

Appendix 2-1

Summary of Ohio's Beneficial Use Designations

Summary of Ohio's Numerical Water Quality Criteria

Summary of Ohio's Antidegradation Waterbody Classification System

Summary of Ohio's Beneficial Use Designations (OAC 3745-1-07) - April 2004

Beneficial Use Designation	Key Attributes, or why a water would be designated the beneficial use	Practical Impacts (comparisons to Warmwater Habitat baseline)
<i>Designations for the protection of aquatic life</i>		
Coldwater Habitat 91 waterbodies	native cold water or cool water species; put-and-take trout stocking	more stringent ammonia, cyanide, dissolved oxygen, phenol, pH, silver, and temperature criteria; may result in additional wastewater treatment requirements
Exceptional Warmwater Habitat 386 waterbodies	unique and diverse assemblage of fish and invertebrates	more stringent temperature, dissolved oxygen, and ammonia criteria; may result in additional wastewater treatment requirements
Seasonal Salmonid Habitat 19 waterbodies	supports lake run steelhead trout fisheries	more stringent ammonia, cyanide, dissolved oxygen, phenol, pH, silver, and temperature; slightly more restrictive chlorine disinfection practices
Warmwater Habitat 2,930 waterbodies	typical assemblages of fish and invertebrates, similar to least impacted reference conditions	baseline regulatory requirements in line with Clean Water Act "fishable goal" expectations
Limited Warmwater Habitat 72 waterbodies	temporary designations based on 1978 WQS and not subjected to use attainability analysis; being phased out	exempt from TDS criteria and may also be exempt from pH, iron and zinc criteria as well
Modified Warmwater Habitat 143 waterbodies	tolerant assemblages of fish and macro-invertebrates, but otherwise similar to WWH; irretrievable condition precludes complete recovery to reference condition	less restrictive requirements for dissolved oxygen and ammonia; may result in less restrictive wastewater treatment requirements
Limited Resource Waters 163 waterbodies	fish and macroinvertebrates severely limited by physical habitat or other irretrievable condition	less restrictive aquatic life criteria for majority of pollutants; may result in less restrictive wastewater treatment requirements
<i>Designations for the protection of recreational activities</i>		
Bathing Waters	bathing beach with lifeguards/bath house; greatest potential exposure to bacteria	lowest risk of swimmer's illness after exposure; greater disinfection of wastewater
Primary Contact Recreation	water depth allows full body immersion; high proximity to residential areas; intermediate potential exposure to bacteria	intermediate risk of swimmer's illness after exposure; baseline level of disinfection
Secondary Contact Recreation	water depth precludes full body immersion; low proximity to residential areas; lowest potential exposure to bacteria	greatest risk of swimmer's illness after exposure; slightly less disinfection of wastewater
<i>Designations for the protection of water supplies</i>		
Public Water Supply	all waters within 500 yards of all public water supply surface water intakes, all publicly owned lakes and reservoirs, all privately owned lakes and reservoirs used as a drinking water source, all emergency water supplies	maintain or improve potable water supplies, reduce water treatment costs; upstream dischargers may face more stringent limits in order to meet PWS criteria at point of water withdrawal
Agricultural Water Supply	water used, or potentially used, for livestock watering and/or irrigation	limited impact; as a practical matter other standards are generally protective of this use, except for a limited number of heavy metals in unique situations
Industrial Water Supply	water used for industrial purposes	no impact; no criteria contained in rule; criteria may be established on case specific basis but as a practical matter this has never been needed because other standards are protective of this use.

Summary of Ohio's Numerical Water Quality Criteria - April 2004

Types of criteria		What they mean	
Aquatic life (3745-1-07)	Chemical	IMZM	Inside mixing zone maximum - protective of aquatic life for very short-term exposure
		OMZM	Outside mixing zone maximum - protective of aquatic life for short-term exposure
		OMZA	Outside mixing zone average - protective of aquatic life for long-term exposure
	Biological	IBI	Index of biotic integrity (fish) - measure of fish community health
		MIwb	Modified index of well-being (fish) - measure of fish community health
		ICI	Invertebrate community index (macroinvertebrates) - measure of macroinvertebrate community health
Wildlife (3745-1-33 LEB) (3745-1-34 ORB)	OMZA	Outside mixing zone average - protective of terrestrial wildlife against adverse long-term exposure to chemicals	
Aesthetics (3745-1-07)	IMZM	Inside mixing zone maximum (phosphorus only) - protection against nuisance growths of algae, weeds and slimes	
	OMZM	Outside mixing zone maximum (MBAS and Oil & grease only) - protection against nuisance visual conditions	
	Drinking OMZA	Outside mixing zone average (2-chlorophenol, 2,4-dichlorophenol, phenol and phosphorus only) - protective of people against nuisance taste and odor	
Human health (3745-1-33 LEB) (3745-1-34 ORB)	Nondrinking OMZA	Outside mixing zone average - protective of people against adverse exposure to chemicals via eating fish	
	Drinking OMZA	Outside mixing zone average - protective of people against adverse exposure to chemicals via drinking water and eating fish	
Agricultural (3745-1-07)	OMZA	Outside mixing zone average - protective of livestock watering and crop irrigation	
Recreation (3745-1-07)	OMZM	Outside mixing zone maximum - protective of people against exposure to fecal material	
	OMZA	Outside mixing zone average - protective of people against exposure to fecal material	

Summary of Ohio's Antidegradation Waterbody Classification System (OAC 3745-1-05) - April 2004

Category	Key Attributes, or why a water would be designated in the category	Practical Impacts bold = stream segments/miles classified in rule
Outstanding National Resources Waters (Tier 3)	water has unique attributes and has national significance; may not be adequately protected by beneficial use classification system	very restrictive, no lowering of water quality permitted (exceptions allowed for short term disturbances) Zero miles
Outstanding State Waters (exceptional <u>ecological</u> value) (Tier 2+)	water is among the <u>very best within Ohio</u> ; supports very diverse aquatic life and endangered or threatened species	70 % <u>set aside</u> implemented to preserve water quality near existing condition; more stringent pollution controls for new sources; social/economic justification (SEJ) needed to lower water quality 36 stream segments, 1,113 miles
Outstanding State Waters (exceptional <u>recreational</u> value) (Tier 2+)	water body supports <u>highly valued or unique recreational usage</u>	set asides are not in effect; all activities covered by the rule must comply with special provisions to ensure there is no increase in bacteriological pollution and to minimize floating debris and other aesthetic problems [OAC 3745-1-05(C)(6)(e)] 2 stream segments, 119 Miles
Superior High Quality Waters (Tier 2+)	supports diverse aquatic life and endangered or threatened species	35 % <u>set aside</u> implemented to preserve water quality above the minimum standards required under beneficial use; more stringent pollution controls for new sources; SEJ needed to lower water quality 121 stream segments, 1,320 miles
State Resource Waters - General High Quality Waters (Tier 2)	diversity of aquatic life unknown or typical of a warmwater community; water body listed in 1978 (or later) as SRW based on adjacent park or preserve	must meet applicable standards, requires an SEJ and determination of need before water quality is lowered; special attention to review criteria in OAC 3745-1-05(C)(5)(d) is provided; 487 stream segments from prior rule making designations
General High Quality Waters (Tier 2)	supports typical aquatic life community	must meet applicable standards, requires an SEJ and determination of need before water quality is lowered 57,970 miles
Limited Quality Waters	waters with use attainability analysis completed with beneficial use designation assigned as Limited Resource Water, Limited Warmwater or Modified Warmwater Habitat; category one wetlands	must meet applicable standards, but no SEJ review needed to lower water quality