

the state (Suloway and Hubbell 1994).

Preliminary results from a recent hydric soil survey indicated even greater presettlement acreage than our earlier estimate of 8.26 million acres. The more recent survey identified about 8.9 million acres of hydric soil in Illinois. Based upon this preliminary analysis, presettlement wetlands covered about 25 percent in Illinois; their loss, therefore, may have been greater than we originally documented.

Although the loss of wetlands is of monumental importance, the declines in productivity and diversity of the remaining wetlands, declines due to biological, chemical, and physical degradation by humans, are also significant. Wetlands are affected by a variety of factors, including alteration of natural hydrological regimes (dams, channelization, reservoirs), urbanization, agriculture, and other non-point pollution, especially sedimentation (Fredrickson 1991). Agricultural pesticides entering wetlands have reduced the quality of waterfowl habitat and proved destructive to aquatic invertebrate populations. Reduced duckling survival resulted (Sheehan et al. 1986; Grue et al. 1988; Grue et al. 1989).

Illinois River valley: a history

The historical Illinois River was indeed an Eden for migratory waterfowl. It was not the river proper that provided luxurious habitat but the bottomland, or backwater, lakes that flanked the river. These lakes were typically shallow, clear, and filled with aquatic

vegetation. During the 20th century, a series of events induced by mankind have abused the Illinois River floodplain. In 1900, the completion of the Chicago Sanitary and Ship Canal diverted water from Lake Michigan and allowed sewage effluent from Chicago to enter the Illinois River. The diversion of water increased low-water levels at Peoria between 5 and 6 feet (Bellrose et al. 1979). Forbes and Richardson (1919) noted an average 3.6-foot increase during mid-summer at Havana before the peak of diversion in 1927. Initially, waterfowl benefitted from the diversion of water because the surface areas of bottomland lakes, sloughs, and marshes doubled from about 54,000 acres to over 120,000 acres in the 400,000-acre floodplain (Bellrose et al. 1979). However, the flooding of thousands of acres of bottomland forest during the growing season resulted in the loss of pin oaks and pecan hickories that produce mast for Wood Ducks and Mallards (breeders in Illinois) but are sensitive to increased water levels.

As the bottomland lakes were increasing in surface area as a result of diversion, many lakes were eliminated as drainage and levee districts in the valley developed, principally from 1903 to 1920. These districts incorporated 205,000 acres about half of the bottomland in the floodplain (Mulvihill and Cornish 1929). Three drainage and levee districts representing approximately 8,000 acres — Partridge, Chautauqua, and Big Prairie — were subsequently abandoned, and reverted to a semi-natural state (Bellrose et al. 1979).

Lesser Scaups

Years	Northeast ^a	Illinois River	West-central ^b	Mississippi River			Central and Southern	
				Northern ^c	Central	Southern ^d	Cooling Lakes ^e	Reservoirs ^f
1948–1952		380,279			154,133			
1953–1957		191,457			211,522			
1958–1962		21,119			251,464			
1963–1967		12,868			364,160			
1968–1972		15,945			396,047	48	1,550	19,100
1973–1977	1,490	11,854			222,188	182	146	975
1978–1982	7,669	21,020	1,235	26,353	300,755	6,974	1,906	7,195
1983–1987	2,678	18,800	1,275		152,980	762	565	2,958
1988–1992		13,624			46,176	336	1,053	4,690
1993–1996		4,465			14,650	293	1,519	4,363

^a1976–1982, 1984–1985.

^b1981–1984.

^c1980, 1982.

^d1972–1984, 1987–1996.

^eIncludes Clinton Lake 1978–1984, 1987–1996; Sangchris Lake 1972–1984, 1987–1996; Newton Lake 1978–1984, 1987–1996; Coffeen Lake 1972–1979, 1987–1994; Baldwin Lake 1972–1984, 1987–1996.

^fIncludes Lake Shelbyville 1976–1984, 1987–1996; Carlyle Lake 1972–1984, 1987–1996; Rend Lake 1972–1984, 1987–1996.

Five-year averages of peak numbers of Lesser Scaups during fall for the inventory regions of Illinois, 1948–1996.