System RAP. Harbor sediments are contaminated with PCBs and mercury, leading to fish consumption advisories.

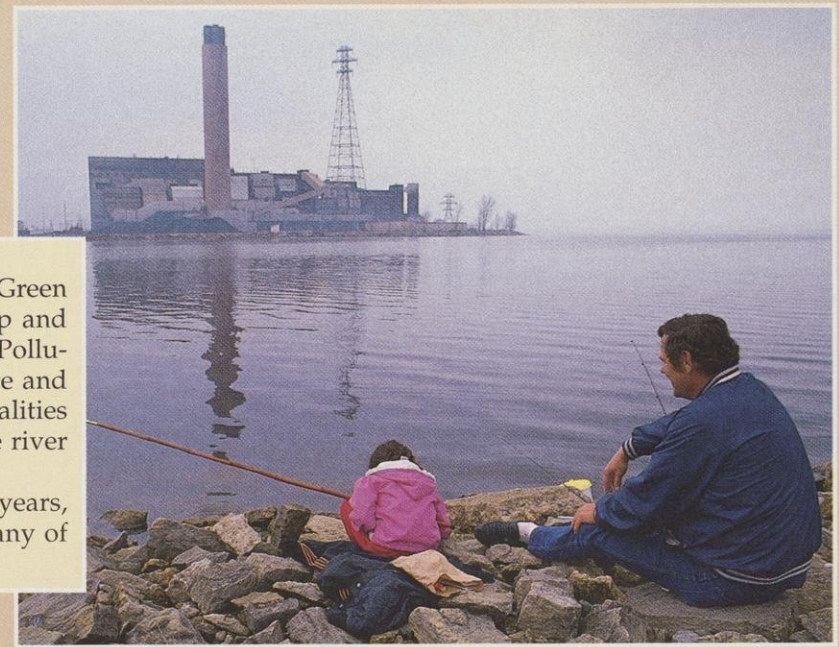


The Menominee River near Marinette has a problem unique to Wisconsin RAPs: arsenic-contaminated sediments. Toxics, coupled with past and present logging practices, have degraded the organisms on the riverbed. Michigan and Wisconsin are cooperating on the RAP.

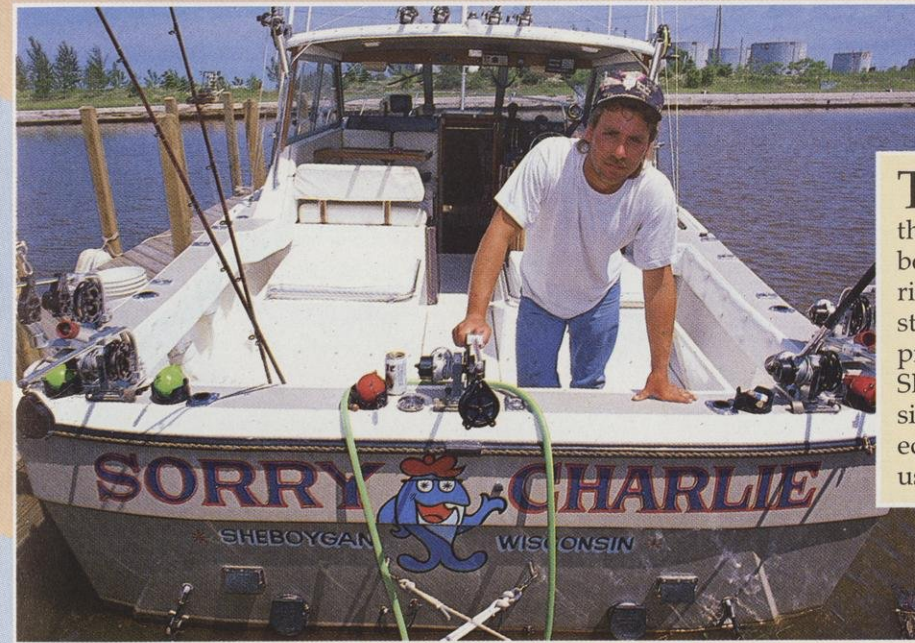


RAP Information
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(608) 267-9352

Photos by Torsten Kjellstrand
Graphic Design by Georgine Price

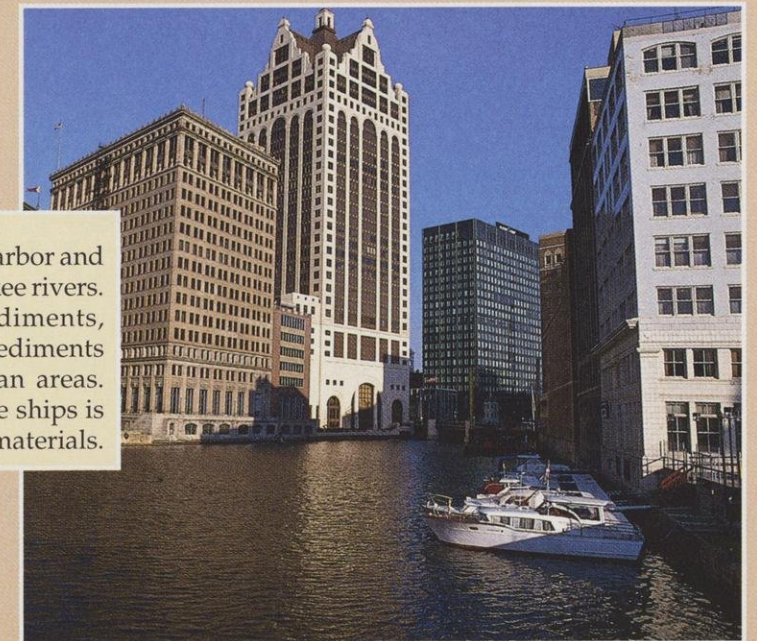


The Fox River flows into Lake Michigan at Green Bay and has the highest concentration of pulp and paper industry in the world along its banks. Pollution from the paper mills, intensive agriculture and discharges from many industries and municipalities in the Fox River watershed have damaged the river and bay for over a century. Bay Beach has been closed to swimmers for 50 years, and there are advisories against eating too many of certain kinds of fish from the area.



The Sheboygan RAP area covers the bay and 14 miles of the Sheboygan River. PCBs contaminate river sediments along most of that stretch and are an especially big problem at a few "hot spots." The Sheboygan River is a Superfund site and a Priority Watershed Project. Experiments are underway using bacteria to biodegrade PCBs.

The Milwaukee RAP covers Milwaukee Harbor and the Kinnickinnic, Menomonee and Milwaukee rivers. Toxics contaminate the waters and sediments, leading to fish consumption advisories. Sediments enter the rivers from both rural and urban areas. Dredging to keep the harbor open for large ships is restricted to prevent resuspension of toxic materials.



NATURALLY APPRECIATING INVESTMENT

RAP cleanups may cost a bundle, but the end result will be priceless.

Times are changing, and with them, economies. Heavy industry and commerce were once the undisputed economic mainstays of cities like Milwaukee, Duluth-Superior and Chicago. But a trend began in the 1980s that most people think will continue into the '90s and beyond: Heavy in-

dustry will account for fewer and fewer of the jobs in America.

The challenge for areas whose economies are changing is to find ways to stay economically healthy. Many economists think communities will need a diverse economic base to be viable.

Tourism will be a big part of that variety. According to *A Long Range Strategic Plan for Milwaukee's Waterways* by the University of Wisconsin - Milwaukee, tourism will be the largest industry in the world by the year 2000. Areas with unique or well-preserved natural assets have an obvious advantage in harnessing the economic potential of tourism.

But natural resources can be ruined, becoming embarrassments rather than assets.

Bay Beach, on Lake Michigan in Green Bay, has been closed for swimming since the 1940s. As Green Bay

Green grass, primary picnic tables, modern sculpture and a fine stretch of water invite people to get acquainted with the Milwaukee River. Wise riverfront development gives an economic boost to cities and provides urban residents with access to natural resources.



looks for new ways to expand its economic base, it will have to forego the tourism potential of a beautiful beach on Lake Michigan unless the community can pay for a costly cleanup.

Sheboygan wants to continue developing its waterfront, where the Sheboygan River meets Lake Michigan. Already, much of the area along the harbor tempts anglers, people out for a stroll and vacationers. Parts of the waterfront have been fitted with boardwalks, quaint shops, motels and restaurants, catering to the people who come from all over the world to fish Lake Michigan. But contaminated sediments lead to fish consumption advisories — which, say some charter fishing guides, scare off clients.

Milwaukee's strategic plan notes that the Port of Milwaukee has probably seen its heyday, since many of the products once shipped out of Milwaukee are no longer manufactured in the city. But the prospect for increased fishing, charter and private boating, festivals and other water-based recreation could add to the region's economy.

A long haul

It took decades and vast investments of capital to develop and pollute harbors in the five RAP areas. It shouldn't be a big surprise that it will be a costly, lengthy process to attain our goals of clean harbors.

In the past, environmental goals have been seen as barriers to social progress and economic growth. But American businesses are learning that environmental responsibility can be good business. Public images of responsible companies soar, while public perceptions of those companies perceived as negligent or hostile towards the environment suffer.

Tecumseh Products Co., a die-casting firm in Sheboygan, used hydraulic fluids containing PCBs in the 1950s and '60s. Some of those fluids entered Sheboygan River sediments.

Later, in the mid-'70s, when PCBs were found to cause cancer and birth defects in animals, including humans, Tecumseh knew they had a problem. An area of the river adjoining company property had been designated as a Superfund site.

"Company executives realized they could react in one of two ways,"

"The economic benefits of a cleanup have to include everybody."

Tyrone P. Dumas



Tyrone P. Dumas grew up in Milwaukee, went to school at Milwaukee Area Technical College and the UW-Milwaukee School of Architecture, lives in the city and represents the Urban League of Milwaukee on the RAP's Citizens Advisory Committee (CAC). For Dumas, the Milwaukee RAP represents an opportunity to improve the quality of life and social climate for Milwaukee residents by building on some of the city's assets like the Lake Michigan shoreline and the three rivers that run through town.

"What you see in some bigger cities is just one park, like Central Park in New York City," says Dumas. "All you've got if you live there is that one park, unless you've got the means to take a drive out in the country. In Milwaukee, we've got it all right here, right next to our urban center-city: a waterfront easily accessible by foot, bike, car or bus. That makes it an asset to all the citizens of the city, not just a privileged few. We want to continue to have this environment available to poor and economically deprived folks. A bus ride to our wonderful waterfront is an easy and inexpensive outlet. It's important to keep these outlets open to everybody, but especially to poor and economically disadvantaged people, as an alternative to despair."

The Urban League is a broad-based organization dealing with a whole variety of social and economic issues in the city. Dumas says the Urban League adds a unique voice to the cleanup efforts, making sure that all people, regardless of their economic condition, are considered as the RAP takes shape and gets implemented.

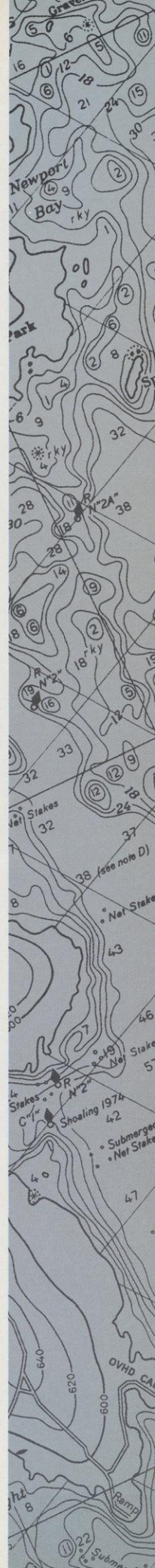
"In some of the CAC's proposed goals, we say that we want this cleanup in order to give people an opportunity for economic development and a better quality of life in our city.

"We must teach our citizenry the importance of the environment. The environment is important to everybody, whatever their race, age, or economic level. However, we have to realize that environmental issues compete with other issues in people's lives.

"That leads to problems with public participation in a cleanup effort, because for a cleanup to be successful, everybody in the community needs to hold a stake in it.

"The economic benefits of a cleanup have to include everybody, because if someone is unable to take part in the benefits of a cleanup, it's not too likely they'll pitch in. It splinters the community's efforts. And without wholehearted support from the whole community, the only way to do a cleanup is with new laws and new rules. That's not as good as people doing it because they feel in their hearts that the environment should be cleaned up for everyone's benefit.

"When I was growing up, some parts of the city were off limits to us, because we were a more segregated society then. But you could always go to the lake or the river. Now the water, especially the river, is not as accessible as it once was. It's fenced off and there are warnings against fishing and swimming. My vision is to have people realize through the heart that we need to have a clean environment with clean water, clean air and clean soil, where we've got economic development and water recreation enjoyed by all."





Karm Ruleau unloads a morning's catch of smelt from the hold of the *Alice L.* in Marinette harbor. Clean water means better catches for commercial fishermen on the Great Lakes.

said Tecumseh attorney Mark Thimke. "They could do nothing and wait for the DNR and EPA to go after the company, or they could cooperate."

Tecumseh spent money studying the problem and trying to find efficient and promising solutions. They also proposed a pilot project to explore new ways of dealing with PCB contaminated sediments.

"That way we were putting resources where we had a much higher chance of success — be it community acceptance or remediation of the problem," Thimke said. "We also hope to further the technology of PCB

abatement, so it's not just money invested to remove materials, but also in trying to learn something new about how to better deal with the problem. If you're looking to find some innovative, cost-effective ways to deal with these problems, you've got to put the money up front."

The project so far has cost Tecumseh well over \$2 million, and the investment has impressed many, including the people of Sheboygan, who have publicly recognized Tecumseh's efforts.

"It's definitely paid off in terms of community image — it's a side benefit to something like this," Thimke said.

Many companies find the effort to become environmentally sound makes them more efficient. Solvents can be recycled and wasted sources of fuel captured rather than sent up a smokestack. A new, cleaner manufacturing process may prove to be cheaper than the old cumbersome, polluting method.

Close examinations of the links between environmental concerns and economics "do not lend support to the widely-held belief that environmental programs generally hurt the economy by crippling industries and increasing unemployment," wrote three American economists in *AMBIO*, an interna-

tional magazine focusing on the human environment.

There are companies in Wisconsin that support the study's conclusions. When Spic and Span Inc. of Milwaukee was faced with regulations requiring \$150,000 worth of new filters on their dry cleaning equipment, they opted to replace their dinosaurs with state-of-the-art machines.

"It would have been crazy to spend 150 grand on 1955 machines," says Spic and Span President Robert Miller.

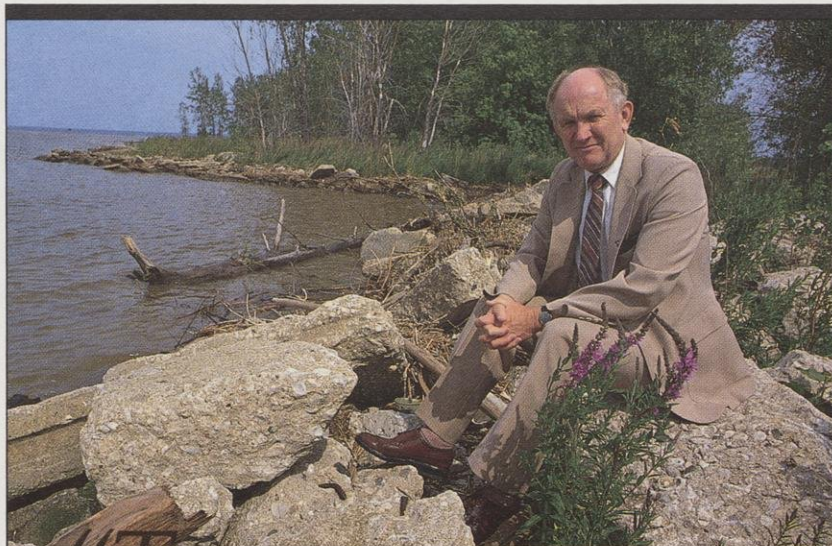
Spic and Span paid for part of the new equipment by selling "VOC pollution credits" they no longer needed with the cleaner, newer machines to another company that needed the credits to expand. The new machines modernized Spic and Span, leading to better service for their customers, fewer breakdowns, lower energy bills and hazardous waste disposal expenses that plummeted from \$70,000 to \$14,000 per year.

"As I look back on it, I have absolutely no regrets," says Miller. "I'd do it again in a flash. It was an opportunity for the private and public sectors to work together. We spent a lot of money to become environmentally better off. I'm proud that we did it. The DNR won. We won. The bottom line, though, is that the public and the environment won."

The economics of pollution abatement and cleanup is complicated. There are no sure bets. It's not certain, for example, that cleaning an area's water resources up will necessarily pay for itself with increased tourism. Nor is it certain that every company's pollution abatement expense will be recouped through increased efficiency or even a better public image.

But there are less tangible, non-monetary sides of cleanups as well. How do you put value on being able to take your grandchildren fishing in a clean place, where they can eat the fish they catch? Or a Green Bay resident being able to take a summer's evening swim at Bay Beach?

The rewards of a successful RAP will be both concrete and intangible. Cleaning up our harbors, rivers and lakes will be expensive, but improving a community's economy, environment and quality of life is worth it.



The challenge is to convince the public."

Jack Day

"I'm a person who has been committed to clean water since we moved to Green Bay in 1970," says Jack Day, President of the Green Bay Metropolitan Sewerage District Commission (GBMSD) and Professor of Natural and Applied Sciences at UW-Green Bay. "Historically, I've been involved with surface water in Green Bay area as an academic and as a public servant."

That commitment led Day to take on the responsibility of sitting on the Green Bay RAP Citizens Advisory Committee when the RAP was being written and to stay involved while the community tries to implement the ideals set forth in the RAP.

"In the 20 years I've been a commissioner, I've seen the GBMSD experience incredible growth," he says.

That growth has made the GBMSD treatment plant second only to Milwaukee's Metropolitan Sewerage District in size in Wisconsin. It has also put Day in the company of people who think a lot about water quality.

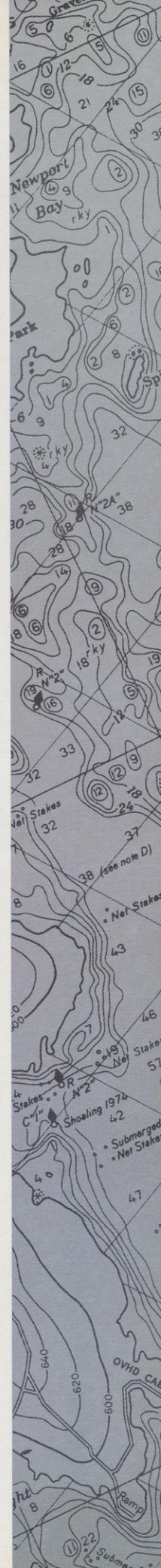
"My colleagues on the Madison, Milwaukee and Green Bay campuses of the University, primarily through the Sea Grant Program, have put together a good foundation of technical information on water quality issues," he says. "That information will, I hope, make for wiser decisions in the future. The RAP is the logical extension of our efforts—acting on the information we have gathered to improve the water environment.

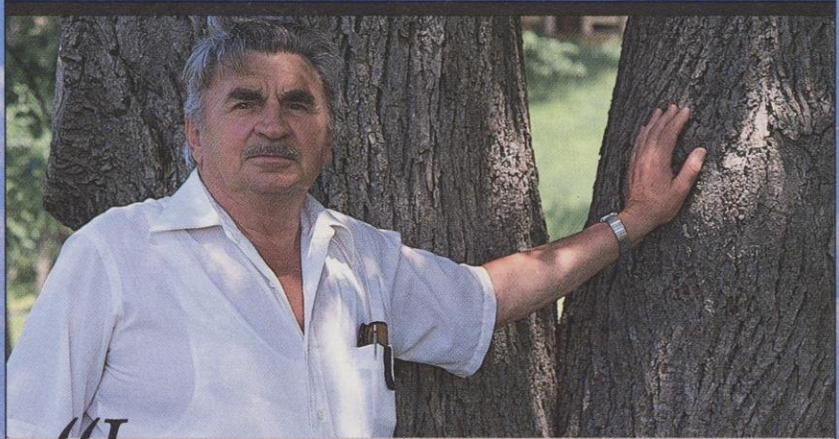
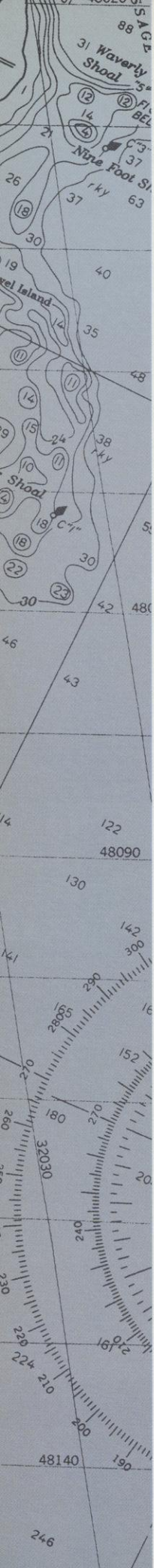
"The challenge is to convince the public that cleanup will be worthwhile, no matter what the cost. The RAP is a crucial step in that direction. But I'm not at all optimistic that the RAP will do the job as it is. I've become increasingly critical of those of us heavily involved, in that we are measuring our success by what we can do rather than what should be done. There are no public agencies with the authority, much less the money, to make the investments that are looming out there.

"Many current price estimates for cleanups are crude and unrealistic. I think we'll look back and see that the costs of remedial actions, in general, will be higher than we imagined they would be."

Price tags for RAPs may reach into the billions. "We don't see any realistic source for that kind of money. There simply isn't a real citizen mandate for allocating this kind of money."

That mandate, Day says, is the heart and soul of RAPs. Without it, he says, "I would guess that the levels of expectations for clean up will quietly be lowered."





"It's going to take cooperation between the community, the government and industry."

Roy Sebald

"As a young man I enjoyed this river for swimming, fishing and trapping. It was a way of life then. From 12 years old on I was involved with this river," says Roy Sebald, who is co-chairman of the Sheboygan Water Quality Task Force. Sebald is also a national director of the Izaak Walton League of America; a past president of the Sheboygan Chapter of the Izaak Walton League; and a past member of the Executive Council of the Wisconsin Conservation Congress.

Sebald left Sheboygan in the 1940s for the Army. After military service he worked in Washington D.C. in law enforcement for the federal government.

"I came back from Washington D.C. in 1962," he says. "There was something missing here and it took me several years to figure it out. It was the mink. They weren't here anymore along the more polluted stretches of the river."

Sebald's concern led to his efforts to protect and improve the water quality in Sheboygan. In the beginning his efforts weren't always appreciated by this industrial community.

"You've gotta be willing to be questioned and criticized every now and again," he says, chuckling.

Sebald was with the Sheboygan RAP right from the start.

"I called the first meeting to stress that we had a polluted harbor and we had to do something," he says. He's proud of the progress made so far, but stresses that every part of the community has to take responsibility for the cleanup.

"It's going to take more cooperation between the community, the government and industry. We have to make our industrial complex more responsible.

"But we still have to keep working and educating. Many parts of the river will have to be treated one way or another. Whatever way it goes, it's going to cost a lot of money. The Corps won't dredge our harbor unless we have a place to put the dredgings. Where do you put it? Nobody wants the liability of taking care of that.

"I would hope that we can work together on these problems, that the Sheboygan community could have a river that wouldn't have warnings against eating the fish, and more kinds of fish could live in the river.

"It's going to continue to be a lot of work. The Finlanders have a name for it: *sisu*, the determination to stick to it."

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