

The Kansas Wetland Survey

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History

- U Historic Lack Of General Wetland Quality Data**
- U Project Based On WRAP Project Of Early 1990s**
- U To Provide Basic Data For Future Needs**
 - T Reference Condition Determination**
 - T Basis For Wetland Water Quality Criteria Development**
 - T Comparative Levels Of Attainment Of Ecological Functions**

Wetlands Surveyed

- U 32 Publicly Managed And/Or Owned Wetland Areas Identified From WRAP Project**
- U 17 Possessed Sufficient Water For August-September Sample Collections**

Functional Assessments

- U Based On WET Methodology (Adamus, et al. 1991)**
- U Adapted For “Rapid” Use Via Selection Of A Portion Of Assessment Parameters**
- U 9 Functional Categories, 2 Use Categories Selected**

Functional And Use Categories

- U **Groundwater Recharge**
- U **Groundwater Discharge**
- U **Flood Flow Alteration**
- U **Sediment Stabilization**
- U **Sediment/Toxicant Retention**
- U **Nutrient Retention/Transformation**

Functional And Use Categories

- U **Production Export**
- U **Aquatic Diversity/Abundance**
- U **Wildlife Diversity/Abundance**
- U **Recreational Use**
- U **Aesthetics/Heritage/Cultural Use**

Trophic State Assessment

Median/Mean Values

Blue-Green Dominated Wetlands

Chlorophyll-a:	120 ppb/197 ppb
Total Phosphorus:	415 ppb/501 ppb
Total Nitrogen:	3,997 ppb/4,001 ppb
Total Carbon:	49,775 ppb/62,486 ppb

Trophic State Assessment

Median/Mean Values

Non Blue-Green Dominated Wetlands

Chlorophyll-a:	15 ppb/25 ppb
Total Phosphorus:	150 ppb/213 ppb
Total Nitrogen:	1,450 ppb/1,665 ppb
Total Carbon:	23,075 ppb/30,153 ppb

Reference Trophic State

Median Trisection Values Based On Lack Of “Least/No Impact” Wetland Sites

Chlorophyll-a:	12 ppb
Total Phosphorus:	80 ppb
Total Nitrogen:	865 ppb
Water Clarity:	Relatively High
Macrophytes:	Abundant Submersed and Emerersed Species

Causes Of Use Impairment

Aquatic Life Support Use

High Trophic State/Nutrient Enrichment:	23%
Elevated ph, Low D.O., Diel Swings:	37%
Heavy Metals: (Cu, Zn, Pb, Hg)	16%
Salinity Related:	8%
High Turbidity:	9%
Pesticides:	1%
Ammonia Toxicity/Temperature:	6%

Functional Assessments

Percent Of Wetlands Accruing >50% Of Possible Score

Groundwater Recharge:	19%
Groundwater Discharge:	22%
Floodflow Alteration:	31%
Sediment Stabilization:	28%
Sediment/Toxicant Retention:	88%
Nutrient Retention/Transformation:	88%

Functional Assessments

Percent Of Wetlands Accruing >50% Of Possible Score

Production Export:	66%
Aquatic Diversity/Abundance	69%
Wildlife Diversity/Abundance	81%
Recreational Use	47%
Aesthetic/Heritage/Cultural Use	41%

Conclusions

May be the first general water quality survey for wetlands in Kansas.

Utility for describing reference condition and in future wetland water quality criteria development.

First comparative examination of wetland functional attainment and potentials.