

# Development of Wetland Water Quality Standards

Oklahoma Water Resources Board

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# Recap from Last Meeting

- August 28<sup>th</sup> Meeting
  - Development of wetland WQS called for in statewide Wetland Program Plan
  - Overview of WQS
  - Wetland WQS Development Process
    - Step 1 – Technical work by Wetlands Technical Group
    - Step 2 – Program & policy considerations by all stakeholders



## Last Meeting

- Introduced wetland definition
- Technical group recommends using federal definition

## Draft Materials

- Definition
- Beneficial Uses
- Criteria
- Additions to the Anti-degradation Policy
- Implementation

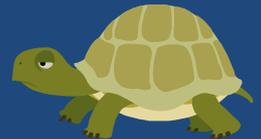
## Today

## Next Meeting

(early October)

# Beneficial Uses

- Beneficial Uses characterize the resource, services, or qualities of a waterbody and expresses the *ultimate goals for protecting and achieving water quality*.



# Beneficial Use

## Currently in the Standards

- ❖ Aesthetics
- ❖ Recreation

## Potential Additions to the Standards

- ❖ Wetland Habitat & Biota
- ❖ Water Quality Enhancement
- ❖ Flood Protection & Erosion Control

# Beneficial Uses

## □ Wetland Habitat & Biota

includes uses where the water quality, hydrology, and habitat are capable of supporting a wetland-dependent flora and fauna community. Wetland-dependent species may permanently or periodically live in a wetland or utilize a wetland during their life cycle. Species present may shift in accordance with season, hydroperiod, or other abiotic conditions. Typical wetland-dependent species may include, but are not limited to, hydrophytic plants, fish, crustaceans, benthic invertebrates, amphibians, waterfowl, migratory birds, and reptiles.

# Beneficial Uses

## □ Water Quality Enhancement

is the use which addresses the ability of wetlands to assimilate and or transform pollutants thereby improving water quality in or downstream of the wetland waterbody. The intent of this beneficial use is to recognize the natural capacity of wetlands to remove pollutants. This use does not support natural wetlands being used for the purpose of removing pollutants from a wastewater discharge or knowingly exceeding the assimilative capacity of a natural wetland.

# Beneficial Uses

## □ Flood Protection & Erosion Control

is the use which addresses the ability of wetlands to collect and temporarily store floodwaters and attenuate peak flow. This results in reduced flooding and minimizes flood damage protecting adjacent and downstream areas. For wetlands along the banks of lakes and rivers, plants and roots serve to stabilize the bank, absorb wave energy, and slow currents thereby reducing erosion and protecting property. Given wetland types may also increase infiltration and groundwater recharge.

# Beneficial Uses

## □ Recreation

Wetlands contiguous with lakes or streams with the beneficial use designation *Primary Body Contact Recreation* are also designated *Primary Body Contact Recreation*.

Wetlands contiguous with lakes or streams with the beneficial use designation *Secondary Contact Recreation* are also designated *Secondary Body Contact Recreation*.

Wetlands not contiguous with lakes or streams with the beneficial use designation *Primary Body Contact Recreation* are designated *Secondary Body Contact Recreation*.

### *Primary Body Contact Recreation*

Direct body contact with the water where a possibility of ingestion exists.

### *Secondary Body Contact Recreation*

Ingestion of water is not anticipated. Associated activities may include boating, fishing, or wading.

# Beneficial Uses

- Aesthetics

To be aesthetically enjoyable, the surface waters of the state must be free from floating materials and suspended substances that produce objectionable color and turbidity.

The water must also be free from noxious odors and tastes, from materials that settle to form objectionable deposits, and discharges that produce undesirable effects or are a nuisance to aquatic life.

# Questions & Discussion



Sea Lavender (*Limonium vulgare*)

# Criteria

- Numeric
  - ▣ Specific values
- Narrative - qualitative description of water quality
  - ▣ Statement prohibiting action or condition – *free from*
  - ▣ Positive statement about expected condition – *natural status*
  - ▣ Can address physical and biological aspects of water quality
  - ▣ Need to be interpreted or translated

# Criteria

## Currently in the Standards

- ❖ Floating & submerged debris
- ❖ Temperature
- ❖ Toxicity
- ❖ Toxics
- ❖ Sediment
- ❖ Bacteria
- ❖ Aesthetics

## Potential Additions to the Standards

- ❖ Ecological integrity
- ❖ Hydrologic integrity
- ❖ Narrative DO and pH

# Criteria – Ecological Integrity

- The ecological integrity of wetland habitat and biota shall be protected and shall not be altered by human activities beyond what is comparable to that typically present in wetlands of similar type and that also characterizes best attainable ecological condition.

# Criteria – Hydrologic Integrity

- The hydrology of wetlands, including the extent, duration, and frequency of saturated or ponded conditions shall not be altered by human activities beyond what is comparable to that typically present in wetlands of similar type and that also characterized best attainable hydrologic condition.

# Criteria – Narrative DO pH

- There are many factors that cause natural variation in wetland dissolved oxygen concentrations and pH; however, the dissolved oxygen concentration and pH shall be sufficient to support the Wetland Habitat and Biota beneficial use.

# Criteria – Debris & Temp.

- Floating or submerged debris, oil, deleterious substances, or any other material not naturally found in a wetland shall not be present in amounts which may cause adverse impacts on wetland beneficial uses.
- The daily and seasonal temperature variations that were present before the addition of heat from other than natural sources shall be maintained.

# Criteria - Toxicity

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- Wetlands shall not exhibit acute or chronic toxicity.

# Criteria - Toxics

- Concentrations of substances which are toxic or harmful to human, animal, or plant life shall not be present in amounts which individually or synergistically cause adverse impacts on any wetland beneficial use. Toxic substances shall not be present at levels that will bioaccumulate in wetland-dependent species to levels which are harmful to wetland-dependent species or human health.
  - Numerical criteria for toxic substances are in Appendix G, Table 2, Columns Acute, Chronic, and Fish Consumption (plus Other Organisms) and Table 3.
  - For toxicants not presented in Appendix G, Table 2, Columns, Acute, Chronic, and Fish Consumption (plus Other Organisms) and Table 3 other scientifically-defensible methods, the latest scientific information, and applicable state and federal policies may be relied upon to determine toxic thresholds.

# Criteria – Sediment & Bacteria

- Concentrations or loads of suspended or bedded sediments that are caused by human activity shall not impair any wetland beneficial use.
- Primary Body Contact Recreation Criteria  
Criteria are prescribed in 785:45-5-16
- Secondary Body Contact Recreation Criteria  
Criteria are prescribed in 785:45-5-17

# Criteria - Aesthetics

- (a) To be aesthetically enjoyable, the surface waters of the state must be free from floating materials and suspended substances that produce objectionable color and turbidity.
  - 1. Naturally occurring turbidity in wetlands is not considered objectionable.
  
- (b) The water must also be free from noxious odors and tastes, from materials that settle to form objectionable deposits, and discharges that produce undesirable effects or are a nuisance to aquatic life.
  - 1. Odors associated with naturally occurring conditions in wetlands are not considered noxious odors.

# Questions & Discussion



# Next Steps

- Next Meeting
  - Early October 1<sup>st</sup> 2<sup>nd</sup> or 3<sup>rd</sup>
  - Topic: Anti-deg & Implementation
- September technical group meeting
- Standards revision informal meetings
  - October 8th & 28th

# Contact Information

Wetland Frogs



Photo by OWRB staff Caitlin Miller

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