

APPENDIX D. Statewide Resource Quality Summary For Significant Publicly Owned Lakes

Significant Publicly-Owned Lakes” are defined as state, public, or multiply-owned lakes having 20 acres or more surface area; however, some smaller lakes (located in Cook County) which provide substantial public access and benefits to the citizens of Illinois have also been defined as “significant.” The summary information below is a subset of all lakes assessed and reported in Section C-3 of this report.

Individual Use Support

Fish consumption, aquatic life, primary contact (swimming), public and food processing water supply, secondary contact), aesthetic quality and indigenous aquatic life uses were individually assessed for the degree of use support (Appendix Table D-1).

Appendix Table D-1. Individual Use Support Summary for Significant Publicly Owned Lakes.

Designated Use	Total Acres	Acres Assessed	Acres Fully Supporting	Acres Not Supporting Fair	Acres Not Supporting Poor	Acres Not Assessed	Acres as Insufficient Information
Aesthetic Quality	152,733	122,070	6,040	78,718	37,312	28,812	1,851
Aquatic Life	152,733	122,070	57,364	64,706	0.0	28,812	1,851
Fish Consumption	154,333	104,732	74,192	30,540	0.0	49,601	0.0
Indigenous Aquatic Life	1,600	1,600	1,600	0.0	0.0	0.0	0.0
Primary Contact	152,733	1,043	731	312	0.0	151,690	0.0
Public and Food Processing Water Supplies	72,248	72,248	8,237	64,011	0.0	0.0	0.0
Secondary Contact	154,333	731	731	0.0	0.0	153,602	0.0

Statewide Potential Causes of Use Impairment

Potential causes of use impairment for significant publicly-owned lakes are summarized below in Appendix Table D-2. Potential causes having the greatest effect on lake acres assessed include: phosphorus, aquatic algal and total suspended solids.

Appendix Table D-2. Potential Causes of All Use Impairments Significant Publicly Owned Lakes.

Potential Cause of Impairment	Acres Impaired
Phosphorus (Total)	100,780
Total Suspended Solids (TSS)	97,616
Aquatic Algae	95,736
Manganese	60,283
Sedimentation/Siltation	33,660
Oxygen, Dissolved	31,554
Atrazine	25,751
Aquatic Plants (Macrophytes)	22,696
Polychlorinated biphenyls	21,632
Nonnative Fish, Shellfish, or Zooplankton	8,014
Mercury	7,304
Silver	7,287
pH	5,098
Chlordane	4,791
Aldrin	4,419
Nitrogen, Nitrate	3,900
Nitrogen (Total)	3,758
Zinc	2,631
Heptachlor	2,107
Ammonia (Total)	2,048
Cadmium	524
Nickel	325
Fecal Coliform	313
Total Dissolved Solids	250

Statewide Potential Sources of Use Impairment

Potential sources of use impairment for significant publicly-owned lakes are summarized below in Appendix Table D-3. Potential sources having the greatest effect on lake acres assessed include: agricultural crop production, littoral or shoreline modifications, other recreational sources, as well as unknown sources.

Appendix Table D-3. Potential Sources of All Use Impairments in Significant Publicly Owned Lakes.

Potential Source of Impairment	Acres Impaired
Crop Production (Crop Land or Dry Land)	104,783
Littoral/shore Area Modifications (Non-riverine)	85,343
Other Recreational Pollution Sources	74,540
Runoff from Forest/Grassland/Parkland	44,078
Contaminated Sediments	40,421
Urban Runoff/Storm Sewers	39,389
On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	11,895
Atmospheric Deposition – Toxics	7,304
Rcra Hazardous Waste Sites	6,965
Impacts from Hydrostructure Flow Regulation/modification	6,106
Dredging (E.g., for Navigation Channels)	5,992
Municipal Point Source Discharges	5,781
Waterfowl	4,117
Introduction of Non-native Organisms (Accidental or Intentional)	2,187
Industrial Point Source Discharge	2,153
Site Clearance (Land Development or Redevelopment)	2,105
Livestock (Grazing or Feeding Operations)	1,233
Pesticide Application	597
Agriculture	325
Lake Fertilization	319
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	475
Highways, Roads, Bridges, Infrastructure (New Construction)	135
Channelization	135
Speciality Crop Production	61
Loss of Riparian Habitat	40
Other Spill Related Impacts	40

Trophic Status

The trophic status of significant publicly-owned lakes is summarized in Appendix Table D-4. Lake trophic status is based on the Trophic State Index (TSI). Most lake acreage was classified as eutrophic or hypereutrophic.

Appendix Table D-4. Trophic Status of Significant Publicly Owned Inland Lakes.

Trophic Status	Number of Lakes	Total Acres
Hypereutrophic (TSI ≥ 70)	75	66,870
Eutrophic (TSI ≥ 50 & < 70)	123	54,454
Mesotrophic (TSI ≥ 40 & < 50)	30	4,106
Oligotrophic (TSI < 40)	4	193
Unknown	95	28,710
Totals:	327	154,333