

## 8.0 GLOSSARY OF TERMS

**2 year-3 year-10 year-100 year flood:** For each river, engineers assign statistical probabilities to different size floods to describe a common or ordinary flood for a particular river versus a less likely or a severe flood for the same river. A 100-year flood is a flood that has a 1-percent chance of being equaled or exceeded in any given year. The 100-year flood, also referred to as the “base flood”, is the standard used by the National Flood Insurance Program (NFIP) for floodplain management and is used to determine the need for flood insurance. A structure located within the 100-year special flood hazard area shown on an NFIP map has a 26 percent chance of suffering flood damage during the term of a 30-year mortgage. A two-year flood event has a 50% probability of occurring in any year; 2-year rain events are important because they form the general shape of our stream systems and are the cause for much of the pollutant loading.

**100-year floodplain:** A flood inundates a floodplain. A 100-year flood is a flood that has a 1-percent chance of being equaled or exceeded in any given year. A 100-year flood may also be referred to as the base flood. The area inundated during the base flood is called the 100-year floodplain.

**303(d):** The Federal Clean Water Act requires states to submit a list of impaired waters to the USEPA for review and approval using water quality assessment data from the Section 305(b) Water Quality Report. States are then required to develop total maximum daily load analyses (TMDLs) for waterbodies on the 303(d) list.

**305(b):** The Illinois 305(b) report is a water quality assessment of the state’s surface and groundwater resources that is compiled by the IEPA as a report to the USEPA as required under Section 305(b) of the Clean Water Act.

**ADID wetlands:** Wetlands that were identified through the Advanced Identification (ADID) process. Completed in 1992, the ADID process sought to identify wetlands that should be protected because of their high functional value. The three primary functions evaluated were:

1. Ecological value based on wildlife habitat quality and plant species diversity;
2. Hydrologic functions such as stormwater storage value and/or shoreline/bank stabilization value; and
3. Water quality values such as sediment/toxicant retention and/or nutrient removal/transformation function.

**American Fisheries Society (AFS) Stream Obstruction Removal Guidelines:** Document describing environmentally sound techniques to maintaining natural stream characteristics when dealing with channelization, clearing, snagging, or other severe stream modifications. Document can be found in Appendix D.

**Artificial wetland:** A designed wetland, created for human use, such as wastewater or sewage treatment, as habitat to attract wildlife, or for land reclamation after mining or other disturbance.

**Aquatic habitat:** Structures such as stream substrate, woody debris, aquatic vegetation, and overhanging vegetation that is important to the survival of fish and macroinvertebrates.

## NORTH MILL CREEK-DUTCH GAP CANAL WATERSHED-BASED PLAN

**Bankfull:** The point at which water flow in a stream fills the channel to the top of its banks just to the point where water begins to overflow onto the adjacent floodplain. Bankfull stage flows transport the greatest quantity of soil and stone over time, because the bankfull stage occurs about once every year or two.

**Base Flood Elevation (BFE):** The elevation delineating the level of flooding resulting from the elevation of the 100-year flood. (See also **Floodplain**.)

**Base flow:** Stream discharge that is not directly attributable to direct runoff or melting snow. It is usually sustained by groundwater.

**Bedrock:** The solid rock that underlies loose material, such as soil, sand, clay, or gravel.

**Benthic:** Bottom dwelling (often referring to macroinvertebrates).

**Best Management Practices (BMPs):** BMPs are non-structural practices such as site planning and design aimed to reduce stormwater runoff and avoid adverse development impacts - or structural practices that are designed to store or treat stormwater runoff to mitigate flood damage and reduce pollution. Some BMPs used in urban areas may include stormwater detention ponds, restored wetlands, vegetative filter strips, porous pavement, silt fences and biotechnical streambank stabilization.

**Biodiversity:** The variety of organisms (plants, animals and other life forms) that includes the totality of genes, species and ecosystems in a region.

**Bio-infiltration (rain gardens):** Excavated depressional areas where stormwater runoff is directed and allowed to infiltrate back into groundwater rather than allowing to runoff. Infiltration areas are planted with appropriate vegetation.

**Biological Oxygen Demand (BOD):** The amount of dissolved oxygen that is required by microscopic organism (e.g. bacteria) to decompose organic matter in waterbodies.

**Biological Stream Characterization (BSC):** A multi-tiered stream quality classification based primarily on the attributes of lotic fish communities. The predominant stream quality indicator used in this process is the Index of Biotic Integrity (IBI), comprised of 12 metrics, which form a basis for describing the health or integrity of the fish community. When insufficient fishery data are available for calculating an IBI value, BSC criteria allow the use of sport fishing information or macroinvertebrate data to rate streams. BSC provides a uniform process of characterizing streams statewide and is used by a variety of sources for stream protection, restoration and planning efforts.

**Bioengineering (or Soil Bioengineering):** Techniques for stabilizing eroding or slumping stream banks that rely on the use of plants and plant materials such as live willow posts, brush layering, coconut logs and other “greener” or “softer” techniques. This is in contrast to techniques that rely on creating “hard” edges with riprap, concrete and sheet piling (metal and plastic).

**Carrying capacity (streams):** The maximum amount of water that a stream channel can support without overtopping its banks.

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**Center for Watershed Protection (CWP):** Non-profit 501(c)3 corporation founded in 1992 that provides local governments, activists, and watershed organizations around the country with the technical tools for protecting some of the nation's most precious natural resources such as streams, lakes and rivers.

**Certified Municipalities:** A municipality that is certified by LCSMC to enforce the provisions of the Lake County Watershed Development Ordinance (WDO). The municipality's designated Enforcement Officer enforces the provisions in the Ordinance.

**Channel modification:** Alteration of a channel by changing the physical dimensions or materials of its bed or banks. Channel modification includes damming, riprapping or other armoring, widening, deepening, straightening, relocating and lining and significant removal of bottom or woody vegetation of the channel. Channel modification does not include the clearing of dead or dying vegetation, debris or trash from the channel; these actions are referred to as channel maintenance.

**Channelized stream:** A stream that has been artificially straightened, deepened, or widened to accommodate increased stormwater flows, to increase the amount of adjacent land that can be developed or used for urban development, agriculture or for navigation purposes. In addition to being unsightly, channelized streams have a uniform gradient, no riffle and pool development, no meanders (curves) and very steep banks. The vegetation is frequently removed and replaced with riprap, concrete or other hard surfaces. During low flow periods in the summer, many channelized streams have low dissolved oxygen levels, in part due to shallow, slow-moving water. Under these conditions, they provide poor habitat for fish or other stream organisms such as benthic macroinvertebrates.

**Channel:** Any river, stream, creek, brook, branch, natural or artificial depression, ponded area, lakes, flowage, slough, ditch, conduit, culvert, gully, ravine, swale, wash, or natural or man-made drainageway, in or into which surface or groundwater flows, either perennially or intermittently.

### **Chicago Metropolitan Agency for Planning (CMAP)**

The Chicago Metropolitan Agency for Planning (CMAP)( [www.cmap.illinois.gov](http://www.cmap.illinois.gov)) formerly known as the Northeastern Illinois Planning Commission (NIPC) has developed model ordinances on stormwater management, soil erosion and sediment control, streams and wetlands, and floodplains for local governments to use in developing regulatory programs. CMAP provides technical assistance and training opportunities to local governments to improve watershed management activities - including watershed planning and stormwater management.

**Conservation development:** A development designed to protect open space and natural resources for people and wildlife while at the same time allowing building to continue. Conservation design developments designate half or more of the buildable land area as undivided permanent open space.

**Conservation easement:** The transfer of land use rights without the transfer of land ownership. Conservation easements can be attractive to property owners who do not want to sell their land now, but would support perpetual protection from further development. Conservation easements can be donated or purchased.

**Converted Wetland:** see Prior Converted Wetland.

**Clean Water Act (CWA):** The CWA is the basic framework for federal water pollution control and has been amended in subsequent years to focus on controlling toxics and improving water quality in areas where compliance with nationwide minimum discharge standards is insufficient to meet the CWA's water quality goals.

**Debris load:** Natural and man-made debris including leaves, logs, lumber, trash and sediment.

**Depressional Storage/Area:** Non-riverine depressions where stormwater collects.

**Designated Use:** EPA requirements that States and authorized Indian Tribes specify appropriate water uses to be achieved and protected. Appropriate uses are identified by taking into consideration the use and value of the water body for public water supply, for protection of fish, shellfish, and wildlife, and for recreational, agricultural, industrial, and navigational purposes. In designating uses for a water body, States and Tribes examine the suitability of a water body for the uses based on the physical, chemical, and biological characteristics of the water body, its geographical setting and scenic qualities, and economic considerations. Each water body does not necessarily require a unique set of uses. Instead, the characteristics necessary to support a use can be identified so that water bodies having those characteristics can be grouped together as supporting particular uses.

**Detention basin/facility:** A man-made structure for the temporary storage of stormwater runoff with controlled release during or immediately following a storm.

**Discharge (streamflow):** The volume of water passing through a channel during a given time, usually measured in cubic feet per second (cfs).

**Digital Elevation Model (DEM):** Regularly spaced grid of elevation points used to produce elevation maps.

**Dissolved oxygen (DO):** The amount of oxygen in water, usually measured in milligrams/liter (mg/L).

**Downcutting:** The action of a stream to deepen itself, often as a result from channelization.

**Drainage basin:** Land surface region drained by a length of stream channel; usually 1,000 to 10,000 square miles in size.

**Ecosystem:** An ecological community together with its environment, functioning as a unit.

**Element Occurrence Records (EORs):** Species, communities, or other biological features are referred to as "elements" Natural Heritage Programs and Conservation Data Centers. Each "element occurrence" represents a compendium of available information about the feature on the ground.

**Erosion:** Displacement of soil particles on the land surface due to water or wind action.

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**European settlement:** A period in the early 1800's when European settlers moved across the United States in search of better lives. During this movement, much of the historical communities were altered for farming and other types of development.

**Evaporation:** The process of liquid water becoming water vapor, including vaporization from water surfaces, land surfaces, and snow fields, but not from leaf surfaces.

**Evapotranspiration:** The combined processes through which water is transferred to the atmosphere from open water and ice surfaces, bare soil and vegetation.

**Eutrophic:** A waterbody having a high level of biological productivity which is usually a result of high nutrient loads.

**Farmed wetland:** Wetlands that were manipulated and used to produce an agricultural commodity prior to December 23, 1985, but had not been completely converted prior to that date and therefore are not prior converted cropland. These areas still meet the wetland criteria and include areas that are seasonally ponded or flooded for an extended period of time.

**Faunal:** Animals of a particular region or period, considered as a group.

**Federal Emergency Management Agency (FEMA):** Government agency within the Department of Homeland Security that responds to, plans for, recovers from, and mitigates against disasters/emergencies, both natural and man-made.

**Fee in lieu:** Defined by the Corps and EPA as a payment "to a natural resource management entity for implementation of either specific or general wetland or other aquatic resource development projects" for projects that "do not typically provide compensatory mitigation in advance of project impacts."

**Filamentous algae:** Simple one-celled or multi-celled organisms (usually aquatic) capable of photosynthesis that are an indicator of high nutrient levels in the water column.

**Filter strip:** A long narrow portion of vegetation used to retard water flow and collect sediment for the protection of watercourses, reservoirs, sensitive areas, or adjacent properties.

**Fish cover:** Natural (trees, logs, boulders and undercut banks) and unnatural (tires and lunkers) structures in the stream that are available to fish for hiding, resting or egg laying.

**Flashy hydrology/flooding:** A quickly rising and falling overflow of water in stream channels that is usually the result of increased amounts of impervious surface in the watershed.

**Flood Insurance Rate Map (FIRM):** A map prepared by the Federal Emergency Management Agency that depicts the special flood hazard area (SFHA) within a community. The FIRM includes zones for the 100-year and 500-year floodplains and may or may not depict Regulatory Floodways.

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**Flood Insurance Study (FIS):** Studies conducted by the Federal Emergency Agency (FEMA) to determine areas that have the highest probability for flooding.

**Flood of record:** The highest elevation recorded for the largest known flood event. Flood elevations are determined from the United States Geologic Survey Hydrologic Atlas.

**Flood problem area (FPA):** One or more buildings, roads or other infrastructure in one location that are repeatedly damaged by flooding.

**Flood risk area:** Special flood hazard areas where structures have been identified as being at risk for flood damage because of their location in the 100-year floodplain (see **100-year floodplain**).

**Floodproofing:** Any combination of structural and non-structural additions, changes or adjustments to structures or property which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and contents.

**Floodplain (100-year):** Land adjoining the channel of a river, stream, watercourse, lake or wetland that has been or may be inundated by floodwater during periods of high water that exceed normal bank-full elevations. The 100-year floodplain has a probability of 1% chance per year of being flooded.

**Floodway:** the floodway is the portion of the stream or river channel that includes the adjacent land areas to that must be reserved to discharge the 100-year flood without increasing the water surface. Figure 49 below depicts the 100-year floodplain and floodway.

**Flora:** Collectively, the plants of a particular region, geological period, or environment.

**Flow Regimes:** The period during which a particular amount of water flows through a stream system.

**General Use Water Quality Standards (State):** The Illinois Pollution Control Board (IPCB), a sister Agency to the Illinois EPA, develops water quality standards in Illinois. These standards serve to protect aquatic life, human health or wildlife, although wildlife based criteria have not yet been derived.

**Geographic Information System (GIS):** A computer-based approach to interpreting maps and images and applying them to analysis of systems and problem-solving.

**Glacial Drift:** Earth and rocks which have been transported by moving ice or land ice.

**Global Positioning System (GPS):** Satellite mapping systems that enables locators and mapping to be created via satellite.

**Grassland:** An area such as a prairie or a meadow with grass or grass-like vegetation.

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**Gray infrastructure:** A network of transportation, power, communication and other human constructed systems that are designed to connect across multiple jurisdictions and incorporate facilities that function at different scales.

**Greenways:** A protected linear open space area that is either landscaped or left in its natural condition. It may follow a natural feature of the landscape such as a river or stream, or it may occur along an unused railway line or some other right of way. Provides wildlife corridors and recreational trails.

**Green infrastructure:** Defined by the Lake County Stormwater Management Commission as: on the local scale, municipal or neighborhood, green infrastructure consists of site-specific best management practices (such as naturalized detention facilities, vegetated swales, porous pavements, rain gardens, and green roofs) that are designed to maintain natural hydrologic functions by absorbing and infiltrating precipitation where it falls. On the regional scale, green infrastructure consists of the interconnected network of open spaces and natural areas (such as forested areas, floodplains and wetlands, greenways, parks, and forest preserves) that mitigate stormwater runoff, naturally recharge aquifers, improve water quality while providing recreational opportunities and wildlife habitat.

**Groundwater recharge:** Primary mechanism for aquifer replenishment which ensures future sources of groundwater for commercial and residential use.

**Headwaters:** Upper reaches of tributaries in a drainage basin.

**High Quality Aquatic Resources (HQAR):** Waters of the United States or Isolated Waters of Lake County (unconnected waters) that are determined to be critical due to their uniqueness, scarcity, function or value.

**Hydraulic and Hydrologic modeling:** Engineering analysis that predicts expected flood flows and flood elevations based on land characteristics and rainfall events.

**Hydraulic impediment:** Structure of object that impedes free movement of water or aquatic organisms such as a dam or debris jam.

**Hydraulic impoundments:** Man-made reservoirs that provide flood protection. They are designed to store floodwater in excess of a bypass rate.

**Hydraulic structures:** Low head dams, culverts, weirs, bridges, levees, and any other structures along the course of the river.

**Hydraulics:** A branch of science that deals with practical applications of liquid in motion.

**Hydrologic Simulation Program-Fortran (HSPF):** Computer program that simulates for extended periods of time the hydrologic, and associated water quality, processes on pervious and impervious land surfaces and in streams.

**Hydric inclusion soil:** A soil unit (usually adjacent to hydric soils) that are not wet enough to form hydric properties but do have some hydric properties.

**Hydric soil:** Soil units that are wet frequently enough to periodically produce anaerobic conditions, thereby influencing the species composition or growth, or both, of plants on those soils.

**Hydrograph:** A way of measuring and graphing stream flow, or discharge, as it varies with time.

**Hydrologic Soil Groups (HSG):** Soils are classified by the Natural Resource Conservation Service into four Hydrologic Soil Groups based on the soil's runoff potential. The four Hydrologic Soil Groups are A, B, C and D. A's generally have the smallest runoff potential and D's the greatest.

**Hydrology:** The scientific study of the properties, distribution, and effects of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere.

**Hydrophytic vegetation:** Plant life growing in water, soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content; one of the indicators of a wetland.

**Hypereutrophic:** A waterbody having the highest level of biological productivity. They typically have very low water clarity, potential for many fish and other wildlife, and may have an abundance of aquatic plants.

**Illicit connections & infiltration (I&I):** Any discharge to a municipal separate stormsewer that is not composed entirely of stormwater.

**Illinois Environmental Protection Agency (Illinois EPA):** Government agency established to safeguard environmental quality, consistent with the social and economic needs of the State, so as to protect health, welfare, property and the quality of life.

**Illinois Department of Natural Resources (IDNR):** A government agency established to manage, protect and sustain Illinois' natural and cultural resources; provide resource-compatible recreational opportunities and to promote natural resource-related issues for the public's safety and education.

**Illinois Department of Transportation:** The Illinois Department of Transportation focuses primarily on the state's policies, goals and objectives for Illinois' transportation system and provides an overview of the department's direction for the future.

**Illinois Natural Areas Inventory (INAI):** A survey conducted by the Illinois Department of Natural Resources to catalogue high quality natural areas, threatened and endangered species and unique plant, animal and geologic communities for the purpose of maintaining biodiversity.

**Illinois Nature Preserves:** State-protected areas that are provided the highest level of legal protection, and have management plans in place.

**Illinois Pollution Control Board (IPCB):** An independent agency created in 1970 by the Environmental Protection Act. The Board is responsible for adopting Illinois' environmental regulations and deciding contested environmental cases.

**Impervious cover/surface:** An area covered with solid material or that is compacted to the point where water can not infiltrate underlying soils (e.g. parking lots, roads, houses, patios, swimming pools, tennis courts, etc.). Stormwater runoff velocity and volume can increase in areas covered by impervious surfaces.

**Impervious Cover Model:** Simple urban stream classification model based on impervious cover and stream quality. The classification system contains three stream categories, based on the percentage of impervious cover that predicts the existing and future quality of streams based on the measurable change in impervious cover. The three categories include sensitive, impacted, and non-supporting.

**Incised channel:** A stream that has degraded and cut its bed into the valley bottom. Indicates accelerated and often destructive erosion.

**Index of Biotic Integrity (IBI):** The IBI is based on fish surveys with the rating dependent on the abundance and composition of the fish species in a stream. Fish communities are useful for assessing stream quality because fish represent the upper level of the aquatic food chain and therefore reflect conditions in the lower levels of the food chain. Fish population characteristics are dependent on the physical habitat, hydrologic and chemical conditions of the stream, and are considered good indicators of overall stream quality because they reflect stress from both chemical pollution and habitat perturbations. For example, the presence of fish species that are intolerant of pollution are an indicator that water quality is good. The IBI is calculated on a scale of 12 to 60, the higher the score the better the stream quality.

**Infiltration:** That portion of rainfall or surface runoff that moves downward into the subsurface soil.

**Invasive vegetation/plant:** Plant species that are not native to an area and tend to out-compete native species and dominate an area (e.g. European buckthorn or garlic mustard).

**Isolated waters of Lake County (Isolated wetland):** All waters such as lakes, ponds, streams (including intermittent streams), farmed wetlands, and wetlands that are not under U. S. Army Corps of Engineers jurisdiction:

- A. The limits of the Isolated Waters of Lake County extend to the ordinary high water mark or the delineated wetland boundary.
- B. Isolated Waters of Lake County exclude permitted excavations created for such purposes as: stormwater conveyance, detention/retention areas constructed as part of a stormwater management system, recreation, stock watering, irrigation, settling basins or wastewater treatment systems and roadside ditches. Also excluded are areas created by incidental construction grading that are exempt per Article IV Section A.2. of this ordinance.
- C. Compensatory wetland mitigation created to meet the requirements of this Ordinance or Section 404 of the Clean Water Act is not excluded.

**Knobby hill:** Glacial formation by which melting ice deposits material forming irregularly shapes.

**Kettle hole:** A depression in the surface of a ground moraine, caused by the melting of a block of subsurface ice after the moraine had formed.

**Lake County Health Department-Lakes Management Unit (LCHD):** Government agency initiated to monitor the quality of Lake County's surface water in order to maintain or improve water quality and alleviate nuisance conditions, promote healthy and safe lake conditions, and protect and improve ecological diversity.

**Lake County Stormwater Management Commission (LCSMC):** Government agency created to coordinate the stormwater activities of over 90 jurisdictions throughout Lake County. They provide technical assistance, local knowledge and problem-solving skills to coordinate flood damage reduction, flood hazard mitigation, water quality enhancements and natural resource protection projects and programs.

**Lake County Watershed Development Ordinance (WDO):** see Watershed Development Ordinance.

**Lake County Wetland Inventory (LCWI):** An inventory of wetlands in Lake County, Illinois that shows approximate wetland boundaries using the off-site delineation methodology in the 1989 "Federal Manual for Identifying and Delineating Jurisdictional Wetlands". The LCWI was completed by a group of federal, state and county agencies and published in March 1993.

**Liberty Prairie Conservancy (LPC):** A non-profit land conservation organization dedicated to protecting natural areas and working farmland throughout Lake County. The Conservancy was founded in 1995 to steward and advocate for the Liberty Prairie Reserve.

**Limnology:** The scientific study of bodies of fresh water for their biological, physical, and geological properties.

**Loess:** A fine-grained unstratified accumulation of clay and silt deposited by wind.

**Macroinvertebrates:** Invertebrates that can be seen by the unaided eye (macro). Most benthic invertebrates in flowing water are aquatic insects or the aquatic stage of insects, such as stonefly nymphs, mayfly nymphs, caddisfly larvae, dragonfly nymphs and midge larvae. They also include such things as clams and worms. The presence of benthic macroinvertebrates that are intolerant of pollutants is a good indicator of good water quality.

**Macroinvertebrate Biotic Index (MBI):** The MBI is very similar to the IBI except it is based on sampling macroinvertebrates (insects, worms etc.) that live in the stream rather than fish. The MBI scale is from 1 to 10, with 1 being the highest stream quality indicator and 10 being the worst. A MBI less than 6 indicates a good macroinvertebrate population. As with fish, the presence of pollution intolerant macroinvertebrate species is an indicator of good water quality. Since macroinvertebrates are less mobile than fish, the MBI is a good index to evaluate upstream/downstream impacts of point source discharges.

**Macroinvertebrate Biotic Index (MBI):** Method used to rate water quality using macroinvertebrate taxa tolerance to degree of and extent of organic pollution in streams. The method detects change in biological systems that result from the actions of human society.

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**Marsh:** An area of soft, wet, low-lying land, characterized by grassy vegetation and often forming a transition zone between water and land.

**Meander (stream):** A sinuous channel form in flatter river grades formed by the erosion on one side of the channel (pools) and deposition on the other (point bars).

**Mesotrophic:** A waterbody with moderate levels of biological productivity. These waterbody's commonly have clear water with beds of submerged aquatic plants and medium levels of nutrients.

**Mitigation:** Measures taken to eliminate or minimize damage from development activities, such as construction in wetlands or Regulatory Floodplain filling, by replacement of the resource.

**Moraine:** see Terminal Moraine.

**National Flood Insurance Program (NFIP):** Managed by the Mitigation Division within the Federal Emergency Management Agency (FEMA), participants in the NFIP adopt and enforce floodplain management ordinances to reduce future flood damage and in exchange are eligible to receive federally funded flood insurance.

**National Wetland Inventory (NWI):** U.S. Fish and Wildlife Service study that provides information on the characteristics, extent, and status of U.S. wetlands and deepwater habitats and other wildlife habitats.

**Native vegetation/plants:** Plant species that have historically been found in an area.

**Natural community:** an assemblage of plants and animals interacting with one another in a particular ecosystem

**Natural divisions:** Large land areas that are distinguished from each other by bedrock, glacial history, topography, soils, and distribution of plants and animals.

**No-net-loss:** A policy for wetland protection to stem the tide of continued wetland losses. The policy has generated requirements for wetland mitigation so that permitted losses due to filling and other alterations are replaced and the net quality wetland acreage remains the same.

**Nonpoint source pollution (NPS):** Refers to pollutants that accumulate in waterbodies from a variety of sources including runoff from the land, impervious surfaces, the drainage system and deposition of air pollutants.

**National Pollutant Discharge Elimination System (NPDES Phase II):** Clean Water Act law requiring smaller communities and public entities that own and operate an MS4 to apply and obtain an NPDES permit for stormwater discharges. Permittees at a minimum must develop, implement, and enforce a stormwater program designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable. The stormwater management program must include these six minimum control measures:

1. Public education and outreach on stormwater impacts
2. Public involvement/participation

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3. Illicit discharge detection and elimination
4. Construction site stormwater runoff control
5. Post-construction stormwater management in new development and redevelopment
6. Pollution prevention/good housekeeping for municipal operations

**Nutrients:** Substances needed for the growth of aquatic plants and animals such as phosphorous and nitrogen. The addition of too many nutrients (such as from sewage dumping and over fertilization) will cause problems in the aquatic ecosystem through excess algae growth and other nuisance vegetation and may cause adverse impacts to aquatic species.

**Oak woodland:** A type of ecosystem characterized by open spacing between oak trees and intervening areas of grassland.

**Oligotrophic:** A waterbody with the lowest level of biological productivity. Oligotrophic waterbodies typically have clear water, few aquatic plants, and few fish.

**Open space:** Any land that is not developed and is often set aside for conservation or recreation purposes. It can be either protected or unprotected. Protected open space differs from unprotected in that it is permanently preserved by outright ownership by a body chartered to permanently save land, or by a permanent deed restriction such as a conservation easement. Open space is important to a watershed's hydrology, habitat, water quality, and biodiversity.

**Organic matter:** Decomposing vegetative litter and animal matter.

**Outwash:** Sand and gravel deposits removed or washed out from a glacier.

**Partially open parcel:** Parcels that have been developed to some extent, but still offer some opportunities for open space and Best Management Practice (BMP) implementation. They typically include private residences with acreage exceeding the surrounding minimum zoning, partly developed industrial sites, or institutions (churches, schools, etc.) with extensive grounds.

**Point source pollution:** Refers to discharges from a single source such as an outfall pipe conveying wastewater from an industrial plant or wastewater treatment facility.

**Pollutant load:** The amount of any pollutant deposited into waterbodies from point source discharges, combined sewer overflows, and/or stormwater runoff.

**Pool:** A location in an active stream channel usually located on the outside bends of meanders, where the water is deepest and has reduced current velocities.

**Prairie:** A type of grassland characterized by low annual moisture and rich black soil characteristics.

**Preventative measures:** Actions that reduce the likelihood that new watershed problems such as flooding or pollution will arise, or that those existing problems will worsen. Preventative techniques generally target new development in the watershed and are geared toward protecting existing resources and preventing degradation.

**Prior converted wetland:** Wetlands that were drained, dredged, filled, leveled, or otherwise manipulated, including the removal of woody vegetation to make production of an agricultural commodity possible, and that (1) do not meet specific hydrologic criteria, (2) have had an agricultural commodity planted or produced at least once prior to December 23, 1985, and (3) have not since been abandoned (see next paragraph). Activities occurring in prior converted cropland are not regulated under Swampbuster or Section 404 of the CWA.

**Radial Environmental Report:** Report that identifies sites within subwatersheds that are listed on government-generated, environmental databases. The report contains information on sites that may pose environmental threats due to locations where hazardous materials have been released.

**Rain gauge station:** Location where a specialized rain gauge (cup or cylindrical device) has been installed to collect and measure the amount of liquid precipitation over a period of time.

**Regionally Significant Storage Locations (RSSL):** Existing or created depressional areas on the landscape within a watershed.

**Regulatory floodplain:** Regulatory Floodplains may be either riverine or non-riverine depressional areas. Projecting the base flood elevation onto the best available topography delineates floodplain boundaries. A floodprone area is Regulatory Floodplain if it meets any of the following descriptions:

1. Any riverine area inundated by the base flood where there is at least 640 acres of tributary drainage area.
2. Any non-riverine area with a storage volume of 0.75 acre-foot or more when inundated by the base flood.
3. Any area indicated as a Special Flood Hazard Area on the FEMA Flood Insurance Rate Map expected to be inundated by the base flood located using best available topography.

**Regulatory floodway:** The channel, including on-stream lakes, and that portion of the Regulatory Floodplain adjacent to a stream or channel as designated by the Illinois Department of Natural Resource-Office of Water Resources, which is needed to store and convey the existing and anticipated future 100-year frequency flood discharge with no more that a 0.1 foot increase in stage due to the loss of flood conveyance or storage, and no more than a 10% increase in velocities. Where interpretation is needed to determine the exact location of the Regulatory Floodway boundary, the IDNR-OWR should be contacted for the interpretation.

**Remedial measures:** Used to solve known watershed problems or to improve current watershed conditions. Remedial measures include retrofitting drainage system infrastructure such as detention basins and stormsewer outfalls to improve water quality, adjust release rates, or reduce erosion.

**Remnant:** a small fragmented portion of the former dominant vegetation or landscape which once covered the area before being cleared for human land use.

**Recessional moraines:** An end moraine formed during a temporary but significant halt in the final retreat of a glacier.

## NORTH MILL CREEK-DUTCH GAP CANAL WATERSHED-BASED PLAN

**Retention facilities:** A facility designed to completely retain a specified amount of stormwater runoff without release except by means of evaporation, infiltration or pumping.

**Retrofit:** Refers to modification to improve problems with existing stormwater control structures such as detention basins and conveyance systems such as ditches and stormsewers. These structures were originally designed to improve drainage and reduce flood risk, but they can also be retrofitted to improve water quality.

**Ridge:** A line connecting the highest points along a landscape and separating drainage basins or small-scale drainage systems from one another.

**Riffle:** Shallow rapids, usually located at the crossover in a meander of the active channel.

**Riparian:** Referring to the riverside or riverine environment next to the stream channel, e.g., riparian, or streamside, vegetation.

**Runoff:** The portion of rain or snow that does not percolate into the ground and is discharged into streams by flowing over the ground instead.

**Runoff curve numbers:** Numbers developed to classify the runoff potential of different soil types with different land cover. The curve numbers are a function of Hydrologic Soil Groups, land cover or usage, and antecedent soil moisture conditions. The curve number value can be a number from 0 to 100 although the typical range is between 25 through 98. A curve number value of 98 is considered to be an impervious land cover such as pavement or a building roof. A low curve number value would indicate conditions with a very low runoff potential.

**Savanna:** A type of woodland characterized by open spacing between its trees and by intervening grassland.

**Section 319 of the Clean Water Act (Section 319(h)):** see U.S. Environmental Protection Agency Section 319.

**Sediment:** Soil particles that have been transported from their natural location by wind or water action.

**Sedimentation:** The process that deposits soils, debris and other materials either on other ground surfaces or in bodies of water or watercourses.

**Sensitive resource:** Ecological features of the landscape that are determined to be critical due to their uniqueness, scarcity, function or value, and sensitivity to human impacts.

**Silt:** Fine mineral particles intermediate in size between clay and sand.

**Source reduction:** Changing everyday practices to reduce the quantity of pollutants that end up on the land and in the water.

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**Stakeholders:** Individuals, organizations, or enterprises that have an interest or a share in a project. (see also Watershed Stakeholders).

**Stormwater management:** A set of actions taken to control stormwater runoff with the objectives of providing controlled surface drainage, flood control and pollutant reduction in runoff.

**Stormsewershed:** An area of land whose stormwater drains into a common storm sewer system

**Stream corridor:** The area of land that runs parallel to a stream.

**Stream order:** A number from 1 to 6 or higher, designating the relative position of a stream or stream segment in a watershed. Ranking proceeds from the headwaters. First-order streams are without specific tributaries; the junction of two first-order streams produces a second-order stream; the junction of two second-order streams produces a third-order stream, and etc.

**Stream reach:** A stream segment having fairly homogenous hydraulic, geomorphic and riparian cover and land use characteristics (such as all ditched agriculture or all natural and wooded). Reaches generally should not exceed 2,000 feet in length.

**Streambank stabilization:** Techniques used for stabilizing eroding streambanks.

**Stream monitoring:** Chemical, biological and physical monitoring used to identify the causes and sources of pollution in the river and to determine the needs for reduction in pollutant loads, streambank stabilization, debris removal and habitat improvement.

**Substrate (stream):** The composition of the bottom of a stream such clay, silt or sand.

**Subwatershed:** A smaller basin within a larger drainage area that all drains to a central point of the larger watershed.

**Subwatershed Management Unit (SMU):** Small unit of a watershed or subwatershed that is delineated and used in watershed planning efforts because the effects of impervious cover are easily measured, there is less chance for confounding pollutant sources, boundaries have fewer political jurisdictions, and monitoring/mapping assessments can be done in a relatively short amount of time.

**Swale:** A vegetated channel, ditch or low-lying or depression tract of land that is periodically inundated due to the conveyance of stormwater from one point to another. Swales are often used in natural drainage systems instead of stormsewers.

**Threatened and Endangered Species (T&Es):** An “endangered” species is one that is in danger of extinction throughout all or a significant portion of its range. A “threatened” species is one that is likely to become endangered in the foreseeable future.

**Till:** A heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders deposited directly by and underneath a glacier without stratification.

**Topography:** The relative elevations of a landscape describing the configuration of its surface.

**Total dissolved solids (TDS):** A measure of the dissolved solids in water sample.

**Total suspended solids (TSS):** The organic and inorganic material suspended in the water column and greater than 0.45 micron in size.

**Treatment Train:** Several BMPs used together to improve water quality, infiltration and reduce sedimentation.

**Total Maximum Daily Load (TMDL):** A TMDL is the highest amount of a particular pollutant discharge a waterbody can handle safely per day.

**Trophic State Index (TSI):** Trophic State is a measure of the degree of plant material in of a body of water. It is usually measured using one of several indices (TSI) of algal weight (biomass): water transparency (Secchi Depth), algal chlorophyll, and total phosphorus.

**TR55 Document:** A single event rainfall-runoff hydrologic model designed for small watersheds and developed by the USDA-NRCS and EPA.

**Turbidity:** Refers to the clarity of the water, which is a function of how much material including sediment is suspended in the water.

**United States Environmental Protection Agency Section 319 (Section 319):** Section 319 of the Clean Water Act encourages and funds nonpoint source pollution control projects (any indirect pollution, like runoff, stormwater discharge, road salt, sediment, etc.) or NPS reduction at the source.

**United States Geological Survey (USGS):** Government agency established in 1879 with the responsibility to serve the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

**United States Army Corps of Engineers (USACE):** Federal group of civilian and military engineers and scientists that provide services to the nation including planning, designing, building and operating water resources and other Civil Works projects. These also include navigation, flood control, environmental protection, and disaster response.

**Upper Des Plaines River Ecosystem Partnership (UDPREP):** This Partnership was organized in 1996 between Wisconsin and Illinois through the Illinois Department of Natural Resources Ecosystems Program of Conservation 2000 and seeks to preserve and restore Illinois ecosystems. The Partnership is collaboration among the diverse organizations and private landowners who share an interest in improving the quality of life within the watershed. Their objectives include open space protection and restoration, floodplain and stormwater management, water quality improvement, reduction of soil erosion, enhancement of recreational opportunities, and demonstration of the feasibility of interstate and public/private partnerships.

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**Urban runoff:** Water from rain or snow events that runs over surfaces such as streets, lawns, parking lots and directly into storm sewers before entering the river rather than infiltrating the land upon which it falls.

**Vegetated buffer:** An area of vegetated land to be left open adjacent to drainageways, wetlands, lakes, ponds or other such surface waters for the purpose of eliminating or minimizing adverse impacts to such areas from adjacent land areas.

**Vegetated swale:** An open channel drainageway used along residential streets and highways to convey stormwater and filter pollutants in lieu of conventional storm sewers.

**Velocity (of water in a stream):** The distance that water can travel in a given direction during a period of time expressed in feet per second.

**Watershed:** An area confined by topographic divides that drains to a given stream or river. The land area above a given point on a waterbody (river, stream, lake, wetland) that contributes runoff to that point is considered the watershed.

**Watershed Development Ordinance (WDO):** One part of the adopted Lake County Comprehensive Stormwater Management Plan. It sets forth the minimum requirements for the stormwater management aspects of development in Lake County.

**Watershed stakeholder:** A person who has a personal, professional, legal or economic interest in the watershed and the outcome of the watershed planning process.

**Watershed partner(s):** Watershed stakeholders who take an active role in the watershed management planning process and implementing the watershed plan.

**Waters of the United States (WOUS):** For the purpose of this Ordinance the term Waters of the United States refers to those water bodies and wetland areas that are under the U. S. Army Corps of Engineers jurisdiction.

**Watershed Vulnerability Analysis:** Rapid planning tool for application to watersheds and subwatersheds that estimates future and impervious cover and provides guidance on factors that might alter the initial classification or diagnosis of a watershed or subwatershed.

**Water yield:** The total water that flows out from all or part of a drainage basin through either surface channels or subsurface aquifers within a given time frame, such as a year.

**Wetland:** A wetland is considered a subset of the definition of the Waters of the United States. Wetlands are land that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, under normal conditions, do support a prevalence of vegetation adapted for life in saturated soil conditions (known as hydrophytic vegetation). A wetland is identified based upon the three attributes: 1) hydrology, 2) hydric soils and 3) hydrophytic vegetation.

**Wet meadow:** A type of wetland away from stream or river influence with water made available by general drainage and consisting of non-woody vegetation growing in saturated or occasionally flooded soils.

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