

## Glossary of Terms

<b>Acid mine drainage (AMD)</b>	A causative factor for the Limited Resource Water beneficial use designation for aquatic life habitat. These are surface waters with sustained pH values below 4.1 s.u. or with intermittently acidic conditions combined with severe streambed siltation, and have a demonstrated biological performance below that of the modified warmwater habitat beneficial use designation.
<b>Acute aquatic criterion (AAC)</b>	Ohio EPA estimation of the highest instream concentration of a chemical to which aquatic organisms can be exposed for a brief period of time without causing mortality.
<b>Acute mixing zone</b>	The mixture of receiving water and effluent adjacent to a treated or untreated discharge within which the acute aquatic life criteria may be exceeded but the inside mixing zone maximum criteria may not be exceeded. The acute aquatic life criteria shall be met on the downstream perimeter of the acute mixing zone.
<b>Acute toxicity</b>	Adverse effects that result from an acute exposure and occur within any short observation period which begins when the exposure begins, and usually does not constitute a substantial portion of the life span of the organism.
<b>Adverse effect</b>	Any deleterious effect to organisms due to exposure to a substance. This includes effects which are or may become debilitating, harmful or toxic to the normal functions of the organism, but does not include non-harmful effects such as tissue discoloration alone or the induction of enzymes involved in the metabolism of the substance.
<b>Agricultural water supply use designation</b>	Waters suitable for irrigation and livestock watering without treatment.
<b>Ambient water temperature</b>	The spatial (longitudinal, lateral and vertical) and temporal water temperature measured in the receiving body of water prior to a specific waste heat discharge, and is outside the influence of any thermal mixing zone.
<b>Area of initial mixing (AIM)</b>	The limited zone where discharge-induced mixing causes the effluent to rapidly mix with the receiving water such that the area may not be physically inhabitable to aquatic life. The inside mixing zone maximum criteria may be exceeded within the AIM but shall be met on the perimeter of the AIM.
<b>Average temperature</b>	Represents the arithmetic mean of multiple daily average temperatures over a consecutive 15 or 30-day period.
<b>Bathing waters</b>	A recreation beneficial use designation. Waters that, during the recreation season, are heavily used for swimming. The bathing water use applies to all waters in areas where a lifeguard or bathhouse facilities are present, and to any additional water bodies designated bathing waters in rules 3745-1-08 to 3745-1-32 of the Ohio Administrative Code.

<b>Beneficial use designations</b>	Expectations for all surface waters of the state with respect to aquatic life (biological indicators), human health (fish tissue), public water supply and recreation (bacteria). Criteria for each Beneficial Use Designation is defined in Ohio Administrative Code 3745-1.
<b>Benthic macroinvertebrates</b>	Small animals living among stones, logs, sediments and aquatic plants on the bottom of streams, rivers and lakes. They are large enough to see with the naked eye (macro) and have no backbone (invertebrate). They are also large enough to be retained by a U.S. Standard Testing Sieves number 30 (0.595 mm openings).
<b>Bioaccumulation</b>	The net accumulation of a substance by an organism as a result of uptake from all environmental sources.
<b>°C</b>	Degree Celsius.
<b>Carcinogen</b>	A substance which causes an increased incidence of benign or malignant neoplasms, or substantially decreases the time to develop neoplasms, in animals or humans. The classification of carcinogens is discussed in rule 3745-1-42 of the Administrative Code.
<b>Chronic aquatic criterion (CAC)</b>	The Ohio EPA estimation of the highest instream concentration of a chemical to which aquatic organisms can be exposed indefinitely without causing unacceptable effects (e.g., adverse effects on growth or reproduction)
<b>Chronic mixing zone</b>	The mixture of receiving water and effluent adjacent to a treated or untreated discharge within which the chronic aquatic life, human health, wildlife and agricultural water supply criteria may be exceeded. The chronic aquatic life, human health, wildlife and agricultural water supply criteria shall be met on the downstream perimeter of the chronic mixing zone.
<b>Chronic toxicity</b>	Concurrent and delayed adverse effects that occur only as a result of a chronic exposure. Chronic exposure is exposure of an organism for any long period or for a substantial portion of its life span.
<b>Coldwater fish</b>	Those species of fish that thrive in relatively cold water. These species include, but are not limited to, salmon and trout (Salmonidae), and may include sculpins (Cottidae), and certain minnow (Cyprinidae) species.
<b>Coldwater habitat (CWH)</b>	A beneficial use designation for aquatic life habitat. These are waters that meet one or both of the characteristics described below: <ul style="list-style-type: none"> <li>• Coldwater habitat, inland trout streams - these are waters which support trout stocking and management under the auspices of the Ohio department of natural resources, division of wildlife, excluding waters in lake run stocking programs, lake or reservoir stocking programs, experimental or trial stocking programs, and put and take programs on waters without, or without the potential restoration of, natural coldwater attributes of temperature and flow.</li> <li>• Coldwater habitat, native fauna - these are waters capable of supporting populations of native coldwater fish and associated vertebrate and invertebrate organisms and plants on an annual basis.</li> </ul>

<b>Confluence</b>	The point where two or more bodies of water flow together.
<b>Criteria</b>	Elements of water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular designated use.
<b>Daily average temperature</b>	The arithmetic mean of multiple temperature measurements to be taken at least once per hour during a twenty-four-hour day.
<b>Degradation</b>	A lowering of the existing water quality in the surface waters of the state.
<b>Designated use</b>	A use of the surface waters of the state, established by Ohio Administrative Code 3745-1.
<b>Diel</b>	Denoting or involving a period of 24 hours.
<b><i>E. coli</i></b>	<i>Escherichia coli</i> . A specific bacterial species included in the fecal coliform bacteria group, the presence of which in surface waters has been correlated with gastrointestinal illness in swimmers.
<b>Ecoregion</b>	An area defined by environmental characteristics, such as soil conditions, geography, flora, fauna, etc. Ecoregions in Ohio include the Eastern Cornbelt Plains, Interior Plateau, Erie-Ontario Lake Plains, Huron-Erie Lake Plains, and Western Alleghany Plateau.
<b>Estuary</b>	The section of a Lake Erie tributary near the mouth where tributary and Lake Erie waters mix. This area is characterized by flow reversals and seiche influences and is generally located between the farthest downstream riffle of the tributary and Lake Erie proper. All tributaries of estuaries shall be considered estuaries below the Lake Erie mean high water level.
<b>Eutrophic or eutrophication</b>	The process by which a body of water becomes enriched in dissolved nutrients (such as phosphates) that stimulate the growth of aquatic plant life
<b>Exceedance</b>	Measurement greater than a limit and/or standard
<b>Exceptional warmwater habitat (EWH)</b>	A beneficial use designation for aquatic life habitat. These are waters capable of supporting and maintaining an exceptional or unusual community of warmwater aquatic organisms having a species composition, diversity, and functional organization comparable to the seventy-fifth percentile of the identified reference sites on a statewide basis.
<b>Existing beneficial use</b>	Those uses actually attained in the water body on or after November 28, 1975.
<b>°F</b>	Degree Fahrenheit.
<b>Great Lakes system</b>	All the streams, rivers, lakes and other bodies of water within the drainage basin of the Great Lakes within the United States.

<b>Hydrologic unit code (HUC)</b>	Watersheds are delineated by USGS using a nationwide system based on surface hydrologic features. This system divides the country into 21 regions (2-digit), 222 subregions (4-digit), 352 accounting units (6-digit), and 2,262 cataloguing units (8-digit).
<b>Index of Biotic Integrity (IBI)</b>	A biological criteria assessment tool that is the principle measure of the overall fish community condition used by Ohio EPA which consists of 12 community metrics. Each metric is compared to the value expected at an ecoregional reference condition.
<b>Industrial water supply use designation</b>	Waters suitable for commercial and industrial uses, with or without treatment. Criteria for the support of the industrial water supply use designation will vary with the type of industry involved.
<b>Invertebrate Community Index (ICI)</b>	A biological criteria assessment tool that is the principle measure of overall macroinvertebrate community condition used by Ohio EPA and which consists of ten structural community metrics. The point system evaluates a quantitative macroinvertebrate sample against a data base of relatively undisturbed ecoregional reference sites throughout Ohio.
<b>Lake Erie drainage basin</b>	All the streams, rivers, lakes and other bodies of water within the drainage basin of Lake Erie and within the United States.
<b>Large river assessment unit (LRAU)</b>	A river assessment unit that encompasses a drainage of more than 500 square miles; the length of each river included is from the mouth of each river upstream to the point where the drainage area reaches approximately 500 square miles.
<b>Lentic</b>	Of, relating to, or living in still waters (such as lakes or ponds).
<b>Limited resource water (LRW)</b>	A beneficial use designation for aquatic life habitat. These are waters that have been the subject of a use attainability analysis and have been found to lack the potential for any resemblance of any other aquatic life habitat as determined by the biological criteria in table 7-1 of Ohio Administrative Code 3745-1-07. The use attainability analysis must demonstrate that the extant fauna is substantially degraded and that the potential for recovery of the fauna to the level characteristic of any other aquatic life habitat is realistically precluded due to natural background conditions or irretrievable human induced conditions.
<b>Lotic</b>	Of, relating to, or living in moving waters (such as rivers or streams).
<b>Maximum daily temperature</b>	The highest temperature observed in a 24-hour day.
<b>Micrograms per liter (ug/L)</b>	The micrograms of substance per liter of solution and is equivalent to 10 <sup>-9</sup> kilograms per liter or parts per billion, assuming unit density.
<b>Milligrams per kilogram (mg/kg)</b>	The milligrams of substance per kilogram of weight.

<b>Milligrams per liter (mg/L)</b>	The milligrams of substance per liter of solution and is equivalent to 10 <sup>-6</sup> kilograms per liter or parts per million, assuming unit density.
<b>Mine drainage</b>	Surface or ground water flowing through or from mines and mine sites. It is usually characterized by concentrations of acidity or alkalinity, various heavy metals, sulfates, and dissolved solids.
<b>Mixing zone</b>	An area of a water body contiguous to a treated or untreated wastewater discharge. This discharge is in transit and progressively diluted from the source concentration to the receiving system concentration. The mixing zone shall be considered a place where wastewater and receiving water mix, not a place where wastes are treated.
<b>Modified Index of well-being (MIwb)</b>	A biological criteria assessment tool that incorporates four measures of fish community that have traditionally been used separately: numbers of individuals, biomass, a Shannon diversity index based on numbers and weights (two separate calculations).
<b>Modified warmwater habitat (MWH)</b>	A beneficial use designation for aquatic life habitat. Waters that have been the subject of a use attainability analysis and have been found to be incapable of supporting and maintaining a balanced, integrated, adaptive community of warmwater organisms due to irretrievable modifications of the physical habitat.
<b>National Pollutant Discharge Elimination System (NPDES) Permit</b>	A permit issued by the state of Ohio for a discharge that is either in compliance with authorized discharge levels of pollutants or that includes a schedule that will bring the point source into compliance with authorized discharge levels of pollutants.
<b>Natural conditions</b>	Those conditions that are measured outside the influence of human activities.
<b>Nonpoint source</b>	Any source of pollutants other than those defined as point sources.
<b>Nutrient enrichment</b>	The excess contribution of materials such as nitrogen and phosphorus used for plant growth.
<b>Ohio River drainage basin</b>	All the streams, rivers, lakes and other bodies of water within the drainage basin of the Ohio River.
<b>Organic enrichment</b>	The addition of carbon based materials from living organisms beyond natural rates and amounts
<b>pH</b>	The negative logarithm of the hydrogen ion activity concentrations when expressed as moles per liter or $pH = -\log (H^+)$ .
<b>Primary contact recreation</b>	A recreation beneficial use designation. Waters that, during the recreation season, are suitable for one or more full body contact recreation activities such as, but not limited to, wading, swimming, boating, water skiing, canoeing, kayaking, and scuba diving. All surface waters of the state are designated as primary contact recreation unless otherwise designated as bathing waters or secondary contact recreation.
<b>Primary Productivity</b>	Synthesis of inorganic carbon into organic forms; this is typically used to discuss algal growth in streams

<b>Point source</b>	Any discernible, confined or discrete conveyance from which a pollutant is or may be discharged to the surface waters of the state.
<b>Pollutant</b>	Sewage, industrial waste or other waste as defined by divisions (B) to (D) of section 6111.01 of the Revised Code.
<b>Public water supply use designation</b>	<p>These are waters that, with conventional treatment, will be suitable for human intake and meet federal regulations for drinking water. Criteria associated with this use designation apply within five hundred yards of surface water intakes. Although not necessarily included in rules 3745-1-08 to 3745-1-30 of the Administrative Code, the bodies of water with one or more of the following characteristics are designated public water supply:</p> <ul style="list-style-type: none"> <li>• All publicly owned lakes and reservoirs, with the exception of Piedmont reservoir.</li> <li>• All privately owned lakes and reservoirs used as a source of public drinking water.</li> <li>• All surface waters within five hundred yards of an existing public water supply surface water intake.</li> <li>• All surface waters used as emergency water supplies.</li> </ul>
<b>Qualitative Habitat Evaluation Index</b>	Methodology for completing a general evaluation of stream physical habitat; an index designed to provide an empirical, quantified evaluation of the general lotic macrohabitat characteristics that are important to fish communities.
<b>Receiving waters</b>	The surface waters of the state into which point and nonpoint sources flow.
<b>Recreation beneficial use designation</b>	In effect only during the recreation season, which is the period from May first to October thirty-first. The director of the Ohio EPA may require effluent disinfection, as a term or condition of a national pollutant discharge elimination system (NPDES) permit, administrative findings and orders or a judicial order, during the months outside the recreation season if necessary to protect an unusually high level of water based recreation activity such as, but not limited to, canoeing, kayaking, scuba diving, or sport fishing during spawning runs and, in the normal pursuit of the recreation activity, there is a strong likelihood of exposure to water borne pathogens through ingestion of water or from dermal exposure through fresh cuts or abrasions.

<p><b>Representative aquatic species</b></p>	<p>Those organisms, either natural or introduced, which presently exist or have existed in the surface waters of the state prior to July 1, 1977, with the exception of those banned species outlined in rule 1501:31-19-01 of the Administrative Code. In addition, it may include any species that are legally introduced into the surface waters of the state. Aquatic species designated as representative shall satisfy one or more of the following:</p> <ul style="list-style-type: none"> <li>• Species that are particularly vulnerable to the existing or proposed environmental impact in question.</li> <li>• Species that are commercially or recreationally valuable.</li> <li>• Species that are threatened, rare, or endangered.</li> <li>• Species that are critical to the structure and function of the aquatic community.</li> <li>• Species whose presence is causally related to the existing or proposed environmental impact under examination.</li> <li>• Species that are potentially capable of becoming localized nuisance species.</li> <li>• Species that are representative of the ecological, behavioral, and physiological requirements and characteristics of species determined in paragraphs (B)(77)(a) to (B)(77)(f) of this rule, but which themselves may not be representative.</li> </ul>
<p><b>Seasonal salmonid habitat (SSH)</b></p>	<p>A beneficial use designation for aquatic life habitat. Rivers, streams and embayments capable of supporting the passage of salmonids from October to May and are water bodies large enough to support recreational fishing. This use will be in effect the months of October to May. Another aquatic life habitat use designation will be enforced the remainder of the year (June to September).</p>
<p><b>Secondary recreation</b></p>	<p>A recreation beneficial use designation. Waters that result in minimal exposure potential to water borne pathogens because the waters are: rarely used for water-based recreation such as, but not limited to, wading; situated in remote, sparsely populated areas; have restricted access points; and have insufficient depth to provide full body immersion, thereby greatly limiting the potential for water-based recreation activities. Waters designated secondary contact recreation are identified in rules 3745-1-08 to 3745-1-30 of the Administrative Code.</p>
<p><b>Small drainageway maintenance</b></p>	<p>A causative factor for the limited resource water beneficial use designation for aquatic life habitat. These are highly modified surface water drainageways (usually less than three square miles in drainage area) that do not possess the stream morphology and habitat characteristics necessary to support any other aquatic life habitat use. The potential for habitat improvements must be precluded due to regular stream channel maintenance required for drainage purposes.</p>
<p><b>Surface waters of the state or water bodies</b></p>	<p>All streams, lakes, reservoirs, ponds, marshes, wetlands or other waterways which are situated wholly or partially within the boundaries of the state, except those private waters which do not combine or effect a junction with natural surface or underground waters. Waters defined as sewerage system, treatment works or disposal system in section 6111.01 of the Revised Code are not included.</p>

<b>Threatened or endangered species</b>	Those species of the state's biota which are threatened with statewide extirpation or national extinction, as listed in rule 1501:31-23-01 of the Administrative Code or 50 C.F.R. 17 or that are listed as endangered or threatened under section 4 of the Endangered Species Act.
<b>Threshold effect</b>	An effect of a substance for which there is a theoretical or empirically established dose or concentration below which the effect does not occur.
<b>Toxic substances</b>	Any substances which can cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological or reproductive malfunction or physical deformities in any organism or its offspring, or which can become poisonous after concentration in the food chain or in combination with other substances.
<b>Tributary</b>	A stream flowing into a larger body of water.
<b>Uptake</b>	Acquisition of a substance from the environment by an organism as a result of any active or passive process.
<b>Use attainability analysis</b>	A structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors.
<b>Warmwater habitat (WWH)</b>	A beneficial use designation for aquatic life habitat. These waters capable of supporting and maintaining a balanced, integrated, adaptive community of warmwater aquatic organisms having a species composition, diversity, and functional organization comparable to the twenty-fifth percentile of the identified reference sites within each of Ohio's ecoregions.
<b>Warmwater fish</b>	Those species of fish that inhabit relatively warm water. These species include, but are not limited to, bass; crappies and sunfish (Centrarchidae), and catfish (Ictaluridae), and may include certain suckers (Catostomidae), minnows (Cyprinidae), and perch and darter (Percidae) species.
<b>Water bodies or waters of the state</b>	All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, that are situated wholly or partly within, or border upon, this state, or are within its jurisdiction, except those private waters that do not combine or effect a junction with natural surface or underground waters.
<b>Water quality sondes</b>	Made for collecting and transmitting multi-parameter water quality data. Sondes are used for gathering instantaneous data and can also be deployed over a long period of time.
<b>Water quality standards</b>	The rules set forth in Ohio Administrative Code 3745-1 establishing stream use designations and water quality criteria protective of such uses for the surface waters of the state.
<b>Watershed</b>	A common surface drainage area corresponding to one from the list of thirty-seven adapted from the forty-four cataloging units as depicted on the hydrologic unit map of Ohio, U.S. geological survey, 1988.

<b>Watershed assessment unit (WAU)</b>	A geographic description of a watersheds that align with the 12-digit hydrologic unit code (HUC) system.
<b>Wetlands</b>	Those areas that are inundated or saturated by surface or ground water at a frequency and duration that are sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. "Wetlands" includes swamps, marshes, bogs, and similar areas that are delineated in accordance with the 1987 United States Army Corps of Engineers wetland delineation manual and any other procedures and requirements adopted by the United States Army Corps of Engineers for delineating wetlands