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*They thought we were dreamers:
Early anti-pollution efforts on the lower Fox and
East Rivers of northeast Wisconsin, 1927-1949*

Abstract

A major environmental debate took place in Wisconsin from the 1920s through the 1950s on river and stream water quality. Conservation activists, local governments, and industries struggled in political and regulatory debates to control pollution. This article describes regulatory and social debates in northeast Wisconsin's lower Fox River Valley in the period 1927-1949. As a political issue in this area, the controversy was instigated by citizen conservationists who worked as elected officials or as citizen activists to promote change. The strategy of the conservationists was to establish or expand regulatory control of industrial and household waste discharges to rivers and streams. Green Bay attorneys Meyer Cohen, Frederick Kaftan, Arthur Kaftan, Michael Kresky, Jr., Virgil Muench, and Donald Soquet were most visible as conservation advocates. In the latter year of this period the Izaak Walton League was a key organization in advancing the anti-pollution agenda, helped by the efforts of advertising executive Harry Tubbs. Many government and business organizations responded, including the Green Bay Metropolitan Sewerage District, the Sulphite Pulp Manufacturers Research League, and the paper industry firms of Kimberly-Clark, Northern Paper Company, and the Hoberg Paper Company.

They thought we were dreamers, and we were," said Harry Tubbs. Nearly 50 years before, when the post-World War II baby boom was just beginning, Tubbs had been a political activist for the environment. An advertising executive for a grocery store chain, Tubbs served as communications adviser for advocates for water pollution control in the lower Fox River Valley.

He helped promote an agenda for water quality improvement that was quixotic for its time.¹ It was a dream of the restoration of heavily polluted, stinking rivers, a dream of clear waters with abundant game fish and of laughing children splashing at the local beach. In reality, three rivers at that time carried visible industrial pollution and significant discharges of disease-carrying sewer effluent.

Advocacy for water quality in the 1940s is noteworthy for the significant improvements what were eventually made in terms of fisheries and swimming safety and problems are rarely recounted in Wisconsin environmental history.⁴ The events described are important because of the involved Wisconsinites who furthered cultural acceptance of natural resource protection as a social responsibility at the local and state levels.

Geographical Setting

Much of the political debate described in this account focused on water quality in the lower Fox River Valley and in the southern reaches of Green Bay, Lake Michigan, near the mouth of the river. The 38-mile (61 km) lower Fox River is the channel through which the combined waters of the upper Fox River and Wolf River flow to Green Bay. From a broader perspective, the combined Fox River-Wolf River watershed drains a 6,400-square mile (1.7 million ha) area. The Fox River originates in sough-central Wisconsin near the central Wisconsin city of Portage. With only a moderate change in elevation of 35 ft (11m), the Fox River flows from the area near Portage northeast into Lake Butte des Mores (Winnebago County). At this point, the waters of the Wolf River combine with the Fox River to flow east to Lake Winnebago, which serves as a broad, shallow holding pond. The waters exit Lake Winnebago as the lower Fox River, continuing about 35 miles (56 km) northeast down a drop more than 175 ft (53 m) into the Green Bay of Lake Michigan. The significant drop in elevation provides for the significant hydropower resources that first attracted the large energy users, including the pulp and

for its lasting presence as a political and social issue in communities along the lower Fox River. Today water quality remains an issue with an active local constituency.²

On a national and even international level, Wisconsinites have played a major and highly visible role in the development of environmental protection, including a key role in forming the national organizations of the Sierra Club and the Wilderness Society and in organizing the First Earth Day, an event with some international influence.³ However, local efforts to deal with local pollution

paper industry that developed in the late 1800s. Along its journey to the great lakes, the river collects water from tributaries, including the East River that joins the Fox River in the industrial area of the city of Green Bay (Figure 1).

The East River is directly related to the pollution controversies reported here. The East River is a much smaller river of 27 miles (43 km) in length, draining 206 square miles (0.05 million ha). It flows parallel to the Fox River in Brown County. Water quality problems in the East River are amplified by an unusually long residence time for water due to the seiche effect that forces water from Green Bay, Lake Michigan, to flow upriver for short periods of time. During extreme conditions involving a seiche, water flow in the East River reverses its direction. The East River's central role in the public debate was due in part to its location in the residential and business districts of Green Bay's east side.

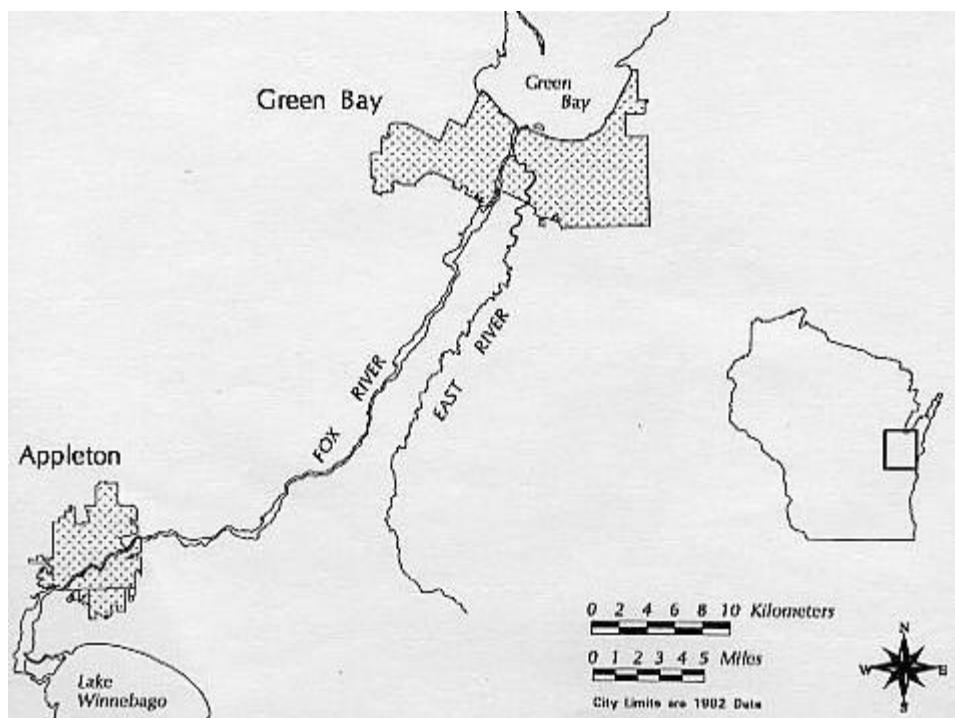


Figure 1 The lower Fox River and the East Rivers flow from southwest to northeast. They join just before entering Green Bay, Lake Michigan. Social controversy about water pollution on these rivers has occurred through most of the twentieth century.

East River Stench

One of the earliest records of public dispute about water quality in the lower Fox River Valley is a 1920s report by a committee that included business people of the East River neighborhoods.⁵ The most frequent complaint in the commentary was the river's smell, described as "terrible." In 1933 the smell was reported as being bad enough to require the city's East High to regularly hold classes with windows closed.⁶

Green Bay was a city of 37,000 in 1930, and at this time, the neighborhoods on Green Bay's east side along the East River were a mix of lower-income housing, retail shops, and small factories. Green Bay's economy was rooted in natural resources, with the largest employment and greatest economic value in the pulp and paper industry. Industries along the East River converted logs into pulp, milk into cheese products, cows into cuts of meat, and malt and barley into beer. Other businesses cooked and packed vegetables in metal cans

for the grocer's shelves. Fish packing plants trimmed and cleaned the fish caught on Green Bay. These and many other activities produced wastes, which, as in other parts of Wisconsin at this time, were discharged with little or no treatment into the nearest stream or river.

In addition to industrial waste, there was the problem of individual, non-business behavior, including the dumping into the East River of engine oils, household garbage, appliances, and worn-out boats and cars.⁷ Clearly, the city of Green Bay did not have an adequate system of solid waste collection and disposal. A description of local conditions by a reporter for the Green Bay Press Gazette also reflects local understanding of environmental pollution:

Food waste is trucked to a farm on the outskirts and fed to hogs. For this reason, the food remnants must be kept separate from inedible rubbish and harmful ingredients. No housewife would expect hog feeding to dispose of broken glass, decrepit furniture, unused lye or surplus rat poison. ON the other hand, the glass and the furniture and even the poison could be dumped

into a swamp without danger to health, but the food waste could not.⁸

The Fox River differed from the East River by the larger size of its flow, not by the type of wastes dumped into it. Sordid conditions were reported on the lower Fox River from Lake Winnebago to the bay of Green Bay. Although the degree of the stench and concentration of the pollution in most of the Fox was reported to be less severe than in the East River, pollution was a recognized problem:

Every summer the city and village officials received numerous complaints of offensive odors given off by the [Fox] river. The colored, turbid waters of the Fox River were filled with fibrous materials, sludge deposits and unstable organic wastes. The sight and odor of dead fish along the banks added to the nuisance.⁹

Human Sewage

Industrial and chemical wastes were a problem, but many people, including some authorities, thought they did not cause human health problems. Human waste, however, was recognized as a threat in spreading disease. At this time, many homes and businesses had pipes flushing raw wastes into the river. Also, many homes had outhouses, including at least one on the East River that was built on extensions over the river so as to deposit waste without need for an outhouse pit.¹⁰ Despite these widely known conditions, children swam in the waters, including many parts of the lower Fox and East Rivers at what were likely the filthiest stretches.¹¹

If there were health warnings against such exposure, they are not well-remembered or recorded, with the exception of Bay Beach. Bay Beach was a city swimming beach on the shores of Green Bay near the mouth of the Fox River. Its use by bathers appears to have been much greater than all other surface water swimming areas in the Green Bay-De Pere area. After the beach was re-opened in 1937 after six years of closure by the State Board of Health, one warm day brought an estimate 1,50-2,000

bathers to the beach.¹² The beach was opened and closed in the following years as monitoring provided evidence of a problem,¹³ with final closing occurring in 1943, according to the Green Bay Health Department.

Social Response

In 1927, the State of Wisconsin sponsored the first modern scientific survey of Wisconsin rivers and streams. The survey was initiated as a result of a 1925 incident in northern Wisconsin in which a pulp mill discharge killed 25 to 30 tons of fish, but the survey evolved to cover a much larger geographic area. The resulting 327-page report, *Stream Pollution in Wisconsin*, documented the role of dissolved oxygen in the Fox and other rivers.¹⁴ The report noted that fish could not survive in many parts of the lower Fox River for periods of the year because of the lack of dissolved oxygen in the water. This was especially true in the approximately six-mile stretch from the De Pere dam to the mouth of the river in the city of Green Bay. This 1927 report was a factor in the state's authorization that same year of regional sewerage systems with taxing powers and the creation of the state-level Committee on Water Pollution (COWO).¹⁵

The legislation creating the COWP assigned the new committee duties for scientific experimentation and research on "economical and practicable" solutions to industrial discharges. Some solutions had been suggested in the 1927 study, which reported that sulphite liquors could be converted to numerous products including alcohol, fuel, and fertilizer.¹⁶ The report also summarized a Park Falls experiment that showed dramatic reduction in the oxygen-demanding impact of mill wastes through temporary holding and aeration. It would be almost 59 years after this experiment that adoption of aeration technology (supplemented by microorganism cultures) would be made at Wisconsin pulp and paper mills.

In local politics in 1927, a Green Bay City Council committee joined

members of the North Side Advancement Association for a September boat ride down the lower stretches of the East River. A report filed in the City Council proceedings painted a sordid picture.

Pleasant Street Bridge is not so pleasant... Elm Street sewer water or river here is terrible. In fact it can no longer be called a river, but more in the line of an open sewer...the only movement of water was from the boat or eruptions of gases in the bottom of the river, which would shoot to the top solids of sewerage matter.¹⁷

The report went on to state that when the group reached the mouth of the East River where it enters the Fox River, they found that "...the Public Service Co. pumps oil and gas into the river. It is so bad that we touched a match to it and it ignited and threw a flame two feet high."¹⁸

With public attention heightened, a campaign was organized with the help of attorney Meyer "Mike" Cohen. Cohen served as councilman for and East Green Bay ward in the early 1930s' from this post, he organized public support and local governmental funding for the area's first sewer system and treatment plant. A citizen petition campaign was conducted and more than 1,000 signatures collected to support formation of the Green Bay Metropolitan Sewerage District (GBMSD). The GBMSD soon built the city's first sewer treatment plant with federal funds from the Depression-era Federal Emergency Administration of Public Works.¹⁹ The new plant had the effect of raising public hopes for and end to the stench of the East River. When the undersized and ill-equipped plant failed to make any perceptible impact on the odor problem, some members of the public were upset and angered, calling for continued action.²⁰ Part of the problem was the combination of storm and sanitary sewers, mixing large volumes of runoff and ground waters into sewage and overloading the small plant.

Cohen's law partner, Michael Kresky, Jr., supported the call for ongoing action. In 1936 Kresky ran as a Progressive

Party candidate for the two-county second senatorial district that included Green bay. After his election, Kresky played a public role in a late 1930s controversy that developed over the health of the fisheries in lower Green Bay. Commercial fishing businesses were closing, reportedly because of the loss of river and bay fisheries due to pollution.



Figure 2. Attorney Meyer Cohen is recognized as the prime mover behind the creation of the first municipal sewerage works in Green Bay. Photo courtesy of the Neville Public Museum, Green Bay.

Other wild life problems were occurring, including massive die-offs of waterfowl at the Fox River mouth.²¹ When commercial fishermen complained to the Wisconsin Conservation Commission that dead fish were found in nets set in lower Green Bay in the winter of 1937-38,²² a state investigation was begun with support from Progressive Party Governor Phil Lafollette and State Senator Kresky. A study began in September 1938 as a cooperative effort of the COWP, the State Board of Health, and the GBMSD. President-elect for the State Board of Health, Green Bay physician Dr. W. W. Kelly, was also a visible participant



Figure 3. Recreational canoeing played a role in the post-World War II debate to clean up state rivers. Left to right are Fred Kaftan, and Don Soquet, who as college students canoed Wisconsin rivers together. Soquet initiated the anti-pollution crusade after he canoed the polluted Fox River and was angered by the degraded conditions. (1939 photo from the collection of Arthur Kaftan)

in the discussion. For nine months, employees loaned from agencies in other states studied the claims of commercial fishermen.²³ The fishermen had reported that the fish were discolored and appeared almost white and bleached. Lab experiments exposed fish to high concentration of a major pulp mill effluent called Sulphite liquor, and the fish did not become bleached. The study therefore absolved the pulp mills of allegations that fish were bleached and tainted from mill discharges.²⁴

However, the study did report that fish kills were due to low oxygen levels in the waters, caused primarily by the Sulphite liquor of the pulp mills; the numerous paper mills on the river were identified as much smaller contributors to dissolved-oxygen problems. According to the study, about 80 percent of the dissolved-oxygen problem was due to pulp mill discharges, with the remaining 20 percent due to other businesses and household discharges. The concept that low levels of dissolved oxygen harmed fish was not new, but a quantified assessment of sources was new.

The focus of public attention spurred industry discussion of its previous efforts and plans to deal with the problem. In July 1939 newspapers reported success by the Marathon Paper Company at its Wisconsin River facility at Rothschild in capturing and using wastes normally discharge to water. The waste was used to produce the food flavoring vanillin and the "cheapest plastic material yet."²⁵ In the fall of 1939 the paper industry announced formation of a major research effort. The Sulphite Pulp Manufacturers Research League (SPMRL) was created and funded by major pulp companies on the Fox and Wisconsin rivers. Its major research goal was to identify ways to recover and reuse the waste materials being discharged to the waterways.²⁶ Pulp and paper industry executives had long been aware of the seriousness of the waste discharge issue. They had played a role in the politics of 1927 that formed the COWP and introduced a major expansion of government involvement in surface water quality issues.²⁷

World War II dampened efforts at wastewater control. The debate was refueled by returning war veterans, such as attorney Donald Soquet, who worked to regain a sense of place and home. Soquet recalls that as a boy in the 1920s he caught perch, bluegill, and bass from the Fox River,²⁸ often from pier in downtown Green Bay on his way to school. At that time, desirable game fish could not survive the summer months in the lower Fox due to lack of dissolved oxygen.²⁹ During his college years in the late 1930s, Soquet and some high school friends canoed Wisconsin rivers (Figure 3) and were in fact camped on the banks of northwest Wisconsin's Flambeau River when the radio reported the Nazi invasion of Poland.³⁰ In a few years, several of the crew would find themselves in military service. In the postwar years, the vets returned to their previous careers and found themselves unexpectedly assuming leadership roles in water protection efforts. The event that sparked Soquet's involvement in water politics was a postwar canoe ride on the Fox River. The serious pollution he observed led him to write a letter-to-the-editor published in the Green Bay Press-Gazette. He recalls that in the letter "I spoke of what I had seen and how disturbed I was, and the change in this beautiful body of water and marsh and everything into this cesspool."³¹

That week, he received a call from a stranger who had read his letter. Orrin Wilson was a handicapped paper mill worker from a mill upriver of Green Bay.

Wilson drove to Soquet's Green Bay apartment one evening too persuade the lawyer to help from a local chapter of a national conservation advocacy group called the Izaak Walton League (IWL).³² Soquet spoke to Virgil Muench (Figure 4), a 44-year-old attorney who happened to have an office in the same building as Soquet in downtown Green Bay. Blunt in speech with others, Muench had recently been active as a proponent for small businesses struggling with chain-store competitors.³³ With a few others, Soquet and Muench became the core

of the Brown County chapter of the IWL. Attorney A.D. Sutherland of Fond du Lac, by then a long-time veteran in the IWL, wrote to encourage the chapter to take action on local water pollution, which the group did.³⁴



Figure 4. Virgil Muench, Green Bay attorney and son of a commercial fisherman, was a blunt-spoken advocate for strict regulation of water pollution. Muench was a leader of water pollution. Muench was a leader of the Brown County chapter as well as the state chapter of the Izaak Walton League. (Photo from collection of Jane Muench Burke)

A change in state pollution regulation was deemed critical in the mind of the attorneys who led the new IWL chapter. Fred Kaftan was recruited by his elder brother Art and others to run for the state senate on the Republican Party ticket (Figure 5)³⁵. The second senatorial district seat was the same held in the late 1930s by Cohen's partner and water-quality advocate Kesky.³⁶ To generate voter support, the IWL recruited Harry Tubbs, a Green Bay native who served as Kaftan's campaign manager and later as communications adviser for the IWL. Muench had been circulating a petition he drafted, calling for government action on water pollution.³⁷ At an IWL meeting in the fall of 1948, Tubbs was

seated at the back of the room in the downtown Green Bay WMCA when he was asked by the presiding chair what he thought should be done. Tubbs suggested the signed petitions be delivered to Republican Governor Oscar Rennebohm who was on a campaign tour and lodged across the street at the Northland Hotel.³⁸ As a result for the meeting, the Governor arranged hearings for December 1948 at the brown County Courthouse in Green Bay. (Figure 6). The hearings went on for several days and were postponed for the Christmas holidays, being resumed in January 1949. Extensive newspaper coverage described the debate over the technical and economic feasibility of controlling discharges from pulp and paper mills as well as municipal sewage treatment plants. IWL attorneys Virgil Muench, Arthur Kaftan, and Donald Soquet led the call for immediate anti-pollution action and challenged the pulp mill and municipal government representatives on the witness stand. Charges of economic

blackmail were made when a paper mill executive suggested that his plant might need to leave town. The pulp and paper mills were the economic mainstay of the community, and the union representatives were recruited by the mills to attend and testify against pollution control.

Among the surprises was testimony by the Democratic State Senator recently defeated by Republican Fred Kaftan. Former State Senator Harold Lytie, a 51-year-old barber, told the hearing that paper mill executive J.M. Conway had promised Lytie in 1939 that the water pollution problem would be solved in two years. Lytie said this promise was made to get Lytie to withdraw support for stricter state regulations being discussed in 1939 when Lytie was an assemblyman, although Conway denied the promise was made.³⁹

The hearings extended longer than planned, possibly in part because of the public attention drawn to them by the conservationists. A Green Bay Press-Gazette ad campaign had been organized by Tubbs, and a sympathetic WHBY radio announcer Mike Griffon, gave regular coverage.⁴⁰ Daily crowds of 150 or more were reported to have daily attended the hearings, and the emotional level of the discussions was high.⁴¹ Economic loyalties were called upon, with mill workers and others urged to oppose water quality regulations. Soquet lost some clients from his law firm, as did Kaftan. However, the losses were not financially significant to their law practice, and he gave up his conventional case practice to devote his efforts more fully to conservation advocacy. What is believed to be a small sample of Muench's speeches and correspondence with conservationists across the nation is preserved in state archives.⁴²

In November 1948, the month before the hearings, Fred Kaftan had been elected State Senator. The campaign had emphasized a personal hand-shaking campaign in small towns based on a single issue: water pollution control. Joining the Senate in 1949 with the Green Bay hearings just completed, Kaftan began raising the



Figure 5. Water quality advocates recruited and helped elect Fred Kaftan to the Wisconsin State Senate in 1948. This was a single-issue campaign focused on improving regulation of industrial and sewage treatment plant pollution. Kaftan drew the news media's attention in part because it is unusual for a politician to criticize the major industry of his district. (Campaign poster from collection of Fred Kaftan.)

POLLUTION CONCERNS YOU!

IT CAN BE DONE!

These Mills ARE treating sulphite waste against pollution.

RAYONIER, INC. Hoquiam, Wash.

INLAND EMPIRE PAPER CO. Millwood, Wash.

PUGET SOUND PULP & PAPER CO. Bellingham, Wash.

RAYONIER, INC. Shelton, Wash.

WEYERHAEUSER TIMBER CO. Longview, Wash.

NEW YORK & PENN. CO. Johnsonburg, Pa.

HAMMERMILL PAPER CO. Erie, Pa.

INTERNATIONAL PAPER CO. York Haven, Pa.

ONTARIO PAPER CO. Thorold, Ontario, Canada

INTERNATIONAL PAPER CO. Gatineau, Quebec, Canada

MARATHON PAPER CO. Rothschild, Wis.

FLAMBEAU PAPER CO. Park Falls, Wis.

LAKE STATES YEAST CO. Rhinelander, Wis.

9 MILLS IN SWEDEN

5 MILLS IN GERMANY

And others including mills in England, France, and Switzerland

WHY ISN'T IT DONE HERE?

June 27, 1949, the State Committee on Water Pollution issued orders directing Industries and Municipalities to take steps to END POLLUTION ON THE LOWER FOX RIVER.

The offending Paper and Pulp Mills were ordered to submit preliminary plans by December 31, 1949, and to complete necessary installation within 12 or 18 months thereafter, depending upon the particular mill.

THE STATE COMMITTEE OF EXPERTS DECLARIES THAT THESE ORDERS ARE "REASONABLE AND PROPER AND NECESSARY FOR THE PROTECTION OF PUBLIC RIGHTS IN THE FOX RIVER."

Municipalities and some industries have expressed a willingness to "do their share" and are taking necessary steps to comply with these orders.

THE FOUR PRINCIPAL OFFENDING PAPER MILLS WHOSE POLLUTION CONSTITUTES 87.7% OF THE TOTAL, NOW ASK FOR MORE TIME . . . AND MORE DELAY!

"The state has been after us and pressing us for years to solve this problem ever since I got into it in 1924."

Testimony of Paper Mill Executive during Pollution Hearing, Green Bay, Dec. 17, 1948

THE PUBLIC HAS WAITED 25 YEARS FOR THESE MILLS TO END POLLUTION.

HOW MUCH LONGER?

Attend the Hearing at City Hall, Thursday, December 22, at 9 A. M.

POLLUTION CONCERNS YOU

Authorized and Paid for by the Wisconsin Fish Producers Association.

Figure 6. Advertising was one of the tactics used by the Izaak Walton League in its effort to draw public attendance to the 1948 Green Bay state hearings on Fox River pollution. Local advertising executive Harry Tubbs orchestrated an advertising and publicity campaign to elect Fred Kaftan and draw attention to his legislature agenda. (Ad from Green Bay Press-Gazette, December 1948)

water pollution issue by authoring several legislative proposals, one of which called for steep daily fines on parties discharging pollutants.⁴³ As a freshman senator, Kaftan worked with only a few allies in the senate, one of whom was the freshman Democrat Senator Gaylord Nelson of Dane County.⁴⁴ Kaftan was noted by the media for the bold step of publicly chastising the major industry of his home district.⁴⁵ Kaftan's major accomplishment in the Republican-controlled state legislature was the appropriation of funding for a director and full-time staff for the COWP.

Conservationists had argued that the COOWP was ineffective in enforcing existing laws and that lack of staffing was part of the reason.

In July 1949, the COWP issued an order calling for the installation of wastewater treatment facilities by municipalities and paper mills on the Fox River by 1951. The conservationists considered this order a significant victory. Some industry and municipal sewage treatment plants made efforts to comply with the order, but delays occurred. The interpretation of the order was that continued good-faith progress needed to be shown to the COWP.⁴⁶ Hearings conducted in later years addressed progress by specific industrial and municipal sewage plants, and attention focused on the still-declining ecological conditions.⁴⁷

According to paper industry executives interviewed in recent years, they had considerable sympathy with the goals of the conservationists;⁴⁸ they argue that the forces of market competition and a lack of technical knowledge and material are what prevented a quick cleanup of pollution. A central argument at the time was that if state-mandated pollution controls were required only in Wisconsin, it would make Wisconsin papermakers uncompetitive with manufacturers in other states.⁴⁹

The manufacturers argued that some experimentation in waste recovery had been conducted by Wisconsin pulp mills between the 1927 formation of the COWP and the debates of the late 1940s. Two examples

were on the Wisconsin River. The Marathon Paper Company, led by D. C. Everest, had a pilot facility operating in 1939 to convert a portion of pulp mill residues into a raw material that could be converted to vanillin extract for food.⁵⁰ the Rhinelander paper mill, whose president was Folke Becker, had installed a pilot plant in 1948 that converted some of the waste material into yeast. The yeast was used as cattle food.⁵¹ Neither of the experimental-scale facilities made major reductions in the waste discharge of the mills at which they were located.

In the lower Fox River Valley, the 1949 order and other actions of the COWP led to the construction of waste recovery facilities at the Northern Paper Company mill, the Hoberg Paper Company mill, the Consolidated Water Power and Paper mill, and a Kimberly-Clark mill. Sulphite liquor was used by Kimberly-Clark as an adhesive to control dust on rural gravel roads. At Green Bay's Northern pulp mill and at Appleton's Consolidated Water Power and Paper, Sulphite liquor was burned in a boiler after concentration by an evaporator. The Charmin Paper Company bought the Hoberg Paper Company mill in the 1950s and used Sulphite liquor to produce a yeast food at the facility. The combined efforts of these and other industries reduced oxygen-depleting discharges into the Fox (and East River in the case of the Northern mills). Yet dissolved oxygen levels were not improved to the point where sensitive fish could survive.

Work by the Fox Valley activists did not end with the 1948-49 efforts, but these events remain a defining moment in the postwar conservation/environmental movement in northeastern Wisconsin. They are also possibly the most influential actions by the Fox Valley activists in terms of statewide impact.⁵² The resulting action by dischargers and government helped establish the state's progressive reputation among water quality advocates. Although adequate levels of dissolved oxygen in the lower Fox River were not immediately restored, the controls advanced the national technical knowledge base and the national political

agenda on the environment. In addition, the efforts raised local public awareness about water quality issues.

Water quality suitable for fish survival was not restored until the late 1970s, following implementation of standards derived from the 1972 Clean Water act passed by the U.S. Congress. This national law required pulp and paper mills, as well as other industries and municipal sewage treatment plants, to meet specific minimum levels of pollution control. By 1987 more than \$300 million in water pollution controls was invested by Fox River dischargers, including municipalities.⁵³ As a result of these investments, dissolved oxygen levels increased in the lower Fox and East rivers, and many species of fish and other aquatic organisms returned from the cleaner waters of Green Bay. With them returned recreational boaters and fishing enthusiasts and greater public and private investment in waterfront properties.

Endnotes

¹Oral history interview with Harry Tubs, Fox/Wolf Rivers Environmental History Project (FWREHP) collection, State Historical Society of Wisconsin (SHSW), stored at the Area Research Center (ARC), University of Wisconsin-Green Bay (UWGB), Interviews are filed alphabetically by surname.

²Social research conducted from the late 1970s through the early 1990s confirms that lower Fox River Valley residents rate water quality as a major, if not the major local environmental issue. Relevant reports include: UWGB, "Water: Environmental Optimism, Opinions of Water Quality," a report on a Title I Grant by the U.S. Department of Health, Education and Welfare, 1979; Ron Baba, Per Johnsen, Gerrit Knaap, and Larry Smith, "Public Perceptions and Attitudes Toward Water Quality Rehabilitation of the Lower Green Bay Watershed," Green Bay: UWGB Center for Public Affairs, 1991; Steve Bennett and Dotty Juengst, "Recommendations for Improving the East River Priority Watershed Urban Education Campaign," prepared for the Wisconsin Department of Natural Resources and the University of Wisconsin-Extension, 1993.

³ The Sierra Club was founded by John Muir, who was raised in the Upper Fox River Valley, and whose book, *The Story of My Boyhood and Youth*, recounts the influence of Wisconsin experiences. The Wilderness Society was co-founded by Aldo Leopold,

then a professor at the University of Wisconsin-Madison. Earth Day was the idea of U.S. Senator Gaylord Nelson (Democrat-Wisconsin).

⁴ An excellent reference that discusses the work of Wisconsinites in the legal expansion of water protection is a 1965 *Transactions* article "Water Policy Evolution in Wisconsin-Protection of the Public Trust," Vol. 54, Part A, (pp. 143-97) by Walter E. Scott of the Wisconsin Conservation Department. However, this article does not detail activities at the community level.

⁵ In 1927 an advisory committee to the Mayor of Green Bay undertook a fact-finding mission to document, albeit anecdotally, the sour condition of the river. This account was recorded in the City Council Proceedings of September 23, 1927.

⁶ First Annual Report of the Green Bay Metropolitan Sewerage District, issued 1933.

⁷ *Green Bay Press-Gazette*, "Garbage Dumping Must be Ended to Keep River Clean," by Stanley Barnett, Dec. 3, 1936.

⁸ *Green Bay Press-Gazette*, "Garbage Dumping Must be Ended to Keep River Clean," Dec. 3, 1936.

⁹ *American City*, "Sewage and Stream-Pollution Problems in Eastern Wisconsin," author not identified, February 1935, 3 pp.

¹⁰ *Green Bay Press-Gazette*, "Mayor Out to Clean River," July 16, 1937; Oral history interview with Art Decker, FWREHP/ARC/UWGB.

¹¹ Oral history interviews with Art Decker, Norman Ditzman, Don Soquet, Bill Verheyen. FWREHP/ARC/UWGB.

¹² *Green Bay Press-Gazette*, "Thousands Visited Beach on Sunday," July 12, 1937.

¹³ *Green Bay Press-Gazette*, "Bathing Banned at Beach Park," Aug 4, 1942.

¹⁴ Stream Pollution in Wisconsin, Madison: State Board of Health, 1927, 327 pp.

¹⁵ Laws of Wisconsin-1927, Chapter 442, pp. 633-41. The Committee on Water Pollution was created as an inter-agency committee, and it was not funded to conduct monitoring or other activities until Senator Kaftan's 1949-50 legislative efforts.

¹⁶ *Stream Pollution in Wisconsin*, Madison, WI: State Board of Health, 1927, p. 75.

¹⁷ City of Green Bay, Report of committee chaired by George F. Nick, Council Proceedings of Sept. 6, 1927. The Public Service Co. facility was a coal gas plant. A

report in 1939 indicated that several other industries discharged oil into the East River. Published by the Wisconsin State Committee on Water Pollution and the State Board of Health in collaboration with the Green Bay Metropolitan Sewerage Commission, it was titled, "Investigation of the Pollution of the Fox and East Rivers and of Green Bay in the Vicinity of the City of Green Bay."

¹⁸ City of Green Bay, Report of committee chaired by George F. Nick, Council Proceedings of Sept. 6, 1927.

¹⁹ Second Annual Report of the Green Bay Metropolitan Sewerage District, published 1934.

²⁰ *Green Bay Press-Gazette*, "Tracing Source of East River Smell," June 13, 1936; "Green Bay's Rampaging River" editorial, July 23, 1938.

²¹ *Green Bay Press-Gazette*, "Botulism Killed Ducks; But What Caused Disease?" Oct. 17, 1936; "Duck Deaths Are Blamed on Sewage," Oct. 20, 1936; "Ducks Dying in Bay Again," Sept. 8 1937; "Ailing Swans Treated at Sanctuary Here," April 18, 1939; "Fear Disease of Ducks May Visit State Again," July 25, 1940; "Game Biologist Has Ideas for Preventing Botulism in Ducks," April 16, 1942.

²² The locations of the nets were far north along the east shore of lower Green Bay as Dyckesville, Sand Bay and Point Sable. Fish kills were reported before and after this event. In late summer 1937, "wagon loads" of perch, musky, pike and 32 other species were collected between Appleton and Kimberly, according to a September 21 report in the *Green Bay Press-Gazette*. In a May 1950 letter to Dr. David Charlton, Portland, Oregon, Virgil Muench reported that fishermen had recently lifted tons of dead fish from nets 36 miles from the Fox River mouth. Muench reports making color movies of the dead fish, but the survival of this film through the years is not recorded. Muench collection, State Historical Society of Wisconsin.

²³ The scientific work for the study was done by Ben Williamson, a sanitary engineer for the Kansas Board of Health, and by John Greenbank, a biology doctoral student employed by the Michigan conservation department. *Green Bay Press-Gazette*, Nov. 2, 1938. The final report was issued by the Wisconsin State Committee on Water Pollution and the State Board of Health in collaboration with the Green Bay Metropolitan Sewerage Commission in 1939 as, "Investigation of the Pollution of the Fox and East Rivers and of Green Bay in the Vicinity of the City of Green Bay."

²⁴ *Green Bay Press-Gazette*, "Claim Pollution In Fox River Is Caused by Mills," by Stanley Barnett, October 6, 1939.

²⁵ *Green Bay Press Gazette*, "Mills Will Finance Study of River Pollution Elimination," Nov. 15, 1939; "New Products Force Marathon to Expand," July 13, 1939.

²⁶ *Green Bay Press Gazette*, "Mills Will Finance Study of River Pollution Elimination," Nov. 15, 1929. Oral history interview with A.J. Wiley, former technical director of the Sulphite Pulp Manufacturers Research League, FWREHP/ARC/UWGB. The sulphite chemical process was developed in 1874 to convert raw wood chips into a pulp usable in the paper industry. The city of Green Bay had two sulphite pulp mills operating during most of the twentieth century. Each mill operated under several different company names. The last sulphite mill, operated by the James River Corp., was closed in the early 1990s and replaced with a secondary pulp mill fed by recycled paper.

²⁷ *Stream Pollution in Wisconsin*, Madison, WI: State of Wisconsin, 1927, pp. 4-5. The experiment at Park Falls resulted from a pulp mill discharge that killed 25 to 30 tons of fish in 1925; this fish kill led to the 1927 statewide study of river and stream conditions.

²⁸ This account by Soquet highlights the fact that game fish were able to survive in the lower Fox at certain times of the year, despite the report in the 1927 COWP study that fish survival was poor during critical summer months.

²⁹ *Stream Pollution in Wisconsin*, p. 136.

³⁰ Oral history interview with Donald Soquet, 1995. FWREHP/ARC/UWGB.

³¹ Oral history interview with Soquet, 1995. FWREHP/ARC/UWGB.

³² Oral history interview with Soquet, 1995. The role of the state Izaak Walton League is described from a longer historical perspective by Earl Finbar Murphy in *Water Purity: A Study in the Legal Control of Natural Resources*, Madison, WI: University of Wisconsin Press, 1961.

³³ Virgil Muench was executive secretary of the Green Bay Trade Independent Association in the mid-1940s. This group saw dire threats from large interstate corporations out-competing local small business people. Most pulp and paper mills in Wisconsin were locally owned at this time. Muench was the son of an Algoma lake fisherman who left that work to become a gas station operator. Some documents related to this group are found in the Muench collection in the State Historical Society of Wisconsin.

³⁴ Letter from A. D. Sutherland to Henry Bredael, President of the Green Bay chapter of the IWL, August 13, 1948, in the Virgil Muench collection, State Historical Society of Wisconsin, Madison.

³⁵The Kaftan name was “known” in the Green Bay community. The brothers Robert, Arthur, and Fred Kaftan were attorneys whose father (once a Brown County judge), first set up law practice in Green Bay about 1905.

³⁶The Second Senatorial District was later to elect a third environmental advocate. Assembly person Robert Cowles, Jr. was first elected to represent the 75th District East River neighborhoods in 1982, and he went on to assume the seat of the State Senate’s redistricted Second District in 1987. In another echo of the East River debate, environmental activist Rebecca Leighton was elected in the mid-1980s to the Green Bay City Council from the same east side neighborhood as Meyer Cohen was in about 1930.

³⁷*Green Bay Press-Gazette*, “Rennebohm Talk Slated Tonight,” Oct. 21, 1948; “Plan Probe of Pollution Here,” October 22, 1948.

³⁸Oral history interviews with Art Kaftan, Harry Tubbs, FWREHP/ARC/UWGB.

³⁹*Green Bay Press-Gazette*, “Sulphite Operators Testify Yeast Plant Impossible Now,” Jan. 5, 1947. The hearing transcript from the 1948 hearings could not be found in the state archives. While the State Historical Society of Wisconsin has records of COWP hearings on many river basins, the records from the lower Fox River were not deposited by the Wisconsin Department of Natural Resources, according to a staff librarian. Any reader knowing of an existing copy of the transcript is asked to contact the author.

⁴⁰Harry Tubbs, “The Green Bay Story,” *Outdoor America*, magazine of the Izaak Walton League of America, February 1950. The publication of five of Tubbs’ ads in the *Press-Gazette* were: Dec. 11, 15 and 31, 1948; Jan. 12 & 15, 1949.

⁴¹Oral history interview with Tubbs, FWREHP/ARC/UWGB; also personal communication with Tubbs, October 1995.

⁴²Virgil Muench collection, State Historical Society of Wisconsin, Madison.

⁴³*Capital Times*, “Fox River is ‘Grossly Polluted’ Yet Committee Failed to Act,” Jan. 22, 1949. Oral history interview with Fred Kaftan, FWREHP/ARC/UWGB.

⁴⁴Although they did not work closely together, freshmen Senators Fred Kaftan and Gaylord Nelson were noted for their individualism and idealism. A *Capital Times* opinion column on April 9, 1949 cited them as the only two senators to vote for broadening the state’s antitrust laws to cover the service industry, including the law profession in which they worked. Oral history interview with Gaylord Nelson, FWREHP/ARC/UWGB.

⁴⁵*Capital Times*, “GOP State Sen. Kaftan Fights Fox River Valley Paper Mills on Pollution,” by John Hoving, Jan. 29, 1949.

⁴⁶Oral history interview with Len Montie (COWP Fox River basin engineer starting in 1950), FWREHP/ARC/UWGB; *Green Bay Press-Gazette*, “Kaftan Asks Prosecution of Non-Cooperative Papermills,” Dec. 10, 1952. Arthur Kaftan is cited as reporting that 425 COWP orders were issued in the state between 1949 and 1952, with 65 completely complied with and 56 other projects or plans underway.

⁴⁷*Green Bay Press-Gazette*, “Bay Pollution Rising Sharply,” Dec. 1952, reports on a comparison of biological conditions between 1938 and 1952; “Kaftan Asks Prosecution of Non-Cooperative Papermills,” Dec. 10, 1952; “Paper Mill, Sewage Plant Men Reply to Kaftan Charges,” Dec. 15, 1952.

⁴⁸Oral history interviews with Richard Billings, George Kress, Clyde Faulkender, (paper industry executives), FWREHP/ARC/UWGB.

⁴⁹*Milwaukee Journal*, “On, Wisconsin: Industrial Pollution,” April 7, 1940.

⁵⁰*Green Bay Press-Gazette*, “New Products Force Marathon to Expand,” July 13, 1939.

⁵¹*Green Bay Press-Gazette*, “Here is the State of the Fox River-Green Bay Pollution Problem in Capsule Form,” January 7, 1940. Both Everest and Becker had conservation sympathies that extended beyond water quality. They were key figures in establishing the privately funded conservation organization group today called the Trees for Tomorrow Natural Resources Education Center. Established in 1944 as Trees for Tomorrow, the organization was known for distributing free trees to landowners for the protection of trout streams and the control of soil erosion. Everest has been inducted (and Becker nominated) as conservation hero in the Wisconsin Conservation Hall of Fame in Stevens Point.

⁵²Fox Valley activism played a role in another major state natural resource issue. Virgil Muench was involved in a lawsuit that helped broaden the definition of affected parties in river management. The Namekagon case involved the Flambeau River of northwestern Wisconsin [see *Muench v. Public Service Commission*, 216 Wis 492 (1952)], and it expanded the doctrine of public trust to give all Wisconsin citizens a voice in river protection issues.

⁵³*Green Bay Press-Gazette*, “Pollution from Mills is Key Issue in Area,” Oct. 5, 1987. Investment in water quality continues after 1987, with a 1990 estimate by William Elman of the Fox Valley Water Quality Planning agency that more than \$600 million would be

spent by projects then underway, Appleton *Post-Crescent*, "Report Card Issued on Water Quality Efforts," Feb. 25, 1990.

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