

## APPENDIX C. Statewide Resource Quality Summary for Significant Publicly Owned Lakes - 2016

In Illinois, *significant publicly owned lakes* are publicly owned inland lakes with a surface area of 20 acres or more. Also included are some lakes in Cook County that are less than 20 acres, but provide substantial public access and benefits to the citizens of Illinois. 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, 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 C-1).

**Appendix Table C-1. Summary of Assessments of Use Attainment for Significant Publicly Owned Lakes.**

Designated Use	Statewide Acres Designated	Acres Assessed	Acres Fully Supporting	Acres Not Supporting Fair	Acres Not Supporting Poor	Acres Not Assessed	Acres as Insufficient Information
Aesthetic Quality	163,016	132,506	14,353	93,487	24,666	29,451	1,059
Aquatic Life	161,416	132,464	120,278	12,186	0	27,893	1,059
Fish Consumption	163,016	85,897	4,200	81,103	594	77,119	0
Indigenous Aquatic Life	1,600	1,600	1,600	0	0	0	0
Primary Contact	161,416	1,481	1,092	389	0	159,935	0
Public and Food Processing Water Supply	74,163	73,990	68,770	5,220	0.0	173	0
Secondary Contact	163,016	1,092	1,092	--	--	161,924	0

### Statewide Potential Causes of Use Impairment

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

**Appendix Table C-2. Potential Causes of All Use Impairments in Significant Publicly Owned Lakes.**

<b>Potential Cause of Impairment</b>	<b>Acres Impaired</b>
Phosphorus (Total)	117,418
Total Suspended Solids (TSS)	111,995
Mercury	73,779
Aquatic Algae	33,523
Polychlorinated biphenyls	25,680
Aquatic Plants (Macrophytes)	22,238
Oxygen, Dissolved	11,459
Chlordane	4,820
Sedimentation/Siltation	4,246
Silver	4,194
Cause Unknown	3,503
Aldrin	3,345
Nitrogen, Nitrate	3,072
pH	2,923
Turbidity	1,531
Manganese	1,168
Terbufos	925
Total Dissolved Solids	657
Nonnative Fish, Shellfish, or Zooplankton	604
Endrin	524
Cadmium	524
Zinc	524
Atrazine	497
Fecal Coliform	389
Nickel	325
Color	310
Fluoride	172
Hexachlorobenzene	172
Odor	75
Simazine	74
Debris/Floatables/Trash	35
Fecal Coliform	35

**Statewide Potential Sources of Use Impairment**

Potential sources of use impairment in significant publicly owned lakes are summarized below in Appendix Table C-3. Potential sources having the greatest effect on lake acres assessed include: source unknown, littoral/shore area modifications (non-riverine), and crop production (crop land or dry land).

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

<b>Potential Source of Impairment</b>	<b>Acres Impaired</b>
Littoral/shore Area Modifications (Non-riverine)	90,474
Source Unknown	88,798
Crop Production (Crop Land or Dry Land)	87,447
Runoff from Forest/Grassland/Parkland	78,005
Other Recreational Pollution Sources	77,155
Atmospheric Deposition - Toxics	72,913
Urban Runoff/Storm Sewers	39,901
Municipal Point Source Discharges	26,623
Animal Feeding Operations (NPS)	25,355
Internal Nutrient Recycling	22,699
Agriculture	22,349
Contaminated Sediments	12,853
Golf Courses	11,083
On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	9,887
Rcra Hazardous Waste Sites	8,984
Dredging (E.g., for Navigation Channels)	5,966
Waterfowl	2,698
Industrial Point Source Discharge	2,153
Yard Maintenance	1,467
Rural (Residential Areas)	1,457
Dam or Impoundment	1,425
Other Turf Management	1,153
Impacts from Hydrostructure Flow Regulation/modification	928
Pesticide Application	862
Natural Sources	855
Highway/Road/Bridge Runoff (Non-construction Related)	727
Residential Districts	691
Site Clearance (Land Development or Redevelopment)	538
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	225
Sediment Resuspension (Clean Sediment)	222
Lake Fertilization	143
Wildlife Other than Waterfowl	140
Unspecified Urban Stormwater	129
Impervious Surface/Parking Lot Runoff	117
Pollutants from Public Bathing Areas	96
Introduction of Non-native Organisms (Accidental or Intentional)	80
Municipal (Urbanized High Density Area)	62
Specialty Crop Production	61
Streambank Modifications/destabilization	55
Other Spill Related Impacts	40
Livestock (Grazing or Feeding Operations)	39

## Trophic Status

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

**Appendix Table C-4. Trophic Status of Significant Publicly Owned Lakes.**

<b>Trophic Status</b>	<b>Number of Lakes</b>	<b>Total Acres</b>
Hypereutrophic (TSI $\geq 70$ )	81	64,643
Eutrophic (TSI $\geq 50$ & $< 70$ )	151	62,116
Mesotrophic (TSI $\geq 40$ & $< 50$ )	42	8,253
Oligotrophic (TSI $< 40$ )	6	274
Unknown	96	27,730
Total:	376	163,016

## Trophic Status Trends

Over the last six report cycles, 2006 through the current report, the acreage of each type of trophic state of significant publicly owned lakes has remained stable as summarized in Appendix Figure C-1. Hypereutrophic percentage remained the largest lake acreage percentage throughout, followed by eutrophic.

### Appendix Figure C-1. Trophic Status for Significant Publicly Owned Inland Lakes, 2006 -2016

