CHAPTER 14

The Illinois River

Charles Theiling

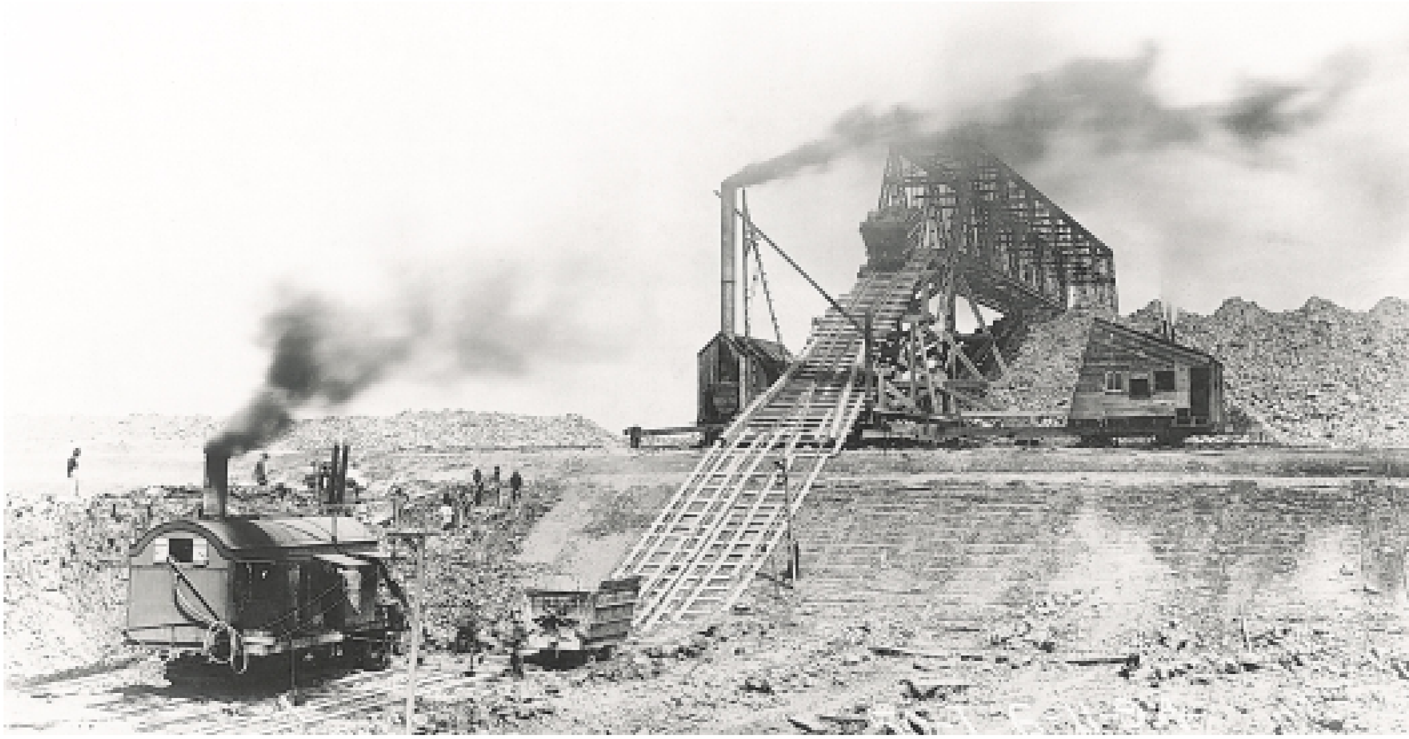

Figure 14-1. **Urban and industrial development greatly influenced Illinois River ecology after a diversion project was completed in 1900. Pollutants formerly dumped in Lake Michigan were transported away from the city and into the Illinois River through artificial canals (Source: Chicago Historical Society).**

The Illinois River provides a unique opportunity to examine the effect of development on aquatic systems because it has been subjected to severe urban pollution and extensive agricultural development throughout its basin and floodplain over the last 150 years. A long history of ecological investigation on the Illinois River (summarized in Starrett 1972 and Sparks 1984) allows us to look back in time and observe the river's response to human disturbances and mitigation.

The most prominent disturbances began in the late nineteenth century with levee building undertaken to enhance floodplain farming. Development continued throughout the twentieth century with water diversions from Lake Michigan that started in 1900 (Figure 14-1), navigation dams in the 1930s, sewage disposal throughout the period, and toxic waste disposal after the 1950s. Less obvious, though serious, was the massive transformation of the basin's prairie savannas to row crop agriculture. This activity increased erosion, sediment loading, and nutrient and herbicide transport to the river.

The effect of human activity along the Illinois left the river highly degraded in its upper reaches for some decades. Recent extensive efforts to treat domestic sewage and control toxic discharges have helped reverse some problems. Problems with accumulated sediments, continued sedimentation, and agricultural chemical runoff still exist and are recognized as factors that must be addressed to restore the former ecological vigor of the Illinois River.

The floodplain environment was typified by floodplain forests that fringed channels and backwaters, with deep-water wetlands, wet meadow prairies, and mesic prairies distributed toward the bluffs.

The Early River

The early river drained a 28,220-square-mile basin (73,087 km^2) composed of prairie savannas and oak-hickory forests (Starrett 1972; see Figure 5-5). The floodplain was a complex environment of backwater lakes, abandoned channels, and side channels distributed along a narrow main channel (Mills et al. 1966; see Figure 3-5).

The floodplain environment was typified by floodplain forests that fringed channels and backwaters, with deep-water wetlands, wet meadow prairies, and mesic prairies distributed toward the bluffs (Turner 1934). This highly productive environment supported abundant and diverse fisheries, millions of migratory waterfowl and other birds, white-tailed deer, elk, and abundant small game. Early human inhabitants began to establish permanent communities about 9,000 years ago, surviving off the bounty of the river floodplain ecosystem until about 1,000 B.C. when domesticated crops were developed. Later prehistoric civilizations maintained small dispersed populations that exploited a wide variety of river resources and cultivated crops without seriously affecting the Illinois River ecosystem (Starrett 1972).

Marquette and Joliet were the first Europeans to explore the Illinois River after traveling from Lake Michigan through Wisconsin to the Mississippi River. Subsequently, French trade and religious influence substantially altered the lives of native peoples in the Mississippi and Illinois River valleys as the Europeans encouraged them to associate and trade with new immigrants. Native peoples trapped beaver and other fur-bearing mammals (Starrett 1972) in vast quantities, a situation that may have caused significant hydrologic and thus ecologic alterations throughout the basin (Hey and Philippi 1995). The original Mississippi River Basin population of 10 to 40 million beaver was decimated by the late 1800s. In Illinois, beaver were considered extinct by the mid-1800s (Hey and Philippi 1995). Further settlement in the Illinois River Valley was slow because of widespread Indian wars and a mistaken belief that prairie soils were unproductive because they did not support trees (Starrett 1972). Population growth was more rapid after John Deere, in 1837, developed the moldboard plow to till the prairies (Starrett 1972).

The Modern River

Beginning after 1817, settlement and agricultural development near the confluence with the Mississippi River expanded to convert 75 percent of the mesic floodplain prairie to floodplain agriculture. Forests were cut for both lumber and fuel wood. Such logging did not seem to affect forest distribution at this location (Nelson et al. 1994) but may have affected forest composition because of the practice of selective cuts for the best fuel wood or lumber species (John C. Nelson, Illinois Natural History Survey, Alton, Illinois, personal communication).

Settler distribution upstream from the Mississippi River along the Illinois River Valley reached only to the Sangamon River in 1830, but spanned the entire river by 1840 when the population of the basin was estimated at 190,000 people (Starrett 1972). By 1900 the population was 3.3 million and, in 1970, 6.8 million with 63 percent concentrated in the Chicago area (Starrett 1972). According to the U.S. Bureau of Economic Analysis, the population in the Chicago Metropolitan Statistical Area increased by 315,000 people between 1970 and 1990 but decreased slightly in the Peoria-Pekin Metropolitan Statistical Area. Spreading suburbanization and the development of ring cities around Chicago greatly increased the area covered by impervious surfaces.

Beginning in the late 1800s, agriculture became an important component of the Illinois economy. Efforts to secure the reliability of floodplain agriculture came in the form of levees—previously used on a small scale but now expanded with the development of quasi-political cooperative levee districts. The cooperatives had the power of taxation to maintain structures that isolated large tracts of floodplain property. Between 1890 and 1930, levee districts on the Lower Illinois River sequestered more than 50 percent (120,000 acres [48,564 ha]) of the floodplain (Figure 4-10; Thompson 1989).

By isolating vast tracts of floodplain area, levees had a profound effect, allowing conversion of wet and mesic floodplain prairies to crops as well as affecting the hydrology and sediment transport processes of the river. Levees effectively constricted the floodplain right to the edge of the river in many places, forcing moderate-flow river stages to rise higher as they flowed down through the modified river valley (Belt 1975; Bellrose et al. 1983). Sediments entering the river were trapped in smaller areas and began to accumulate in the remaining backwater lakes at high rates (Starrett 1972; Bellrose et al. 1983; Sparks 1984; Demissie et al. 1992).

Large-scale hydrologic manipulations were implemented at about the same time levee construction expanded. In 1848, the Illinois and Michigan Canal connected the Great Lakes and the Illinois River to promote commerce and shipping along the river. The canal was built to connect the Illinois River with Lake Michigan, bypassing the upper river rapids. It was closed to navigation in 1933 (Starrett 1972) and currently is protected as a National Heritage site. Starrett (1972) and Kofoid (1903, quoted in Starrett 1972) believed the canal had little adverse effect on the Illinois River.

In the late nineteenth century, Chicago was growing, on its way to becoming a large city. Shallow-water supply wells had become polluted from numerous outdoor privies so in 1856 the city initiated a sewage disposal system that discharged untreated waste into the Chicago River and then into Lake Michigan. The city eventually obtained its water directly from lake Michigan but soon after the sewage disposal changes, Lake Michigan water became unpalatable. To alleviate the problem, Chicago River flow was reversed by deepening the Illinois and Michigan Canal to the Des Plaines River, thereby transporting wastes away from the lake. This small diversion was not reliable for transporting wastes so the Chicago Sanitary and Ship Canal was built during the 1890s to handle waste removal from a growing population of 1.6 million people in the Chicago-metropolitan area. The canal extends from the Chicago River to the Des Plaines River near Joliet, Illinois. The original diversion increased Illinois River flow about 7,200 cfs (204 cms) between 1900 and 1938 but concern over lowered lake levels led to a U.S. Supreme Court decision to restrict flows from the lake to 1,500 cfs (42.5 cms). The first diversion transported massive amounts of organic waste, increased river stages by about 3 feet, and increased water surface area over 110,000 acres (44,517 ha) along the length of the river (Bellrose et al. 1983). The hydrologic changes caused major modifications to the floodplain environment (summarized from Starrett 1972).

Maintenance and promotion of navigation on the Illinois River were major factors that guided development of the State of Illinois. Starting with construction of the Illinois and Michigan Canal and dredging in other parts of the river, navigation prospered

Settlement and agricultural development near the confluence with the Mississippi River expanded to convert 75 percent of the mesic floodplain prairie to floodplain agriculture.

Figure 14-2. **After recognition of the effects of pollution on human and ecological health, passage of the Clean Water Act in 1972 led to construction of substantial sewage treatment plants, such as this one in Chicago, Illinois. Such effective municipal waste treatment has improved ecological conditions on the Illinois River considerably (Source: Metropolitan Water Reclamation District of Chicago).**

along the river during the late 1800s. Eventually, as most commerce emanating from Chicago went eastward on the St. Lawrence Seaway and westward on railroads, navigation became less important because it was susceptible to closure during low-flow periods. Between 1871 and 1899, four low dams and locks were constructed to improve low-flow navigation. After the diversion, river stages were higher but navigation still was hindered during drought periods.

The present navigation dams were built during the 1930s New Deal era to maintain a reliable 9-foot (2.7-m) deep navigation channel through the entire year and to increase economic development in the Upper Mississippi River System (Hoops 1993). Navigation dams did not raise water levels much above that of the diversion except during low-flow periods when river stages were held constant to maintain the navigation channel. The La Grange and Peoria dams on the Illinois River differ from those on the Mississippi River because they use wicket gates that can be lowered to the river bottom during high river stages, thus allowing unimpeded navigation over the dam. Lock and Dam 26 on the Mississippi River maintains water levels on the lower 80 miles (129 km) of the Illinois River (summarized from Starrett 1972).

Pollution History

The pollution history of the Illinois River closely parallels urban population growth and the building of the Chicago Sanitary and Ship Canal. The Illinois River originally was not linked to the growing population of the Chicago area but the canal increased population pressure on the river to 4.2 million people by 1914. With the advent of the canal, untreated waste, and its adverse effects, progressed rapidly downstream from Chicago and Peoria. In 1911, Forbes and Richardson described the river between Morris and Marsailles as reaching its “lowest point of pollutional distress” (quoted in Starrett 1972). They describe the river during the warm summer months as completely anoxic and sludge-like with most bottom fauna (except “sludge worms” and “bloodworms”) and fish eliminated. The river cleared with cooler temperatures and higher river stages but the pollution spread downstream. The zone of degradation spread downstream to Spring Valley by 1912 and to Beardstown by 1920—about two-thirds of the way to the Mississippi River.

Waste-treatment efforts began during the 1920s but struggled to keep up with population growth. In 1960 wastes from a population equivalent of 9.5 million people were reduced to the equivilant of 1.15 million people before being discharged to the river (summarized from Starrett 1972). Although upstream water quality has improved over time with the expenditure of more than $6 billion in modern waste-treatment facilities (Figure 14-2), aquatic communities still suffer the consequences of prior perturbations and continued sedimentation (Sparks 1992).

Sedimentation from the basin is a serious problem in the low-gradient (2 centimeters per kilometer) middle and lower reaches of the river where runoff from the agriculturally dominated basin is constricted between levees that line the river. Siltation became severe after the 1930s with the advent of mechanized equipment (Figure 14-3), increased crop production, and intensive row crop agriculture (Starrett 1972). Between 1945 and 1976 the acreage of row crop production increased 60 percent (Sparks 1984) and grassy crop acreage declined (Demissie et al. 1992). The common farming practice for many years, was to plow fields at the end of each harvest season, which left bare soils subject to high erosion rates during the wettest portions of the year (Sparks 1984). As crop values increased, more marginal lands were put into production through planting to the edge of streams, wetland filling, field drainage (tiling), and stream channelization.

Improved soil conservation practices have reduced field erosion but stream bank and bluff erosion continues to fill backwater lakes with sediment (Figure 14-4; Bellrose et al. 1983; Demissie et al. 1992). High stream bank and bluff erosion rates can be attributed primarily to destruction of over 7.3 million wetland acres (3 million ha), more than 90 percent of the original total wetland acreage (Havera and Bellrose 1985). Another reason for erosion is stream channelization projects that have increased the rate of water delivery from the basin (Demissie and Khan 1993). Annual sediment delivery from the basin is approximately 13.8 million tons (12.5 million metric tons), of which 5.6 million tons (5.1 million metric tons) are discharged to the Mississippi River for a net annual accumulation of 8.2 million tons (7.44 metric tons) in the floodplain (Demissie et al. 1992). Because deep, slow-flowing areas of the floodplain receive the greatest amount of sediment deposition (Bellrose et al. 1983), backwater lakes are the most severely affected. Estimates of volume loss in back-

Figure 14-3. **Despite effective regulation of point-source pollutants, nonpoint-source pollutants (urban and agricultural runoff) have not been controlled effectively. Modern agricultural practices (above) contribute to high rates of soil erosion and sediment transport to the Illinois River.**

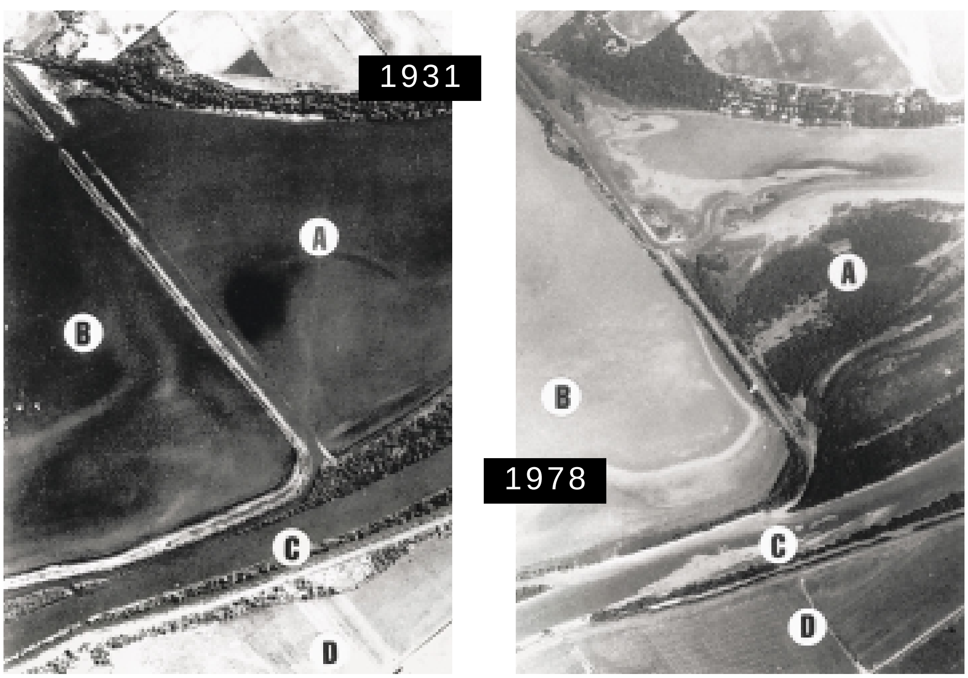

Figure14-4. **Aerial views of the Illinois River Valley approximately 5 miles (8 km) north of Havana, Illinois, in 1931 (far left) and 1978 (near left). Designated areas are (A) Quiver Lake, (B) Lake Chautauqua, a National Wildlife Refuge, (C) the Illinois River, and (D) Thompson Lake Drainage and Levee District. Note the extensive area of Quiver Lake (A) filled with sedimentation by 1978 (Source: Bellrose et al. 1983; provided by the Illinois Natural History Survey, Champaign, Illinois).**

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waters range from 20 to 100 percent, with an average loss of 74 percent (Demissie et al. 1992). Most lakes are expected to fill before the year 2050 (Sparks 1992). Besides the direct loss of backwater areas, high sedimentation rates have resulted in a loss of depth diversity, creation of a loose flocculent sediment, and development of open water platter-shaped lake basins (Bellrose et al. 1983; Sparks et al. 1990).

Sediment quality has been degraded over time by a variety of organic and inorganic pollutants. Recent evidence, however, suggests improvement since the 1970s (Sparks 1984; Bhowmik and Demissie 1986; Lerczac et al. 1994). Toxic compounds, such as arsenic, aluminum, chromium, lead, and zinc appear in lower concentrations in the upper layers of sediment (Bhowmik and Demissie 1986). But several toxic compounds still occur at elevated levels in the upper portion of the river (Lerczac et al. 1994). Ammonia toxicity was identified as a probable causal agent for a widespread disappearance of benthic macroinvertebrates, notably fingernail clams, in the Illinois River beginning in the mid-1950s (Sparks 1984; Sparks and Ross 1992). High sediment nitrogen concentrations are widespread. Toxicity may be a periodic occurrence during hot summers when dissolved oxygen is low and ammonia concentrations increase. Toxicity also may occur in winter when waste assimilation rates are slowed and sensitivity may be increased (Sparks and Ross 1992). Periodic and local occurrences of ammonia toxicity can eradicate entire generations of macroinvertebrates in a single event, thus leaving more mobile predators (fish and birds) without a food base. If it is an annual occurrence, periodic ammonia toxicity can create chronic problems in the river-floodplain ecosystem (Sparks and Ross 1992).

Ecological Response to Development

Ecological response to multiple and continued disturbances of the Illinois River have been well documented (see Starrett 1972 and Sparks 1984 for comprehensive reviews). From all accounts, the river was in good condition prior to 1900. Afterwards, multiple pertubations permanently altered the character of the river. Initially the expanded backwaters were vegetated with about 50 percent cover of submersed aquatic vegetation. The impact from organic pollution virtually eliminated aquatic plants by 1922, but they returned in the late 1930s in response to early waste-treatment efforts (Starrett 1972).

Recovery of the aquatic plant community illustrates the resilience of the river-floodplain ecosystem between 1916 and 1940. Nonetheless, aquatic plants serve as an indicator of the ecosystem's ultimate decline because of excessive sediment loading. In the 1950s, aquatic plants reached a critical threshold in relation to sediment-related problems from which they have not recovered. Sparks et al. (1990) trace these problems to the loss of plants on the perimeter of beds that stabilized sediments and reduced wave action. As more plants were lost, plants reached a critical threshold of density and beds disappeared. Aquatic plants are unlikely to be restored to their pre-1955 levels until large-scale sediment treatments are devised.

The aquatic macroinvertebrate community (mayflies, fingernail clams, midges, and worms) was seriously affected by organic pollutants and served as a strong indicator of environmental quality (summarized by Starrett 1971 and Sparks 1984). Studies conducted by Richardson in 1915 indicated that a diverse benthic community existed, dominated by small mollusks (fingernail clams and snails; Richardson 1921). By 1920 sludge worms and bloodworms, pollution-tolerant species, were dominant in the benthos. Benthic communities remain poor in the northern reaches of the river, but mayflies and fingernail clams occur in low abundance in lower parts of the river.

Fingernail clams were a main food source for many benthic feeders, such as diving ducks, buffalo fish, catfish, and carp until the mid-1950s when fingernail clams experienced a dramatic population decline. The causal agent was suspected to be periodic high concentrations of ammonia, still a problem on the river (Sparks and Ross 1992). Surprisingly, new fingernail clam populations have been documented recently at a few locations on the upper river (Sparks and Ross 1992).

Freshwater mussels are another sediment-associated fauna that has suffered from the impacts of pollution and sedimentation. In the early 1900s, the Illinois River was considered one of the most productive mussel streams in America (Danglade 1914). By 1960, 25 of the 49 species recorded in the river were extirpated (Starrett 1972) but limited recovery has been detected in the upper river (Scott Whitney, Illinois Natural History Survey, Havana, Illinois, personal communication). More recently, unionids have been forced to compete with the exotic zebra mussel for food and space (see Chapter 11).

Because of their position on the food chain, fish communities provide a more potent indicator of environmental quality. Unlike birds, they cannot alter their distribution significantly other than to escape downstream or into suitable tributaries. Fish communities first increased dramatically with the expansion of aquatic habitat following the water diversions and the introduction of carp. Commercial catch rates increased from about 8 million pounds (3.6 million kg) in 1900 to over 20 million pounds (9.1 million kg) in 1908. Since 1908, however, commercial catches have declined continually despite a high demand for fish (Starrett 1972).

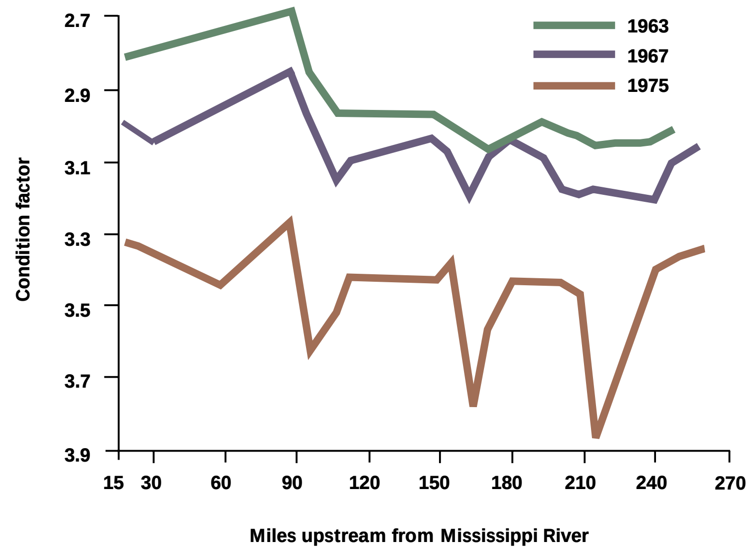

Figure 14-5. **Condition factor (body length divided by body depth) of common carp in the Illinois River. Note the inverted vertical axis; higher numbers represent thin fish. Also note the distance along the river (horizontal axis) starts at the confluence with the Mississippi River and traverses upstream to the right. Conditions of upstream fish are consistently poorer than downstream fish. Recent improvements, though, may have changed conditions for the better in some sections of the river. Data for such calculations are not collected routinely (Source: Sparks 1984, reprinted with permission of the author).**

Lower catch rates are only one indicator of the way the fish population has been affected by changes on the river. The physical condition of fish has declined during this century. Carp condition declined through the 1970s, especially in northern reaches (Figure 14-5; Sparks 1984). Condition also correlated positively with benthic-invertebrate biomass, which likewise declined over time (Figure 14-6, following page; Sparks 1984). A high incidence (50 to 100 percent) of external abnormalities were found on sediment-associated fishes in the upper river during the late 1960s but the occurrence of such abnormalities has declined gradually in all river reaches (Lerczac et al. 1994).

Before the 1950s, the Illinois River Valley was one of the most important fall waterfowl staging areas in the country, drawing sportsmen from around the world. Record-keeping was not standardized until 1946 when the State of Illinois initiated annual migratory surveys that reveal a clear pattern of how the Illinois River declined as waterfowl habitat. Diving ducks and other birds were abundant between 1946 and 1954, with a substantial increase between 1946 and 1950 (Figure 14-7, following page). After some population

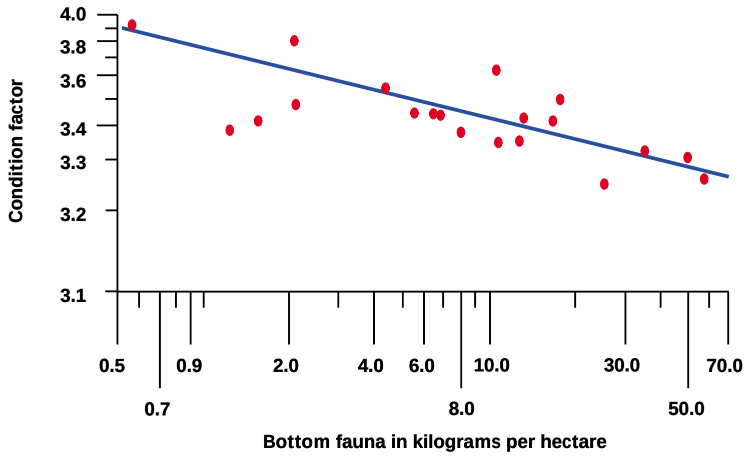

Figure 14-6. **The positive relation between carp condition (see Figure 14-5) and bottom fauna (benthos) biomass is significant. Note numbers on the vertical axis are reversed from those in Figure 14-5; here, *high* numbers represent thin fish. The apparent negative correlation is an artifact of the condition factor calculation (Source: Sparks 1984, reprinted with permission of the author).**

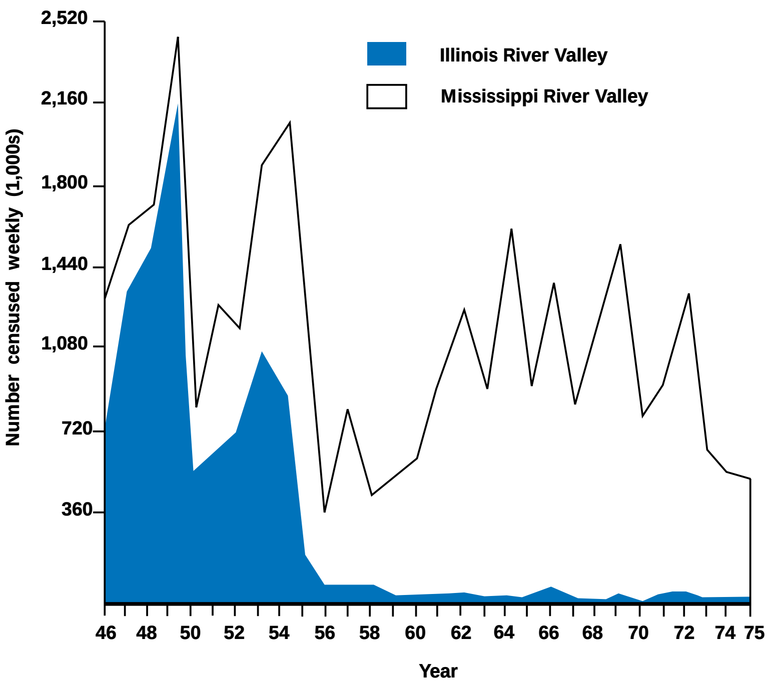

Figure 14-7. **In the last 50 years lesser scaup diving ducks have reversed their use of the Illinois and Mississippi Rivers. The distance *between* the two graph lines represents use of the Mississippi River, rather than the distance from the top line to the horizontal axis. In the 1950s, food resources in the Illinois River died off, causing lesser scaup to migrate away from the Illinois River to the Mississippi River (Source: Sparks 1984, reprinted with permission of the author).**

fluctuations in both rivers during the early 1950s, the Illinois River population was eliminated for the most part and never recovered, wheras waterfowl populations in the Mississippi increased.

Loss of primary diving duck food sources such as fingernail clams and wild-celery in the mid-1950s reduced diving duck habitat value in the Illinois River to the point that diving ducks shifted their migratory patterns to the Mississippi River Valley. Dabbling ducks also were affected by habitat loss (Figure 14-8). Between 1946 and 1982, dabbling duck use of the Illinois River declined by about 20 million use-days while the Mississippi River dabbler population between Rock Island and Alton, Illinois, increased by about 10 million use-days. To date, diver populations have not returned and dabbling duck populations have stabilized at about 500,000 birds.

Introduction of exotic species has been a major factor in Illinois River ecology since the introduction of carp and more recently the zebra mussel. The prolific exotic mollusk was found first in the Illinois River in 1991 and has since expanded its range throughout the Upper Mississippi River System. The zebra mussel poses a serious threat to native mussels by adhering to their shells, as well as by competing for space and food (Tucker et al. 1993; also see Chapter 11). Other recent exotic introductions may pose an ecological threat in the Illinois River as they have in Lake Michigan. At least two exotic zooplankton species have been identified. Exotic fish species found in the Illinois Waterway include the round goby, grass carp, and bighead carp.

Signs of Recovery

Great strides have been made to curb urban and industrial pollution and improve Illinois River water quality. Waste-treatment facilities were built during the 1960s and 1970s and continue today in the Chicago and

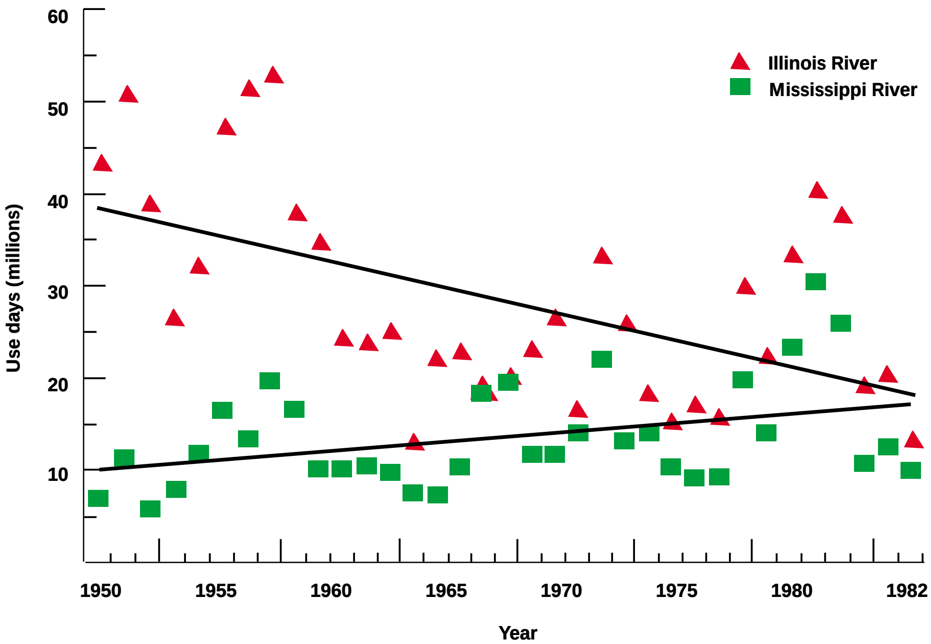

Figure14-8.
Numbers of mallards on the Illinois River (triangles) and the Mississippi River (squares) have converged through the last 50 years. Similar to the diving duck population, mallard use decreased (*r* = -0.51) on the Illinois River concurrent with their increased (*r* = 0.42) use of the Mississippi River (Source: Sparks 1984, reprinted with permission of the author).

Peoria, Illinois, regions to eliminate raw sewage discharges that degraded the river in the past. Through its natural flushing, dilution, and assimilation capacity, the river slowly has regained its former oxygen-carrying capacity, allowing fish and invertebrates to recolonize the river. Fish communities that were reduced to the most tolerant species became more diverse as water quality improved. These communities have been restored to the point that professional fishing tournaments are held for walleye in the upper river and largemouth bass in the lower reaches of the river. One Bassmasters tournament in the Peoria reach was an $8 million economic benefit to the Peoria area. The incidence of external abnormalities in sediment-associated fishes has declined (Lerczak et al. 1994). There is even evidence that fingernail clam and fresh water mussel populations are returning to portions of the upper river (Sparks and Ross 1992; Scott Whitney, Illinois Natural History Survey, Havana, Illinois, personal communication).

Status of Conservation Efforts

Sediment quality remains a pervasive problem throughout the Illinois River. In the upper river and near Peoria, toxins still are present in the sediment, though they appear to be buried by newer, cleaner sediments. Conversely, backwater sediments have not seen much improvement. Water-level stability maintained by navigation dams does not allow the kind of low summer water levels that once acted to dry and stabilize sediments distributed throughout the floodplain and shallow backwaters. The flocculent sediments now present are resuspended easily by wind- and boat-generated waves that create highly turbid backwaters which cannot support aquatic plants. Likewise, there is little improvement in the amount of sediment delivered to the river (Demissie et al. 1992). Whereas field treatments such as crop-field buffer strips and conservation tillage have reduced basin (field) erosion, tributary stream-bank erosion and bluff erosion continue to be significant problems.

New conservation lands are being acquired to establish a National Wildlife

Water-level stability maintained by navigation dams does not allow the kind of low summer water levels that once acted to dry and stabilize sediments distributed throughout the floodplain and shallow backwaters.

In addition to land acquisiton, restoration of abiotic controls that once shaped the river ecosystem may be the best tool for reviving the river that has so profoundly influenced the growth and development of the State of Illinois.

Refuge. Several state agencies and private groups also are at work to protect the river. In addition to land acquisiton, restoration of abiotic controls that once shaped the river ecosystem may be the best tool for reviving the river that has so profoundly influenced the growth and development of the State of Illinois.

Among important public-sector conservation efforts, the U.S. Fish and Wildlife Service is establishing the Emiquon National Wildlife Refuge near Havana, Illinois. More than 2,400 of a proposed 11,122 acres have been acquired from willing sellers and final acquisitions are underway. In addition, the State of Illinois recently established the Conservation Reserve and Enhancement Program, a $300 million partnership with the U.S. Department of Agriculture to target soil conservation in several tributary basins that contribute large amounts of sediment to the river.

Private groups are active in watershed and wetland restoration efforts along the Illinois River, including The Nature Conservancy which has several projects. The Machinaw River subbasin project, for example, includes (1) an 800-acre purchase, (2) collaboration with the Natural Resource Conservation Service in restoring a 3,000-acre wetland area in the headwaters, and (3) promotion and coordination of buffer strip development and bank stabilization projects along the Mackinaw and its tributaries. The Nature Conservancy recently acquired a 1,160-acre floodplain tract called Spunky Bottoms that they plan to reconnect with the Illinois River. Also ongoing is a basin-wide strategic planning project to optimize the conservation efforts of many groups that address the ecological needs of the Illinois River. The Wetlands Initiative, another private group, received a $1.5 million grant to complete wetland restoration demonstration projects along the river.

Finally, to answer the need for conservation of this natural resource and recognizing opportunities provided by State, Federal, and private cooperation, the State of Illinois established the Illinois River Coordinating Council. The Council brings together five State agencies, citizens from various interest groups, Federal partners, and other natural resource professionals to establish objectives for management of the river.

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