How SWQM/CRP Data is Used in Water Program Permitting

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Thank You!

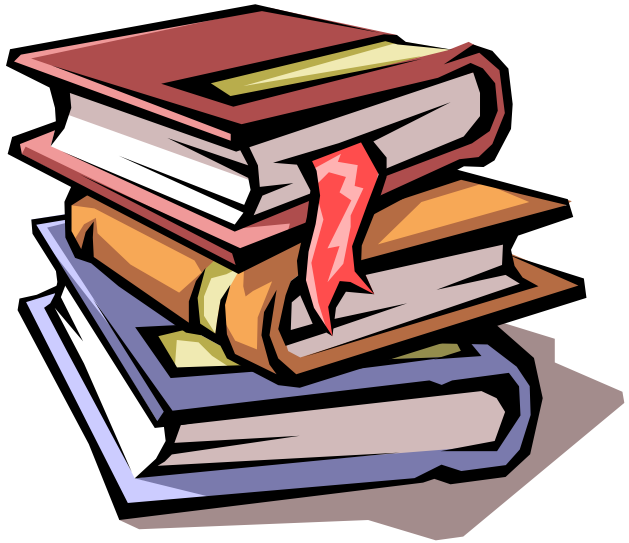
* For collecting and processing water quality and quantity data
* For ensuring that such data are of high quality
* For enabling the TCEQ to write better permits based on actual environmental conditions
* For enabling the TCEQ to make better rules

TCEQ Water Permitting Programs

* Wastewater permits – Water Quality Division
* Water rights permits – Water Availability Division

Wastewater Permits

* Permit applications go through multiple technical reviews:
  * Standards
  * Critical Conditions
  * Dissolved Oxygen (DO) Modeling
  * Permit Writer's Technical Review



Standards Review

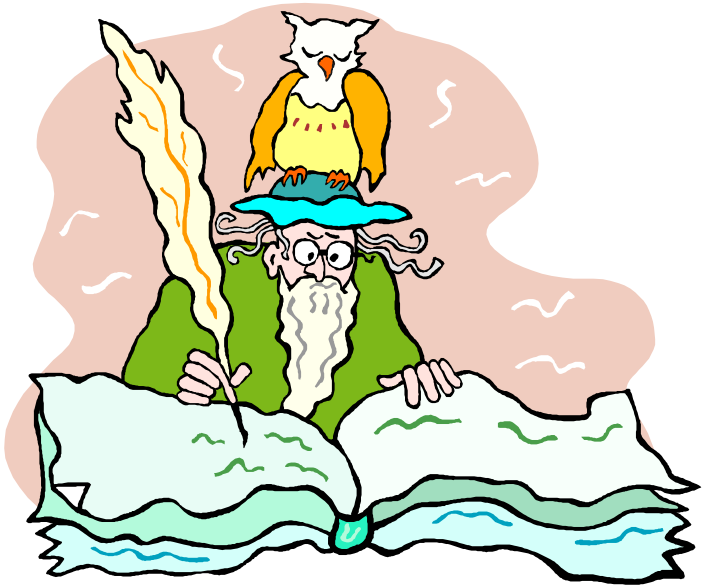
* States the uses and criteria of the receiving water body
* Antidegradation requirements
* Nutrient screening
  * Chlorophyll *a*
  * Total phosphorous
  * Secchi depth

Critical Conditions

* Provides critical flow and mixing conditions
* Provides targeted flow measurement locations
* Assigns TEXTOX menu information

Modeling

* Dissolved oxygen
  * Temperature
  * Chlorophyll *a*
  * Salinity (conductivity, TDS)
* Diffusers



Permit Writer

Ambient Data

Table D-12 Segment-Specific Values for Basin 12, Brazos River

Segment Number	TSS (mg/L)	pH (s.u.)	Total Hardness (mg/L as $CaCO_3$)	TDS (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
1201	10	7.7	232 (c)	5150	3220	412
1202	36	7.6	160	438	88	60
1203	3.0	7.9	230 (d)	888	371	180
1204	4.3	7.8	230 (d)	1294	485	234
1205	4.0	7.9	230 (d)	1418	893	311
1206	7.0	7.8	230 (d)	1724	692	348
1207	2.0	8.1	230 (d)	1870	893	371

TEXTOX Menu Numbers

Menu #	Immediate Receiving Water	Water Body Within 3 Miles
1	Intermittent water body	———
2	Intermittent water body	Perennial ditch, stream, or river
3	Perennial ditch, stream, or river	———
4	Lake or lake-like water body	———
5	Wide tidal water body or narrow tidal with no upstream flow data	———
6	Narrow tidal water body with upstream flow data	———
7	Intermittent stream w/perennial pools	———
8	Intermittent water body	Lake or lake-like water body
9	Intermittent water body	Narrow tidal water body w/ upstream flow
10	Intermittent water body	Wide tidal water body or narrow tidal with no upstream flow data

Water Quality Screening

DISCHARGE INFORMATION	
Receiving Waterbody:	
Segment No.:	
TSS (mg/L):	
pH (Standard Units):	
Hardness (mg/L as $CaCO_3$):	
Chloride (mg/L):	
Effluent Flow for Aquatic Life (MGD):	
Critical Low Flow [7Q2] (cfs):	
% Effluent for Chronic Aquatic Life (Mixing Zone):	#DIV/0!
% Effluent for Acute Aquatic Life (ZID):	#DIV/0!
Effluent Flow for Human Health (MGD):	
Harmonic Mean Flow (cfs):	
% Effluent for Human Health:	#DIV/0!
Public Water Supply Use?	**yes or no**

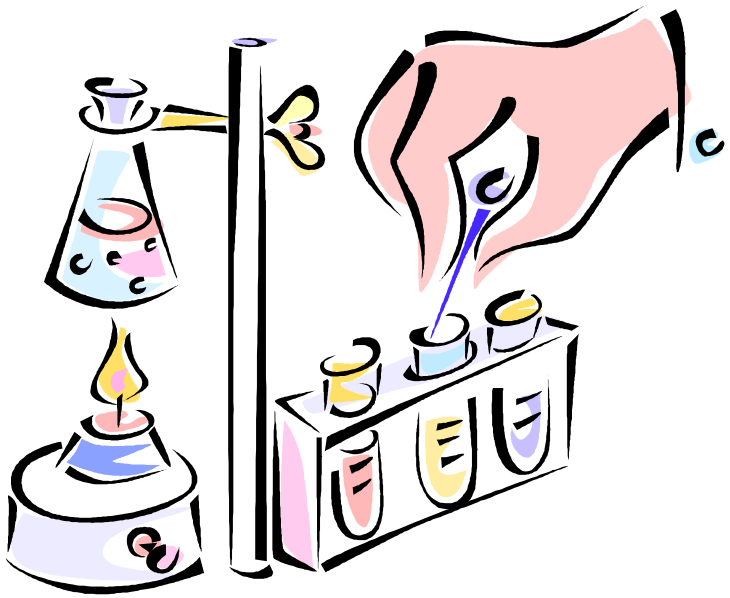
Total Suspended Solids

* TSS is used to determine how metals partition between the dissolved (bioavailable) and total forms for:

  * Arsenic
  * Cadmium
  * Chromium
  * Copper
  * Lead
  * Mercury
  * Nickel
  * Silver
  * Zinc

Hardness

* Freshwater aquatic life criteria for the following metals depend on the hardness of the receiving water:
  * Cadmium
  * Trivalent Chromium
  * Copper
  * Lead
  * Nickel
  * Zinc



pH

* pH is part of freshwater aquatic life criteria for pentachlorophenol
* Ensure that permit limits for pH will maintain pH standards in receiving water

TDS, Chloride, and Sulfate

* Determine whether permit limits are needed to ensure criteria for TDS, chloride, and sulfate are met in the receiving water
* Determine whether monitoring is appropriate

Water Rights Permits and Programs

* Water quality data is or has been used in the following water rights programs:
  * Environmental reviews of water right applications
  * Environmental Flows rulemaking (SB3) – effects of proposed stream flow standards on water quality
  * Instream Flows program (SB2) – studies and analyses to determine flow conditions in rivers and streams necessary to support a sound ecological environment

Questions?

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