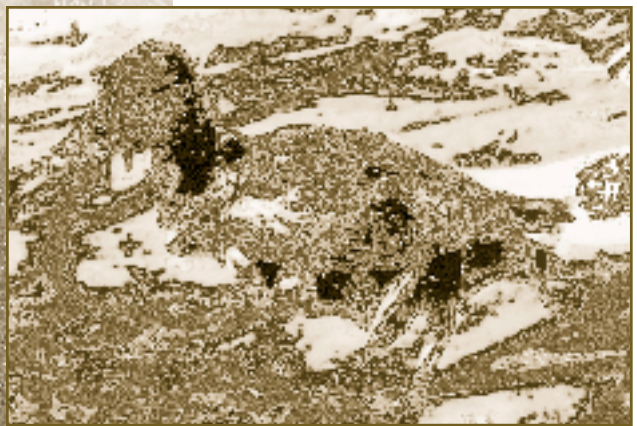




# Operation Save A Duck

## AND THE LEGACY OF MINNESOTA'S 1962-63 OIL SPILLS



*Stephen J. Lee*

*A canvasback duck immobilized by soybean oil near Hastings; thick oil trails in the Mississippi River near South St. Paul, April 1, 1963.*

**CATASTROPHES OFTEN TRIGGER** advances in environmental protection. This was true in Minnesota in the winter of 1962-63, when more than three million gallons of soybean oil spilled in Mankato and flowed down the Minnesota River to join more than one million gallons of industrial oil spilled in Savage. The gooey mess killed an estimated 10,000 ducks near Red Wing and Hastings and prompted Governor Karl Rolvaag to activate the National Guard in the futile Operation Save a

Duck. These events spurred some of the state's earliest legislative debate on controlling pollution to protect the environment.

The winter of 1962-63 was cold. On Friday, December 7, 1962, workers at the Richards Oil Company plant on the Minnesota River in Savage pumped "cutter" oil from rail cars into a storage tank through a long, 10-inch-diameter steel pipeline. (Cutter oil is thin, like kerosene or diesel fuel, and used to make heavy oils pumpable.) When the

workers left for the evening, they neglected to close the valve between the pipeline and a large aboveground storage tank. They also forgot to open steam lines that kept the oil in the pipeline warm and flowing.<sup>1</sup>

During the weekend, when evening temperatures dipped below zero, the uninsulated, unheated pipe contracted and broke in three places. Some one million gallons of oil, the entire contents of the tank, drained from the broken pipeline over 30 acres of ground.<sup>2</sup>

Because the family-owned Richards plant was unstaffed during the weekend, the spill was not discovered until Monday morning. By then, the oil was draining onto the ice of the Minnesota River through a culvert that pierced a dike built between the plant and the river. The culvert had a one-way flap valve that prevented river water from flooding the plant but allowed storm-water runoff—or oil—to pass through to the river. Oil spread downstream on top of and under the ice.<sup>3</sup>

By the end of December, there were numerous sightings of oil on top of river ice. The downstream power plant at Black Dog reported that oily water was interfering with its turbine condensers. Fresh snowfalls and poor access to the river made it difficult to assess the scope of the oiling, but a stretch of ice three-to-four miles long contained a pool of oil. Game wardens and state health-department staff tracked the oil back to the Richards property.<sup>4</sup>

Richards employees and owners repeatedly denied any problems at the plant beyond drips from leaking pumps and routine, minor spillage. For a time, state officials were expelled from the site. It was not until March 18, 1963, that a plant owner admitted the million-gallon December spill. He said that attempts to pump up the oil had been made, but only 2,000–10,000 gallons had been recovered. In this time before the federal Environmental Protection

Agency or a state Pollution Control Agency, it was the Department of Health's Water Pollution Control Commission that requested Richards to halt the continuing oil drainage into the river. This was done after some delay, but by late March the ice had gone out and the bulk of the oil had already moved down the Minnesota River into the Mississippi.<sup>5</sup>

Meanwhile, back in January, another cold spell had settled over the Minnesota River valley. Overnight lows fell to -25° F. in Mankato, home of Honeymead Products Company, the largest soybean-processing plant in the world. Honeymead stored its soybean oil, which has the consistency of cooking oil, at a temperature of 50°–70° F. in large, aboveground storage tanks. One of these steel tanks had been bought used in Texas, disassembled, and reconstructed in Mankato. This 40-foot-high, 100-foot-diameter, 3.4 million-gallon-capacity tank had been further modified by welding an 8-by-8-foot steel panel near its bottom for entry and cleaning.<sup>6</sup>

In severe cold, a phenomenon called brittle fracture can cause the sudden collapse of steel tanks. In addition, inserting a flat panel in the curved circumference creates mechanical strains on the steel and welds. On the cold morning of January 23, Honeymead's reconstructed storage tank failed, "unzipping" from the upper corner of the square plate to the top of the tank. A tidal wave of 2.5 million gallons of crude soybean oil washed over nearby tanks and railroad tracks, flooding several blocks of southwest Mankato. The

powerful force of escaping oil pushed the hull of the big tank backward into five smaller tanks containing another .5 million gallons of salad oil. When the piping to these tanks broke, their contents amplified the spill to about 3 million gallons.<sup>7</sup>

Cars, homes, and businesses were surrounded by the pool. Several city blocks flooded three feet deep in oil. When the tank failed, Herbert Kurth, the boss of one group of employees eating lunch huddled around a stove in a nearby brick building, went to the door to investigate the bang that sounded like rail cars coupling at too great a speed. He saw a 40- or 50-foot-tall storage tank riding toward him on a wave of oil. Running to the back of the building, he kicked out a window to enable employees to escape. (He was reportedly cranky afterwards, because the employees dove out the window first, leaving him behind in two feet of oil.) It was "every man for himself," recalled employee Edward Ward.<sup>8</sup>

Harvey (Choppy) Fortney was driving a truck through the yard when the tank burst. He saw the 30-foot-high wave of yellow oil coming toward him and thought it was fire. Propelled through the air above the oil was a tank trailer that, along with the oil, slammed Harvey's truck into a pile of beams. The terrified, semi-conscious, and oily Fortney slipped from rescuers' grasps twice while he was being extricated from his truck.<sup>9</sup>

Standing in the path of the oil wave were 300 to 400 barrels of lecithin and other products. Harold Hartwell outran the oil but got hit by a flying barrel. David Wilmes had just left his post when it was deluged

---

*Stephen Lee is the emergency response supervisor of the Minnesota Pollution Control Agency.*



*Aerial view before the spill of Honeymead Products Company, the largest soybean-processing company in the world in 1963. The large tank at lower right ruptured, and its oil gushed into Mankato and the Blue Earth River.*



*(Above) The crumpled shell of a Honeymead tank with a damaged tank behind it; (below) lecithin drums and one of the railroad cars (at right) tossed by the tidal wave of oil toward the Minnesota River.*



by a wave of oil that piled barrels onto his work station. Co-workers frantically pulled barrels off the pile looking for Wilmes's body until he reported in from the lab. Gerald Erkel and others were in the extraction building when the oil ripped off the doors and flooded it. Men climbed stairs and ladders to escape the churning wave, some of which came in through windows and stained rafters six stories above ground.

Evelyn Herman watched from the window of her home near the plant as two loaded railcars, estimated to weigh 80 to 90 tons each, washed off the tracks, traveled about 300 feet, and plunged into the Blue Earth River. One railcar broke through the ice, allowing oil to drain directly into the water. Her house was surrounded by the oil, which quickly cooled to a gooey, lardlike consistency. She and her children were marooned in the house for several days. At the Mankato sewage-treatment plant, employees discharged raw sewage directly into the Minnesota River to prevent oil from gumming the works.<sup>10</sup>

About half of the 3.5 million gallons of oil spilled directly into the Blue Earth River. As for the rest, on the first day employees used graders and loaders to push oil off roads into ditches, so that it could eventually flow into the river. That practice was quickly halted by request of the Department of Health. Over the next few weeks Honeymead and city employees continued to scrape, pump, and push the sticky mass of oil and debris. An estimated 700,000 to 800,000 gallons were recovered and pumped into railway tanker cars. Following common practice in the



*Oil that spilled at Richards Oil Company in December 1962 and Honeymead Products Company in January 1963 flowed down the Minnesota River and into the Mississippi.*

1960s, a large amount was carted off and dumped in a ravine two miles east of Rapidan, Minnesota, along the Le Sueur River. Some recovered oil was fed to hogs.<sup>11</sup>

**ABOUT A MONTH AFTER THE** Honeymead spill, and almost three months after the Richards spill, the ice went out on the Minnesota River, releasing more oil into the water at both sites. It moved quickly downstream into the Mississippi River, where, on March 25, it was seen between St. Paul and Newport. Inspectors visiting the plants on March

22 and 28 discovered continuing discharges of oil. On March 29 observers reported the first oil-covered dead ducks south of St. Paul.<sup>12</sup>

As serious spill problems became apparent late in March, Minnesota's Water Pollution Control Commission and Department of Conservation and the U.S. Army Corps of Engineers pressured Richards and Honeymead to stop further pollution by constructing berms, excavating dirt, and burning pooled oil. Richards personnel and the local fire department began open burning of oil from the ditch on their property.<sup>13</sup>

As temperatures rose, oil in the debris Honeymead had dumped began to flow to the Le Sueur River, then to the Blue Earth River, passing the Honeymead plant where it had originated, and finally to the Minnesota River. In response, the company dispatched bulldozers to dike the upstream ravine.<sup>14</sup>

From St. Paul, the Mississippi flows rapidly south then turns eastward in the Pine Bend area that includes extensive backwaters such as Spring Lake, largely formed by the construction of the Hastings lock and dam in the 1930s. Past Hast-

ings, just south of Red Wing, the channel widens to create Lake Pepin. In late March, unmelted ice at the head of Lake Pepin dammed up the floating oil, which backed up to Red Wing and Hastings. This coincided with the peak of waterfowl migration.<sup>15</sup>

It was on March 28 that 16-year-old John Serbesku first noticed “dark blobs struggling in the murky waters” of the Mississippi near Pine Bend. They were ducks caught in floating oil. He, his father, George, and his mother, Dorothy, decided to rescue as many ducks as they could. By midnight they had hand washed 38 in their basement. Then George Serbesku, a stockyard livestock-weigher, carried two bushel-baskets full of dead and oily ducks to the state capitol and asked for help. He

called newspapers and television stations, making a plea for volunteers, boats, and governmental action. At first, federal fish and wildlife officers threatened to arrest him for handling wild birds, but soon they issued capture permits and joined the rescue operation.<sup>16</sup>

Oiled ducks die from drowning (because coated feathers lose buoyancy), from exposure (because body heat is lost through oiled feathers), from starvation and predation (because mobility is reduced), from intestinal lesions and acute oil toxicity, and from suffocation (when oil lodges in nostrils and throats). On Saturday March 31, rescuers found 172 oil-soaked dead ducks in the river near Hastings. Another 300 were caught and washed. Dead

beavers, geese, and muskrats were also found. Each day the death toll for ducks mounted.<sup>17</sup>

Conservation officers attributed most of the duck mortality to the soybean oil. Being more volatile and buoyant, the petroleum oil both evaporated and moved more rapidly downstream. The soybean oil, which began as “thick, orange-colored slicks,” changed to sticky, “pliable grayish and somewhat rubbery floating masses.” Blown to shore, it sank in quiet-water areas or weathered to a taffylike material.<sup>18</sup>

**THE NOVEMBER 1962 RACE FOR** governor had been a cliffhanger. It was not until March 25, 1963, that Karl Rolvaag was sworn in after a series of recounts. On April 1 he ordered state agencies to try rescuing and rehabilitating the oiled ducks. Wardens were called in from as far as 200 miles away. “Duck laundries” were set up at the Como Zoo in St. Paul and Carlos Avery Game Farm.<sup>19</sup>

The Department of Conservation made intensive duck-rescue attempts in the first days of April. Some 88 Game and Fish employees and 15 U.S. Fish and Wildlife workers labored at the duck laundries. By hand, they washed Duz-brand detergent into feathers of birds covered with oil that had set to a shellac-like consistency. (Dawn is the current duck-washing detergent of choice). They followed this with a several-minute soak in a solution of trisodium phosphate and Calgon water softener and then a clean-water rinse. After washing, the 1,369 rescued ducks were housed until the fall

*Citizen duck rescuers L. W. Rollins and George Serbesku show St. Paul legislator William L. Shovell some oiled ducks on the steps of the Capitol*



when they molted and grew new feathers. Some 350 survived and flew away.<sup>20</sup>

On April 3 State Health commissioner Robert N. Barr discussed the emergency with the governor's office. He described the need for legislation giving a state agency the authority to prevent such disastrous events instead of merely reacting to them. That same day Rolvaag toured the wildlife area and stated: "We will find the funds to care for the problem. Certainly a society as affluent as ours can spare a buck to save a duck." The governor appointed Michael Casey, a regional game manager, to take charge of operations. When concerns rose about the threat to 600–1,000 swans in the Weaver Bottoms backwater below Wabasha in Lake Pepin once the ice dam broke, the governor continued, "This demonstrates the need for stronger water pollution control legislation. I will throw my weight behind it." Rolvaag was joining the state's ongoing, contentious debate sparked by deteriorating river quality and changing expectations about the use of natural resources.<sup>21</sup>

Strong public and editorial opinion erupted after the duck devastation became known. Writers for and to the *Red Wing Republican Eagle* were especially outspoken: "The silent death now floating down the Mississippi calls for strong action." "No one who has seen the vast destruction carved by these floating sheets of oil could possibly oppose legislation to prevent such carnage in the future." An April 12 editorial urged: "What's needed is to give a state commission, possibly the water



*George Serbesku shows Governor Karl Rolvaag the spill's effects on ducks at Spring Lake on the Mississippi River, April 2*

pollution control unit, the power to require industries and communities to take adequate safeguards against such examples of pollution.” The next day, the paper continued, “The State is like a toothless old sow with a hard ear of corn.” Many Minnesotans began sending money to the governor’s “Buck for a Duck” fund. Donors included schoolchildren and a woman who mailed \$5.00 previously earmarked for an Easter bonnet. She said she could not enjoy the hat while thinking of the dying ducks.<sup>22</sup>

Amid the heated rhetoric, Governor Rolvaag on April 4 issued the first executive order of his new administration. It activated the National Guard to rescue ducks and recover oil, capping expenses at \$14,000. Fifty men of Northfield’s Company D of the 682nd Engineers Battalion were mobilized under Lt. Col. Donald Crowe, who said, “We’re playing it by ear, no one has written a book on it yet.” On April 6, another 75 men from Company A, as well as members of the Coast Guard, joined them. Eventually 24 officers and 124 enlisted men were brought in for oil and duck operations.<sup>23</sup>

**OIL SPILLED ON WATER FLOATS,** hence the saying, “Oil and water don’t mix.” But over time, some floating oil dissolves into water—and the most toxic constituents of petroleum oil are generally the most soluble. The most volatile constituents evaporate, sometimes creating a fire hazard and leaving gummier oil behind. Oil will also emulsify into water, especially in wind or over rapids or a dam. This turbulence creates a semifloating, gelatinous

goo or “mousse,” which is very hard to recover. With continued weathering, this oil can sink or be stranded in a band along shorelines. Over months or years, the action of natural microbes will eventually degrade most oils.

In 1963 little was known about how to respond to oil spills, so American ingenuity was called into play. National Guardsmen and volunteers tried fashioning containment booms by tying together logs and poles. They chained together floating oil drums and hung burlap from the chains to absorb and deflect the floating oil. They spread straw on water to sop up oil and stuffed straw into wire netting to make sorbent booms. They pumped oil from the water using small portable pumps on shore or in boats, temporarily storing oil in drums or in metal culverts suspended vertically in the water. Crews tried industrial detergents to disperse oil. They hazed waterfowl with airplanes and gunshots and dropped corn in clean areas to move them away from oily spots. They tried burning off the oil, including on-land burning at the Richards plant. A proposal to suspend a natural-gas-fired jet over the river to burn oil as it floated past was considered but rejected.<sup>24</sup>

By the weekend of April 6–7, however, only a few days after Rolvaag’s executive order, the National Guard concluded that it had been called in too late and was having no appreciable success at removing oil from the main channel of the Mississippi River or at saving birds. Thereafter, it concentrated on keeping oil out of backwater nesting areas in Sturgeon

Lake, North Lake, Spring Lake, and Weaver Bottoms.<sup>25</sup>

An April 12 letter from National Guard Sgt. Stanley J. Hille to Rolvaag described the frustration of guardsmen who were assigned to recover oil that had already done its damage and gone downriver. He recommended that they be pulled off “Operation Quack Quack” and allowed to return to their jobs. The guard deactivated on April 16.<sup>26</sup>

Follow-up studies showed that the oil eventually moved as far downstream as La Crosse, Wisconsin, approximately 250 river miles from Mankato. Dissolved soybean oil was detected at Rock Island, Illinois. Among the most heavily oiled areas were the Red Wing Boat Marina and the Wisconsin side of Lake Pepin, where winds blew oil to shore.<sup>27</sup>

Some 2,745 dead ducks had been removed from the water: Two-thirds were lesser scaup, one-sixth ring-necked ducks, and one-tenth coots and grebes. The total of dead ducks “seen but not collected” was 8,003. More than 10,000 waterfowl probably were killed, along with 26 beaver, 177 muskrats, and turtles, songbirds, and fish.<sup>28</sup>

As April continued, oil moved on, sank, or became less sticky, and waterfowl mortality waned. Overall costs of the state’s response to the spills eventually totaled \$35,000. The conservation department set the number of provable duck deaths at 3,211. Using a federal “duck value” of \$12, the provable wildlife damage totaled \$38,532.<sup>29</sup>

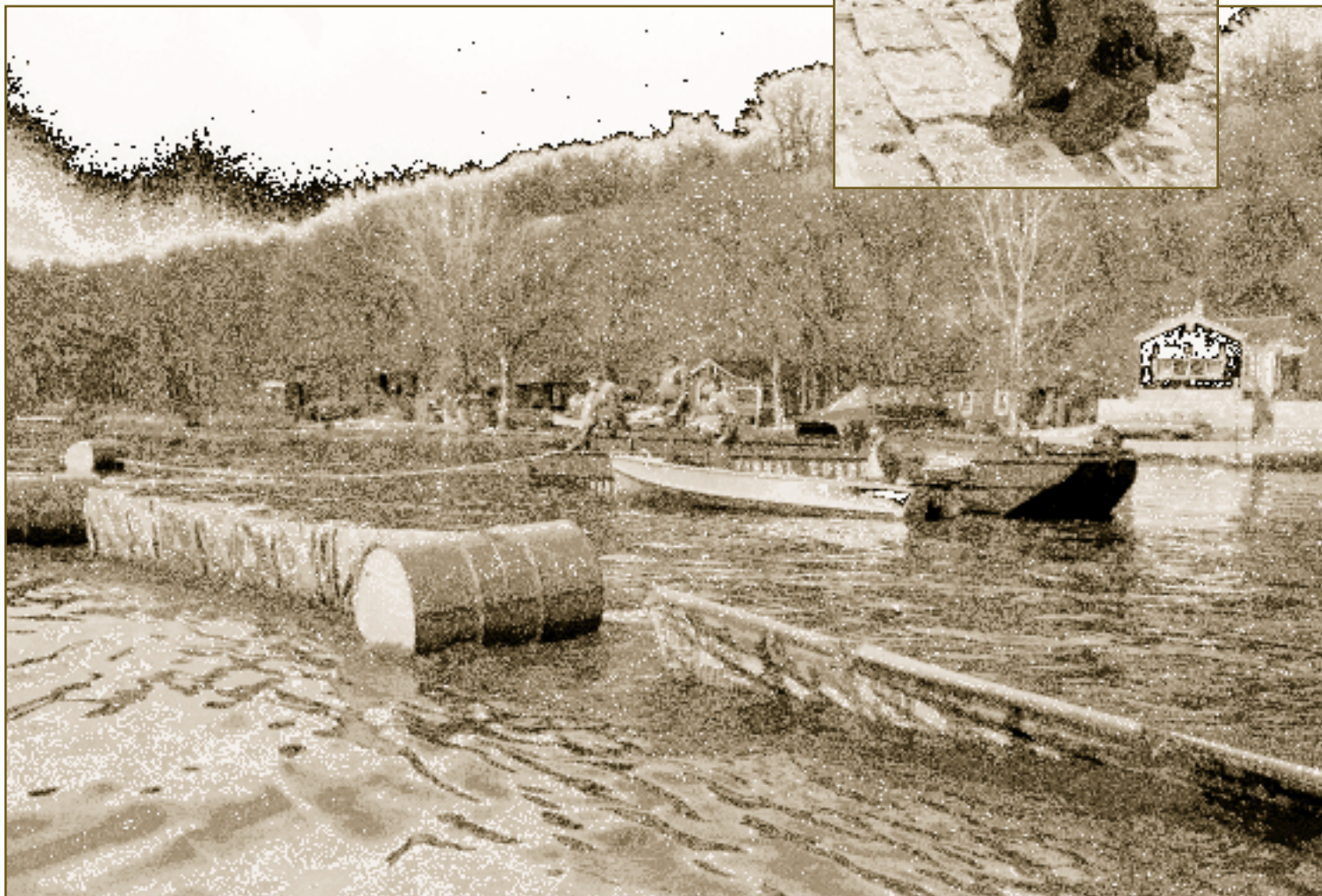
**POLLUTION LAWS TODAY REQUIRE** companies to take steps to prevent

spills and to be prepared to deal with them, both by reporting the spills immediately and by recovering the spilled material. Most aboveground storage tanks are now surrounded by dikes that prevent liquids from running to water or seeping into soil and groundwater. In 1963, however, there were no regulations for spill prevention or protection. There was no requirement that spills be reported to health or pollution authorities, or even cleaned up unless there were an immediate public-health threat.

It was several months after the Richards and Honeymead spills, then, that the state's Water Pollution Control Commission (WPCC) met on March 28 to consider possible action against the companies. Legal counsel for the commission and the Department of Conservation advised that Minnesota's Water Pollution Control Act of 1945 did not apply, since the spills were an accidental loss of a valuable commodity, not a continuing discharge of industrial waste. Public-health laws did not

apply either, since no drinking-water supply was affected. Criminal statutes related to harming wild animals or creating a public nuisance required proof that some person knowingly caused the discharge of oil. WPCC commissioners were also reluctant to enforce any action for fear that the companies would halt the modest voluntary measures they

*National Guardsmen fashion collection booms from barrels and burlap bags, April 7*



were now taking to prevent accidental oil spills. Walter Mondale, Minnesota's attorney general who would be elected U.S. senator that year, later recalled that the obvious lack of pollution laws and programs demonstrated to him the need for strong federal water-pollution legislation.<sup>30</sup>

At the time, federal laws were as weak as state laws. The 1899 River and Harbor Act, commonly called the Refuse Act, was intended to prevent the dumping of material into streams where it might impede navigation. It remained largely unenforced until the mid-1960s, when activists began to press for federal pollution prosecutions.<sup>31</sup>

The death of 10,000 ducks revealed the weakness of Minnesota's laws to a public whose expectations of environmental quality were rapidly changing. Rachel Carson's *Silent Spring*, an exposé of the pesticide poisoning of the water supply and bird population, had jolted the nation's ecological consciousness in 1962. Sweeping changes in environmental regulation—in part triggered by these two spills and the dying ducks—were clearly in the cards.

**THROUGHOUT THE NINETEENTH** century, much of Minnesota's sewage, garbage, and industrial waste had been dumped directly into the ground or into streams and rivers to make it "go away." Privies, cesspools, night-soil carts, and dumping in the gutters, however, caused sickness, noxious odors, and polluted wells. A number of severe waterborne epidemics in Minnesota led to the creation in 1872 of the State Board of

Health and the state's first water-pollution legislation in 1885. Still, sawdust from Minneapolis mills clogged landings and impeded navigation in St. Paul and farther downstream. By the late 1880s Minneapolis and St. Paul were each dumping 500 or more tons of garbage into the Mississippi River each day.<sup>32</sup>

Four decades later, the Twin Cities were discharging raw sewage from about 680,000 people directly into the Mississippi. Industrial wastes and offal from slaughterhouses in South St. Paul increased river pollution. Nevertheless, as late as 1928, state sanitation engineers and health officials declared: "One of the important uses of a stream is to care for the liquid wastes of a community and it is only natural that the larger cities and industries are located on the banks of streams so that their wastes may be disposed of in the most economical manner."<sup>33</sup>

Ironically, during the first decades of the century a public-health victory postponed progress in pollution control. Improved techniques of purifying drinking water by filtration and chlorination dramatically reduced waterborne disease. In effect, this lessened the urgency of aggressively regulating waste disposal into rivers.<sup>34</sup>

Exacerbating the Twin Cities' pollution problem were the locks and dams on the Mississippi River. Locks and Dam #1 built in 1914 near St. Paul's Ford plant created a pool of water that backed up as far as downtown Minneapolis. Sewage discharged into this quiet water settled out in massive sludge deposits 15 or more feet deep and estimated to be

3 million cubic yards in volume in 1928. Most river species cannot tolerate gross pollution, but some thrive on it. That year an estimated quarter-million tubificid worms per square yard inhabited the septic sludges above the Ford dam; few other species tolerated the toxic, oxygen-poor water of the metropolitan river. Farther upstream near the Washington and Franklin Avenue bridges, even these species were absent, apparently killed by waste from the coal gasification plant just upstream (near the current Interstate 35W crossing).<sup>35</sup>

The metropolitan area's sole major treatment facility was completed in 1938 at Pigs Eye Lake south of St. Paul. By 1945 only one-fifth of Minnesota's population was served by sewage-treatment works with secondary treatment (considered basic today). Just one-third of 700 industrial plants in the state that dumped waste directly into surface waters had any treatment.<sup>36</sup>

In 1945 the legislature passed the Water Pollution Control Act that created the Department of Health's Water Pollution Control Commission (WPCC). Authorized to review plans and issue permits for sewage or waste-disposal systems and orders for pollution abatement, the commission worked on an "informal and ad hoc basis," staffed at the beginning by four professionals and one clerical from the health department.<sup>37</sup>

**IN THE FIRST HALF OF THE CENTURY,** when public-health officials and sanitary engineers had sought only to eliminate waterborne disease and treat sewage so that water could be



*Constructing sewers, a link to the Twin Cities' treatment plant at Pig's Eye, 1937–38, under the railroad tracks near downtown St. Paul*

disinfected for drinking, little thought or value was given to protecting waterways for their own sake. As living standards increased, the growing outdoor-recreation movement broadened the desired uses of streams to include fishing, camping, and pleasure boating. Conservation and sportsmens' groups such as the Izaak Walton League (formed in 1922) began to press for tougher pollution regulation to support hunting and fishing while still permitting industrial uses of waterways such as paper milling.<sup>38</sup>

By the 1950s, however, even with interceptor sewers and the Pigs Eye

treatment plant, a burgeoning population and industrial operations led to worsening conditions in Minnesota's rivers. The metropolitan Mississippi River was still a stinking stream devoid of fish, with floating sludge mats, bottom sludge several feet deep, and gasses rising to the surface. Inadequate septic tanks polluted shallow wells. Not surprisingly, the WPCC came under increasing criticism for failure to stem pollution, especially in the Twin Cities where its treatment plant had reached volume capacity.<sup>39</sup>

In addition, writes historian Thomas Huffman, WPCC officials

were "infused with a professional ethic that characterized pollution as a technological matter best resolved by quiet mediation over a period of time." They believed, as Chester Wilson, former commissioner of conservation and attorney for the WPCC, opined, "An ounce of cooperation is worth a pound of compulsion." Considering its tiny size and the daunting challenges, the WPCC staff probably did yeoman's work in a difficult situation.<sup>40</sup>

Among the commission's harshest critics were Senator Gordon Rosenmeier of Little Falls and Representative Donald Wozniak of St. Paul.

Rosenmeier, a conservative conservationist, was a highly influential member of the legislature. Wozniak was the attorney for the Minneapolis-St. Paul Sanitary District. The legislators' efforts to create a metropolitan-wide sewer authority and to build the strength of the WPCC had faltered in 1961. Rosenmeier was especially frustrated by the WPCC's lack of aggressive action.<sup>41</sup>

Two years of hearings in the state Senate followed the legislature's 1961 failure to strengthen water-pollution-control laws. Differences between urban and growing suburban interests were stalling consensus. According to the *Minneapolis Star*, on one occasion, committee members exploring a bill came out of the hearings

awed by the sort of suburban development that had been permitted to take place and by the failure of . . . state health authorities and the local governments to prevent the near-crisis that had been reached . . . with tens of millions of dollars invested in utterly inadequate on-site facilities, and with some 300,000 people trying at the same time to bury their sewage in their back yards and to draw their water from increasingly polluted shallow wells.

Almost half of 63,000 wells sampled in the unsewered areas of the Twin Cities in 1960 were contaminated by sewage.<sup>42</sup>

On January 30, 1963, Rosenmeier's pollution-control bill was formally introduced as Senate File 243. It authorized the WPCC to order the abatement of sewage and



*Gordon Rosenmeier, the state senator from Little Falls whose pollution-control bill became law*

industrial wastes. If a municipality failed to comply, the commission could secure a court order or the state could take over the city's sewage-treatment function. The state would then design facilities, levy local taxes and assessments, acquire property, and supervise construction of the needed facilities. The bill contained provisions on waste-water discharge to protect the recreational use of the waters, included groundwater protections for the first time, and made it possible to revoke permits. Despite the Richards spill one month earlier, however, the bill did not mention safeguards for storage tanks, spill reporting, or spill cleanup.<sup>43</sup>

Charles Horn's Minnesota Emergency Conservation Committee, a private initiative, persistently criticized the state's weak water pollution-control programs. It later described the draft Rosenmeier bill favorably:

"It precludes any more stalling. . . . The Commission will have no room for alibis for inaction."<sup>44</sup>

It was at this point in the debate that ducks began to die, but Senator Rosenmeier did not seem immediately to grasp the opportunity handed him by the Honeymead and Richards spills. On April 3, Rosenmeier replied to Rolvaag's inquiry about whether his bill could prevent "situations like that which occurred the other day when a burst pipeline caused extensive damage to water and wildlife" by saying, "Accidents which cannot reasonably be foreseen are not within the focus of the bill even though pollution might result." Rosenmeier believed his bill "went about as far as practicable" but invited the governor to suggest ways to strengthen it.<sup>45</sup>

Public opinion seemed to disagree with Rosenmeier's limited assessment. A WTCN television editorial decried the oil pollution, while noting that sewage pollution was "less spectacular but more dangerous." It urged passage of the "vitally needed" Rosenmeier bill. The Red Wing Wildlife Protective League praised the Rosenmeier bill and asked the legislature to go even further in "get-tough" legislation to curb pollution. The *Grand Rapids Herald* observed that Minnesota had "weak laws governing pollution," while the *Swift County News* proclaimed, "Perhaps the dead ducks along the Mississippi will bring action on the continuing pollution problem that is a shame shared by everyone in the State." A *Mankato Free Press* article headlined "Death of Ducks 'Blessing in Disguise'" quoted Representative

Arlen I. Erdahl as saying: "Perhaps the legislature will now pass a pollution bill with some teeth in it."<sup>46</sup>

Agitating for stronger state guidelines, citizens criticized government and industry. An editorial in the *Wabasha Herald* declared that the people who are responsible "should be here running our 'duck laundries' and cleaning up our shorelines. Aren't the oil tank farms responsible for letting this stuff get away?" The *Red Wing Republican Eagle* pushed further, observing: "What's needed is to give a state commission. . . . the power to require industries and communities to take adequate safeguards against such examples of pollution."<sup>47</sup>

Governor Rolvaag received many letters supporting pollution-control programs, including petitions from seventh-grade classes. One letter writer claimed, "We wait until disaster strikes to become alarmed. This is the Atomic bomb for wildlife and we allowed it to happen." Rolvaag responded to one Red Wing writer that state agencies were powerless to prevent these disasters but that "new legislation should ideally change this situation completely."<sup>48</sup>

On April 5, 1963, the Rosenmeier bill passed the Senate for the first time without language covering spills or spill prevention, but new bills introduced on April 22 and 23 squarely addressed prevention and responsibility for spills. HF 1907 authored by Samuel R. Barr of Ortonville and SF 1783 authored by Benjamin B. Patterson of Deer River declared a stored polluting substance to be a "dangerous instrumentality" and provided that the owner of the substance and the storage facility



*Representative Donald D. Wozniak (with Rep. Richard W. O'Dea, standing), leader of the fight for pollution-control legislation in the House*

would be liable jointly to the state for expenses incurred to remove polluting substances from waters or to confine the area of pollution. While these bills did not get out of their first committee meetings, their assignment of liability to owners of substances and facilities presaged the federal and state "Superfund" cleanup laws by some 17 years.<sup>49</sup>

On May 2, Representative Wozniak introduced HF 1969, a bill with similar features that required a permit for storing more than 25,000 gallons of liquid. It likewise did not pass out of committee.<sup>50</sup>

The next day Wozniak offered a successful amendment to the House's version of Rosenmeier's Senate bill authorizing the WPCC to

require safeguards at liquid-storage sites. The amendment authorized the commission to issue orders "prohibiting the storage of any liquid in a manner which does not reasonably assure proper retention against entry into any waters of the state."<sup>51</sup>

Concerns about the state usurping the power of local sewer authorities continued, and an amendment limiting the Rosenmeier bill to Ramsey, Hennepin, St. Louis, and contiguous counties was introduced but failed. On May 22, 1963, Rosenmeier's bill became law, passing the Senate by a resounding 59 to 1 and the House by 83 to 44. The final law contained the requirements for liquid-storage safeguards. It also included the contentious municipal sewage-treatment

takeover provisions and expanded the definition of state waters to include underground waters. According to one press release, “There were determined efforts to amend the bill to death, but the calamitous oil pollution disaster in the Minnesota and Mississippi Rivers made it top *must* legislation.”<sup>52</sup>

Even after passage of the new law, Wozniak remained skeptical of the WPCC’s willingness and ability to regulate potential pollution sources. During the summer of 1963 he

arranged for volunteers to survey storage-tank facilities in order to pressure the commission to enact aggressive regulations that carried out the intent of the new law. His volunteer crew found a number of sites along the river in St. Paul with no dikes or with inadequate diking, and a commission field survey of aboveground storage facilities across the state showed that 93 percent lacked diking. While the largest were more likely to be diked, many of those without dikes were near sur-

face waters or municipal drinking-water intakes.<sup>53</sup>

**THE STATE LEGISLATURE FREQUENTLY** passes laws that create a basic regulatory framework, allowing departments to conduct hearings and write the details into rules. In the months that followed passage of the law, stakeholders in the debate continued to lobby for their interests. The Minnesota Petroleum Council, for example, urged that industry be permitted to set its own storage-tank standards.

*Doing business in the Senate chamber, mid-1960s*



## MODERN OIL-SPILL STRATEGIES

The WPCC declined this proposal and, instead, after meeting with various industrial and agricultural interests, drafted detailed rules for liquid-storage safeguards. Further, at a St. Paul rule-making hearing on April 8, 1964, the commission described potential surface-water pollution from uncontained spills and also noted that rules protecting groundwater from seepage of spills might be even more important than those protecting lakes and streams.<sup>54</sup>

The citizens' organization Clear Air—Clear Water Unlimited, once very critical, now complimented the commission on its draft liquid-storage rules. The City of St. Paul testified in favor, while the St. Paul Port Authority, which managed the city's riverfront, opposed the rules. Railroad and agricultural interests also challenged them, indicating concern about cost and the effectiveness of dikes.<sup>55</sup>

The Petroleum Council, representing operators of large storage and transportation facilities, touted the "near perfect record maintained by the petroleum industry" in preventing water pollution in Minnesota and elsewhere. The council testified that because the state fire marshal's flammable-liquids code required dikes and because other industry practices designed to prevent tanks from leaking were more appropriate and effective, there was a "complete lack of need for the sealing of diked areas."<sup>56</sup>

On June 26, 1964, the WPCC nonetheless adopted a set of rules, known as Regulation WPC4. It prohibited storage of liquid material "without reasonable safeguards adequate to prevent the escape or move-

ment of the substance" when pollution of any state waters might result. Facility owners were required to obtain a permit from the WPCC, and minimum safeguards were to include a continuous dike or wall enclosing an area sufficient to contain the largest tank's contents and "a reasonably impervious bottom" under the entire site. While the regulation was silent on the construction and operation of tanks, it required the owner of a liquid-storage facility to notify the WPCC of "any loss of stored liquids either by accident or otherwise" if the substance would be likely to enter any state waters.<sup>57</sup>

The value of aboveground storage-tank diking was soon demonstrated. In December 1964, heavy rain fell in St. Paul. Water collected in the diked area surrounding a 4-million-gallon diesel-oil tank at the Mobil Oil tank farm off West Seventh Street. In the

- Floating plastic booms made of long sections of plastic-wrapped float chained together. A "skirt" hangs down from the float into the water to contain the oil.
- Skimming devices, including vacuum trucks (like a giant shop vacuum) or floating weirs.
- Oleophilic (oil-loving) sorbent plastics fabricated into floating pads, sausage-shaped booms, or pillows that soak up oil.
- Dispersants, or detergents that dissolve floating oil in ocean water. This is an extreme last resort in bodies of fresh water, many of which are used for drinking.
- Intentionally set fires that quickly remove large amounts of oil from water but create air pollution and leave a sticky, difficult-to-manage residue.

*Cleanup worker lifting stringy oil accumulation, Mississippi River*



## MINNESOTA'S BIG SPILLS

The damage ultimately caused by a spill is a unique combination of material and amount spilled, location, and good or bad luck.

- A 1964 spill at the Mobil Oil tank farm in St. Paul that discharged 4 million gallons into a diked area appears to have been the largest, but it created far less damage than the Richards and Honeymead spills of 1962–63.
- In 1986 the Williams Pipeline leaked 22,000 gallons of gasoline in a residential section of the Twin Cities suburb of Mounds View. The gasoline ignited, killing two people, injuring several others, and causing extensive property damage.
- In 1991, 1.7 million gallons of crude oil flowed out of the Lakehead Pipeline in Grand Rapids. Occurring between a community college and an apartment building, this break had tremendous potential for loss of life and environmental disaster, but little long-lasting damage resulted.
- In 1992, 27,000 gallons of volatile chemicals spilled in a train wreck in Superior, Wisconsin. This caused the evacuation of Superior and Duluth, surely the most disruptive spill in Minnesota's history.

SOURCE: Minnesota Pollution Control Agency, Emergency Response Team files.

bitter cold that followed on December 16, a 20-foot crack developed in the tank, and its entire contents gushed out. The dikes held, however, preventing a flood of oil from running into the Mississippi River. The ice that coated the diked area prevented the oil from immediately seeping into the ground. Experts paddled a boat on the oil pool and waded through chest-deep oil to investigate the cause of the leak. Emergency responders set up portable pumps that, over four days, pumped the oil into intact tanks. Thus, what was probably the largest oil spill in Minnesota created little immediate environmental damage.<sup>58</sup>

In the years following the rule's adoption, most large operators provided big aboveground storage tanks with dikes constructed of nearby soil. These native-soil dikes did not offer much protection against seepage, however. Inadequate seals underneath the tanks often allowed oil to drain into the ground undetected.

Most new tanks constructed after 1964 had dikes that provided a sealed containment area made of concrete or clay soils brought to the site. Poor maintenance and the inherent shortcomings of earthen dikes often meant that even these facilities eventually became contaminated. Few state staff were consistently assigned to enforce the rule or permit requirements.

Under the 1963 Rosenmeier Act, the WPCC had been given broad new powers to compel municipalities to act and to usurp local sewage-treatment control, if necessary. Rosenmeier soon concluded that the law was "too strong and too broad

for implementation by the existing unaggressive Water Pollution Commission." Commissioner Chester Wilson himself described it as having "drastic provisions, but meager appropriations." In November 1963 the Upper Mississippi Pollution Control Committee, a citizens' group with the motto "We Can't All Live Upstream," organized a meeting in Wabasha, Minnesota, attended by 150 citizens and state and federal officials. The group found "an appalling lack of a program" and concluded that there was need for a "state pollution control agency whose full-time staff people are dedicated crusaders for clean water."<sup>59</sup>

By the end of 1963, Governors John W. Reynolds of Wisconsin and Rolvaag of Minnesota were, in fact, requesting federal help in evaluating and cleaning the upper Mississippi River. A Minnesota-Wisconsin-federal pollution conference held in St. Paul in 1964 was followed by the formation of the Minnesota-Wisconsin Boundary Area Commission to coordinate water-pollution programs and plans. In December 1964 an internal governor's office memo lamented the "continuing inadequacies of the Minnesota WPCC and its administrative arm, the Minnesota Department of Health under Dr. Barr."<sup>60</sup>

During the 1965 session, legislators debated a bill to create an independent pollution-control agency. Although vigorously opposed by the health department and several others, it passed both houses. Ultimately, though, the bill failed in the session's final midnight hour as Representative Wozniak and Senator

Rosenmeier could not agree on whether the state's conservation commissioner would serve on the new pollution-control board and whether former WPCC staff would be part of the new agency.<sup>61</sup>

In 1967, the fight over the fate of the WPCC resumed. In defense of the commission, Chester Wilson argued that it was "an outrageous injustice" to blame the commission when things went wrong because the legislature "won't provide adequate funds" and because it "tries to cover up its short-comings by reorganizing." After four months of hearings and meetings, the legislature on May 18 passed SF 845, creating the Minnesota Pollution Control Agency (PCA). Votes tallied at 129-0 in the House, where it was sponsored by conservative Alfred France of Duluth, and 63-0 in the Senate, sponsored by Rosenmeier. The bill severed the connection of the health department from the new pollution-control agency, strength-

ened water-pollution provisions, and authorized programs to control air pollution. Representative France and other House members worried that authorized salary levels might not attract an adequate staff but noted that the proposed \$1 million two-year budget would be more than three times the amount appropriated to the WPCC. Although some, including Rosenmeier, were disappointed when the staff from the old WPCC was transferred to the new PCA, the authorities and staffing for the new agency far exceeded those ever accorded the WPCC.<sup>62</sup>

**THE SUMMER AFTER THE FAILED Operation Save a Duck, WPCC Commissioner Wilson reflected:**

Oil made a nasty mess while it lasted, but it was soon up and soon over. . . . However, there is a highly significant lesson to be drawn from these events. It is that . . . action on

public affairs that cost much money is seldom taken unless the people and their representatives . . . are stirred to move by some heavy loss or calamity. . . . If the loss of a few thousand ducks should result in impelling the Minnesota Legislature to put up what it takes for a really effective water pollution control program, it will be a very small price to pay for such a momentous achievement.<sup>63</sup>

Individual incidents producing public outrage have triggered most broad state and federal environmental-protection programs. Such was the case with the Minnesota legislature's response to oiled ducks on the Mississippi River. Although the Richards and Honeyamead spills of the cold winter of 1962-63 are now largely forgotten, they played a large role in framing the structure of environmental protection in Minnesota today. 🍷

## Notes

1. Information on the Richards spill is from: Minnesota Dept. of Health, Environmental Sanitation Div., "Oil Pollution of Minnesota and Mississippi Rivers During the Winter of 1962 and Spring of 1963," Apr. 17, 1963 [hereinafter, MDH Oil Pollution], 1-4, and Appendix 2, Exhibit 9B—both in "Water Pollution Control-4 Liquid Storage, Apr. 15, 1964" folder, Hearing files [hereinafter, WPC-4 hearing], Minnesota Pollution Control Agency (PCA), Water Quality Div., State Archives, Minnesota Historical Society (MHS), St. Paul; Gordon C. Moosbrugger to Walter F. Mondale, "Chronology of Richards Oil Company Pollution", Apr. 19, 1963 [hereinafter, Apr. 19 Richards memo], "Water Pollution—Operation Duck Rescue" folder [hereinafter, Duck Rescue folder], Conservation Dept., 1963, Gov. Karl F. Rolvaag Papers, State Archives; Moosbrugger to Mondale,

"Richards Oil Company Pollution Problem," Apr. 10, 1963 [hereinafter, Apr. 10 Richards memo], Water Pollution Control Commission (WPCC) folder, Subject Files: 1962-63, Minnesota Attorney General, State Archives; U. S. Dept. of Health, Education and Welfare, "Report on Oil Spills Affecting the Minnesota and Mississippi Rivers, Winter of 1962-63" [hereinafter, HEW Report on Oil Spills], 2-4, Exhibit 9D, WPC-4 hearing.

2. MDH Oil Pollution, 1; HEW Report on Oil Spills, 3.

3. MDH Oil Pollution, 2; HEW Report on Oil Spills, 3; Apr. 19 Richards memo; Apr. 10 Richards memo.

4. MDH Oil Pollution, 2; HEW Report on Oil Spills, 4; Apr. 19 Richards memo, 1-3; Apr. 10 Richards memo.

5. MDH Oil Pollution, 2-4, and Appendix 2; Apr. 10 Richards memo.

6. Information on the Honeyamead spill is from MDH Oil Pollution, 2-6, and App. 2; Moosbrugger to Mondale, "Collapse of Honeyamead Products Inc. soybean oil storage tank at Mankato, Minnesota," Apr. 19, 1963 [hereinafter, Apr. 19 Honeyamead memo], Duck Rescue folder, Rolvaag papers; HEW Report on Oil Spills, 4-6; *Mankato Free Press*, Jan. 23, 1963, p. 1, 2, 19; Edward Ward, interview by author, May 9 (telephone), June 1, 2000, Mankato. Harvest States still operates the Honeyamead plant.

7. Paul Andersen, University of Minnesota Institute of Technology, to Moosbrugger, Apr. 24, 1963, in Duck Rescue folder, Rolvaag papers; Ward interviews; HEW Report on Oil Spills, 5; Apr. 19 Honeyamead memo.

8. Ward interviews.

9. Gerald Erkel, interview by author,

Apr. 24 (telephone), June 1, 2000, North Mankato.

10. Erkel interview; Evelyn Herman, telephone interview by author, May 9, 2000; *Mankato Free Press*, Jan. 23, 1963, p. 1.

11. MDH Oil Pollution, 4, 5; HEW Report on Oil Spills, 6; Apr. 19 Honeymead memo; *Mankato Free Press*, Jan. 23, 1963, p. 1, and Jan. 24, 1963, p. 1.

12. Information on the duck rescue and mortality is from HEW Report on Oil Spills, 30–36; MDH Oil Pollution, 4–10, and App. 2; Minnesota Dept. of Conservation, Game and Fish Div., “Report on Waterfowl Mortality Caused by Oil Pollution of the Minnesota and Mississippi Rivers in 1963,” Jan. 1, 1964 [hereinafter, “Waterfowl Mortality report”], 1–2, “Pollution (2)” folder, Dept. of Conservation, State Archives.

13. Apr. 19 Richards memo, 3; *Minneapolis Tribune*, Apr. 1, 1963, p. 1; MDH Oil Pollution, App. 2.

14. *Mankato Free Press*, Apr. 1, 1963, p. 19; MDH Oil Pollution, 6–7; HEW Report on Oil Spills, 5, 31; Apr. 19 Honeymead memo, 2.

15. Mike Korneskie, interview by author, Oct. 13, 2000, Hastings; HEW Report on Oil Spills, vi.

16. Edith Peller, “Operation Duck Rescue,” *Audubon Magazine* 65 (Nov. 1963): 365–67; George Serbesku, telephone interview, Aug. 31, 2000. Serbesku related that Governor Rolvaag said he had come to observe the rescue operation to “see who had pushed him off of the front pages.”

17. HEW Report on Oil Spills, 9; *Mankato Free Press*, Apr. 1, 1963, p. 19.

18. Waterfowl Mortality report, p. 2

19. *Mankato Free Press*, Mar. 22, 1963, p. 11, and Mar. 25, 1963, p. 1; *Minneapolis Tribune*, Apr. 2, 1963, p. 1; MDH Oil Pollution, 4–6, and App. 2; HEW Report on Oil Spills, 4–6; Waterfowl Mortality report, 1–2; Peller, “Operation Duck Rescue,” 365–67.

20. Waterfowl Mortality report, 1–5; Peller, “Operation Duck Rescue,” 365–67. Controversy continues about whether cleaning and rehabilitating oiled ducks and wildlife is worth the cost, effort, and suffering. Only a minority survives. In Canada euthanasia is routinely practiced.

21. Duck Rescue folder, Rolvaag papers; Peller, “Operation Duck Rescue,” 365–67; *Minneapolis Tribune*, Apr. 3, 1963, p. 1.

22. *Red Wing Republican Eagle*, Apr. 1, 1963, p. 1, Apr. 4, 1963, p. 1, Apr. 12, 1963, p. 1; Waterfowl Mortality report, 5.

23. *Minneapolis Tribune*, Apr. 4, 1963, p. 1; Dept. of Military Affairs, Minnesota

National Guard, “Final Report to Governor Rolvaag” and “After Action Report of Lt. Col. Donald Crowe,” Apr. 24, 1963, [hereinafter, Military Affairs Reports], Exh. 2A, WPC-4 hearing.

24. See *Minneapolis Tribune*, Apr. 2, 1963, p. 1B, Apr. 3, 1963, p. 1, 10, Apr. 4, 1963, p. 1, 8, Apr. 6, 1963, p. 5, Apr. 7, 1963, p. 18; *Mankato Free Press*, Apr. 4, 1963, p. 1; Military Affairs Reports; Peller, “Operation Duck Rescue,” 365–67; HEW Report on Oil Spills, 8–9; proposal, Duck Rescue folder, Rolvaag papers.

25. Military Affairs Reports.

26. Stanley Hille to Governor Rolvaag, Apr. 12, 1963, and Governor’s Office, press release, Apr. 16, 1963, in Duck Rescue folder, Rolvaag papers. Even today, a recovery rate of less than 20 percent is common.

27. HEW Report on Oil Spills, 13–22; *Mankato Free Press*, Apr. 4, 1963, p. 1; *Minneapolis Tribune*, Apr. 7, 1963, p. 1B; Military Affairs Reports.

28. Waterfowl Mortality report, 5; Peller, “Operation Duck Rescue,” 365–67.

29. Military Affairs Reports; Clear Air Clear Water Unlimited Newsletter (South St. Paul), Feb. 1964, in “Pollution (2)” folder, Dept. of Conservation.

30. WPCC, Statement for Conference on Interstate Pollution of the Mississippi River, Minnesota Dept. of Health, Feb. 6, 1964, Water Pollution folder, Legislative files, 1963, Gordon Rosenmeier papers, MHS; WPCC, “Long Range Water Pollution Control Plan and Program, 1963,” Exh. 9G, WPC-4 hearing; Apr. 19 Richards memo; Apr. 10 Richards memo.

According to Richards’ family lore, when Mondale visited the Richards site in the spring of 1964 to observe the cleanup, he was “cold-cocked” (knocked out) by one of the Richards brothers for loudly criticizing the company. Mondale does not recall visiting the site or being the victim of an assault. Jeff Richards, telephone interview, Feb. 28, 2000; Walter Mondale, telephone interview, May 9, 2000.

31. Although several Refuse Act prosecutions around the country succeeded, the problems of implementing the act led to passage of the federal Water Pollution Control Act of 1972, which represented a broad expansion of federal powers. Minnesota Congressman John Blatnik is considered the “father” of the federal act in the House. See Harvey Lieber, *Federalism and Clean Waters* (Lexington MA: D.C. Heath, 1975), 24; Joan C. Kovalic, *The Clean Water Act of 1987* (Alexandria, VA: Water Pollution Control Federation, 1987), 9.

32. Joseph Petrula, *Environmental Protection in the United States* (San Fran-

cisco: San Francisco Study Center, 1989), copy in Dept. of Natural Resources library, St. Paul; Terence Kehoe, *Cleaning Up the Great Lakes—From Cooperation to Confrontation* (DeKalb, IL: Northern Illinois University Press, 1997), 18–19; PCA, *Minnesota Pollution Control Agency, 1967–76* (St. Paul: MPCA, 1977), 1, copy in PCA library, St. Paul; *Minneapolis Star Tribune*, Apr. 5, 1999, p. A8; WPCC, “Long-range plan and program to be submitted to the 1965 Legislature,” 1963, p. 1 [hereinafter, “Long-range Plan”], preliminary draft, Exh. 9G, WPC-4 hearing.

33. Minnesota State Board of Health, “Report of the Investigation of the Pollution of the Mississippi River, 1928” [hereinafter, “Report of Pollution, 1928”], 9–10, in Metropolitan Drainage Commission of Minneapolis and St. Paul, *Second Annual Report, 1928*, Metropolitan Waste Control Commission, Annual and Biennial Reports, State Archives.

34. Kehoe, *Cleaning Up the Great Lakes*, 18–19.

35. “Report of Pollution, 1928,” 31, 66, 68.

36. *MPCA 1967–1976*, p. 2; WPCC, “Long-range plan,” 5–6, Exh. 9G, WPC-4 hearing.

37. Lovell Richie, telephone interview by author, Jan. 24, 2000.

38. Thomas R. Huffman, *Protectors of the Land and Water: Environmentalism in Wisconsin, 1961–68* (Chapel Hill: University of North Carolina Press, 1994), 7–8; Kehoe, *Cleaning Up the Great Lakes*, 18–19.

39. WPCC, Statement for Conference on Interstate Pollution, Rosenmeier papers; WPCC, “Long-range Plan,” 11–14, 17, Exh. 9G, WPC-4 hearing.

40. Huffman, *Protectors of Land and Water*, 66; Water Pollution—Old Bills folder, Chester S. Wilson Papers, MHS. Wilson was Minnesota’s first commissioner of conservation (1943–55) and chairman of the WPCC (1945–52); his papers are invaluable for studying the history of Minnesota water-pollution control.

41. *MPCA 1967–76*; WPCC, Statement for the Conference on Interstate Pollution, Feb. 7, 1964; *Mankato Free Press*, Mar. 1, 1963, p. 1; Donald Wozniak, telephone interview by author, Apr. 22, 2000.

42. *Minneapolis Star*, undated clipping, “Water Pollution—1963(1)” folder, Rosenmeier papers; Frank L. Woodward, Franklin J. Kilpatrick, and Paul B. Johnson, “Experiences with Ground Water Contamination in Unsewered Areas in Minnesota,” Ground Water Contamination 1960 folder, Wilson papers.

43. Minnesota, *Journal of the Senate*,

1963, SF 243, p. 2515; Minnesota, *Journal of the House*, 1963, HF 481, p. 2802; "Water Pollution—1963" folder, Rosenmeier papers.

44. Minnesota Emergency Conservation Committee, press release, June 11, 1963, "Water Pollution—1963(2)" folder, Rosenmeier papers. Charles Horn, president of the Federal Cartridge Corporation, formed this small committee in 1940 after becoming frustrated by lack of leadership in the conservation movement.

45. Office memo, Apr. 3, 1963, Duck Rescue folder, Rolvaag papers; Rosenmeier to Rolvaag, Apr. 3, 1963, "Water Pollution—1963(1)" folder, Rosenmeier papers.

46. WTCN editorial, "Water Pollution—1963(1)" folder, Rosenmeier papers; *Red Wing Republican Eagle*, Apr. 4, 1963, p. 1, 4, 12; *Minneapolis Tribune*, Apr. 8, 1963, p. 6, including quote from *Grand Rapids Herald and Swift County News*; *Mankato Free Press*, Apr. 10, 1963, p. 11.

47. *Red Wing Republican Eagle*, Apr. 6, 1963, p. 1, quoting *Wabasha Herald*, Apr. 2, 1963.

48. Wallace H. Jagusch to Gov. Rolvaag, Apr. 1, 1963, and Rolvaag to M. Davis, Red Wing, Apr. 5, 1963, Water Pollution folder, Legislative files, Rolvaag papers.

49. *Senate Journal*, 1963, SF 1783, p. 2710; *House Journal*, 1963, HF 1907, v. 2, p. 2967.

50. *House Journal*, 1963, HF 1969, p. 2975.

51. *House Journal*, 1963, SF 243, p. 2045; draft legislation, "Water Pollution—1963(2)" folder, Rosenmeier papers; *Laws of Minnesota*, 1963, Chap. 874, SF 243, p. 1643–44.

52. *House Journal*, 1963, SF 243, p. 2720–23; *Senate Journal*, 1963, SF 243, p. 2443–47; Minnesota Emergency Conser-

vation Committee, press release, June 11, 1963, O. L. Kaupanger, Sec., "Water Pollution—1963(2)" folder, Rosenmeier papers.

53. Wozniak to WPCC, Oct. 4, 1963, and "Summary of Inspection Reports," Exh. 9I, both WPC-4 hearing; *St. Paul Dispatch*, Apr. 15, 1964, p. 16.

54. Lyle Smith, Statement of Need, WPC-4 hearing.

55. Testimony, William Soules, Minnesota Petroleum Council, Exh. F, WPC-4 hearing. Clear Air-Clear Water Unlimited, founded by Tom Savage, Mrs. Pearson, and George Serbesku, "agitated" for pollution control; Serbesku interview.

56. Soules testimony, Exh. F, WPC-4 hearing. In the 1990s, many large, 1950s-era, aboveground storage-tank facilities (including the area's two refineries and several pipeline terminals) were checked and found to have significant soil and ground-water contamination from spills, overfills, leaks through tank floors, and leaks in pipes and valves.

57. Exh. 2, WPC-4 hearing. While the 1964 rules required owners to report spills from tanks, they did not address spills from other sources such as trucks or pipelines. In 1969 the legislature passed HF 2312/SF 2023 as Minnesota Stat. Sec. 115.061, which closed that legal gap, covering spills from trucks, trains, pipelines, barrels, or other containers. Sec. 115.061 also required prompt cleanup, closing another gap made apparent by the Richards spill.

58. Jim Determan, interview by author, Apr. 27 (telephone), Apr. 29, 1999, Fridley; Department of Conservation memo, Dec. 22, 1964, in author's MPCA files; *St. Paul Pioneer Press*, Dec. 19, 1964, p. 13.

59. "The Legislative Interest in Our Lakes," n.d., 43–48, Subject Files, Pollution, 1968–72, Legislative files, Rosenmeier

papers; "Pollution Control—1963" folder, Wilson papers; Upper Mississippi Pollution Control Committee, undated press release, "Water Pollution—1963" folder, Legislative files, Rolvaag papers.

60. "Mike" to Governor, memo, Apr. 20, 1964, Duck Rescue folder, Rolvaag papers; Chester Wilson, undated defense of WPCC, "Water Pollution(1)" folder, Rosenmeier papers; "Pollution Control—1963" folder, Wilson papers.

61. *Senate Journal*, 1965, SF 1963, p. 2818; *House Journal*, 1965, HF 2192, p. 3318; Minnesota Legislature, House, Civil Administration Committee, records, 1965, and Legislature, Senate, Record of Bills, 1965, both State Archives; *Minneapolis Tribune*, May 27, 1965, p. 14B; Elizabeth H. Haskell and Victoria S. Price, *State Environmental Management: Case Studies of Nine States* (New York: Praeger Publishers, 1973), 46.

62. *St. Paul Pioneer Press*, Mar. 1, 1967, p. 13, May 19, 1967, p. 13; *Senate Journal*, 1967, p. 540, 2417; *House Journal*, 1967, p. 2988, *Minneapolis Tribune*, May 19, 1967, p. 17. Senator Rosenmeier wrote Governor Harold LeVander that the legislature did not intend for the PCA to have a staff "foisted on them"; Rosenmeier to LeVander, Aug. 15, 1967, "Pollution 1967–68" folder, Rosenmeier papers.

Today, PCA's roles have expanded to include wastewater-treatment enforcement, air-pollution control, hazardous- and solid-waste management, and spill and past-disposals cleanup. PCA also provides education and assistance on pollution prevention.

63. Chester S. Wilson to Upper Mississippi Pollution Control Committee, Red Wing, Feb. 3, 1964, "Water Pollution, 1963" folder, Legislative files, Rosenmeier papers.



The aerial view on p. 107 is from the Blue Earth County Historical Society, Mankato.

The photos on p. 108 are by Gerald Erkel, North Mankato. The map is by Matt Kania, St. Paul. The following photos are from the MHS collections: p. 119 from the U.S. Dept. of the Interior, Fish and Wildlife Service, St. Paul; p. 105 (by TAS), p. 110 (by Sully), and p. 111 (by Buzz), in the St. Paul Dispatch-Pioneer Press News Negative Collection; p. 105 (by Kimball), and p. 113 (by Seubert), in the Minneapolis Star—Tribune News Negative Collection; p. 115 in the Metropolitan Waste Control Commission records, State Archives. The photo on p. 117 is by Jerome Liebling.



Copyright of **Minnesota History** is the property of the Minnesota Historical Society and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. Users may print, download, or email articles, however, for individual use.

To request permission for educational or commercial use, [contact us](#).