

**Great Lakes Observing System (GLOS)
User Needs Assessment**

The GLOS "Users" and "Needs" categories are an initial list for discussion. A separate spreadsheet page will be developed for each user (and sub-user) category, listing more specific parameters. The individual parameters will be inventoried on those sheets as either Available Data or Missing Data. Significant overlap is expected among a number of the categories. The completed inventory will help establish GLOS uses for various communities, and will help identify prospective value-added products of GLOS and to prioritize activities for data integration and advocacy efforts..

Users	Needs	Available Information Parameters		Missing Information Parameters	
Water Supply and Outflow Control	Water Supply Estimation Interconnecting Waterways Flows Diversions Accounting Impact Assessments				
Hydropower Production	Production Planning / Operations Peaking and Ponding				
Municipal & Industrial					
Water Supply	Real-time Levels and Flows Nearshore Circulation Spill Impacts				
Water Treatment	Real-time Levels and Flows Nearshore Circulation Spill Impacts Event Related Discharges				
Power and Industry	Real-time Levels and Flows Nearshore Circulation Spill Impacts Event Related Discharges Thermal Pollution				
Shoreline Protection & Use	Water Levels Sediment Budget Structural Protection Wave Dynamics Streamflow and CC Flows Erosion Predictions Flood Prediction and Response Nearshore Geology				
Recreational Uses					
Boating	Levels and flows Wind and waves Available draft				
Beaches	Swimmability - Biologic pollution Swimmability - Safety Currents and Temperatures Weather Conditions				
Sports Fishing	Levels and flows Wind and waves Available draft Species Locations				
Ice Fishing	Fish Consumption Advisories Ice Coverage and Thickness Levels and flows Water Clarity Weather Conditions Species Locations				
Diving	Fish Consumption Advisories Weather Conditions Water Clarity Thermocline Bathymetry Submerged Objects				
Commercial Navigation					
Operations	Available Draft Levels and Flows Weather Conditions Ice Conditions Peaking & Ponding Spill Situations Security Events Locational Information				
Harbors and Channels	Ballast Discharges Sedimentation and Shoaling Conveyance Wave Spectra Ice Conditions Levels and Flows Littoral Transport Impacts Dredging Impacts				

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	Dredged Material Disposal		

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Fisheries				Research & Protection	Habitat Characteristics Population Data Food Chain Characteristics Spawning and Recruitment Chemical and Biologic Contamination Water Quality
				Commercial Fisheries	Altered Stream Dynamics Levels and flows Wind and waves Available draft Populations Species Locations Fish Consumption Advisories
				Native American Harvesting	Species Protection Limits Levels and flows Wind and waves Available draft Populations Species Locations Fish Consumption Advisories
Other Organisms					Habitat Characteristics Population Data Food Chain Characteristics Reproduction Stocking Chemical and Biologic Contamination Water Quality Altered Stream Dynamics Land Cover Fragmentation
Endangered Species					Habitat Characteristics Population Data Food Chain Characteristics Reproduction Stocking Chemical and Biologic Contamination Water Quality Altered Stream Dynamics Land Cover Fragmentation
Water Quality				(review RAPs and LaMPs)	Vessel Discharges Contaminated Sediments Point Source Loadings Non-point Source Loadings Polluted Groundwater Sediment Loadings Invasive Species Lake Characteristics (Levels, flows, etc.)
Invasive Species Control					Habitat Characteristics Population Data Food Chain Characteristics Spawning and Recruitment Chemical and Biologic Contamination Water Quality Altered Stream Dynamics Impact Assessments
Emergency Response				Spill Response	Real-time Levels and Flows Nearshore Circulation Winds and Waves Currents Weather Conditions Nearshore Circulation Thermoclines Source Sites Facilities and Logistics Spill Impacts (critical habitat, intakes, etc.)
				Search & Rescue	Real-time Levels and Flows Nearshore Circulation Winds and Waves Currents Weather Conditions Nearshore Circulation Facilities and Logistics

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Air Emissions and Deposition Restoration Planning Habitat Mapping and Monitoring Land Use Monitoring & Mgmt Outreach & Education	Emissions Estimates Monitoring Sites and Data Atmospheric Dispersion Modeling Aquatic and Human Health Impacts Natural Features Inventories Anthropogenic Impacts Land Use / Cover Changes Contamination Sites Habitat and Organism Characteristics Water Budget Land Use / Cover Change Detection Landform Data Habitat Characteristics Population Data Food Chain Characteristics Altered Stream Dynamics Land Cover Fragmentation Hypsography Soil Characteristics Land Use / Cover Change Detection Land Use Plans Land Use Policies Consolidated information Reports, Maps, Overviews, Resource Directories Presentation Tools				
Ancillary Users Tourism Ship Watching Agriculture					