

# Water Quality Standards

Lone Star Healthy Streams  
Steering Committee Meeting

*October 27, 2008*

# Existing vs Proposed Standards

Uses	Criteria and Estimated Risk*					
	<i>E. coli</i> (FW)		Enterococci (SW)		Fecal coli (FW& SW)	
	G. mean	Risk	G. mean	Risk	G. mean	Risk
<b>Existing Standards:</b>						
Contact recreation	126	8	35	19	200	--
Noncontact rec.	605	~14	168	~27	2000	--
<b>Proposed Standards:</b>						
Primary CR 1	126	8	35	19	--	--
Primary CR 2	206	10	--	--	--	--
Secondary CR	630	14-15	175	27-28	--	--
Noncontact Rec.	1260	17-18	350	31-32	--	--

\* G. mean = Geometric mean of bacteria per 100 ml

Risk = Risk of illness (gastroenteritis) per 1000 swimmers (from EPA 1986 guidance criteria)

TCEQ estimates this will remove 52 waterbodies from the 2006 303(d) list.



# Proposed expansion of freshwater (FW) use categories

E. coli (FW)	TCEQ Proposed Standards		TSSWCB Comments		TFB Comments		TDA Comments	
	G. mean	Risk	G. mean	Risk	G. mean	Risk	G. mean	Risk
Primary CR 1	126	8	126	8	126	8	126	8
Primary CR 2	206	10	206	10	206	10	206	10
Primary CR 3	---	---	---	---	306	10	412	2 x PCR2
Secondary CR	630	14-15	412	2 x PCR2	1030	10	1030	5 x PCR2
Tertiary CR	---	---	1030	5 x PCR2	---	---		
Noncontact Rec.	1260	17-18	2060	10 x PCR2	1260	17-18	2060	10 x PCR2


# Proposed expansion of saltwater (SW) use categories

Enterococci (SW)	TCEQ Proposed Standards		TSSWCB Comments	
	G. mean	Risk	G. mean	Risk
Primary CR 1	35	19	35	19
Primary CR 2	---	---	52.5	1.5 x PCR1
Secondary CR	175	27-28	70	2 x PCR1
Noncontact Rec.	350	31-32	350	10 x PCR1





# General comments on proposed definitions

- Site specific use classification should be designated on front-end
    - i.e. conduct UAA prior to 303(d) listing or TMDL development
  - Classification commensurate with actual verifiable use characteristics
    - i.e. incorporate frequency of use in determination of standard
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# Primary Contact Recreation 1

- TCEQ definition: Classified segments & unclassified reservoirs, tidal rivers, bays and unclassified freshwater streams & rivers located in national and state parks
- Define primary contact recreation as only swimming, diving, surfing, etc. where full immersion
- Primary contact recreation should not apply to all classified segments
  - Only apply to classified segments where documented high level of recreational use involving significant risk of ingestion
  - Assess level of use (i.e. UAA) prior to designation as PCR1
- Should include designated coastal public bathing beaches monitored by GLO TX Beach Watch Program



# Primary Contact Recreation 2

- TCEQ definition: Unclassified perennial streams or pools
- Commenters say it should apply to segments:
  - with perennial flow or pools located in or adjacent to national/state parks
  - in which recreational activities are not as intense as PCR1 & occur in perennial streams
  - on coast with public bathing beaches not monitored through GLO TX Beach Watch



# Definition of perennial pool

- Better definition needed
- Recommended to not include man-made pools





# Suggested Primary Contact Recreation 3 definition

- Commenters say it should apply to segments:
  - where recreational activities occasionally occur and/or with restricted access
  - with intermittent flow w/ or w/o perennial pools
  - with intermittent flow and no perennial pools  
AND nontidal wetlands



# Secondary Contact Recreation

- TCEQ definition: Unclassified intermittent streams and nontidal wetlands
- Commenters say it should apply to segments:
  - with perennial flow or pools not located in or adjacent to national/state parks
  - where recreational activities rarely occur
  - with intermittent streams and perennial pools that aren't accessible
  - on coast w/o designated public bathing beaches



# Suggested Tertiary Contact Recreation definition

- Should apply to freshwater segments:
  - with intermittent flow (w/o perennial pools) and nontidal wetlands
- Not applicable to coastal waters



# Comments on NCR definition

- TCEQ definition: Segments now designated noncontact
- Should be reserved for site-specific designations
- Should include “unclassified intermittent streams w/o perennial pools”
- Examples of NCR activities are needed
- Clarifying NCR is appropriate for either:
  - Activities not involving significant risk of water ingestion
  - Where PCR & SCR are unsafe

# Comments on proposed use of Enterococci for saline freshwater (FW)

Enterococci (FW)	TCEQ Proposed Standards		TSSWCB Comments	
Categories	G. mean	Risk	G. mean	Risk
Primary CR 1	33	8	33	8
Primary CR 2	54	10	54	10
Secondary CR	165	14-15	108	2 x PCR2
Tertiary CR	---	---	270	5 x PCR2
Noncontact Rec.	330	17-18	540	10 x PCR2



# Proposed standards for wildlife limited areas

- Where sanitary surveys, BST or similar studies demonstrate that bacteria is unavoidably high due to wildlife (and limited recreational potential), site-specific uses (i.e. secondary contact recreation) may be designated
- Proposed change supported (w/ edits)
- Reclassify segments where wildlife is major contributor (>50%)



# Proposed removal of low flow exemption

- Remove low-flow exemptions for recreational criteria (geometric mean) for all perennial streams that should be applicable during all but negligible flow conditions (e.g.,  $<0.1$  CFS in perennial streams)
- Proposed change supported (w/ edits)



# Comments on low flow exemption

- Suggested text:
  - “the geometric mean standard will not be applied to intermittent streams when the pool that is routinely sampled is covering less than 20% of the normal, historical pooled area”
  - “low flow exclusion for perennial streams  $<0.1$  cfs and intermittent streams with perennial pools covering  $<50\%$ ”





# Proposed use of geometric mean & single sample maximum

- For bacteria, base standards attainment on geometric mean criteria.
- Use single-sample maximum criteria for swimmer safety notification and evaluating maximum limits in wastewater permits.
- Estimated to remove 17 from 303(d) List
- Proposed change supported



# Proposed transition from fecal coliform

- Leave fecal coliform as an alternative indicator in effluent limits for wastewater discharges for 1 yr after TSWQS adoption
- Support complete transition from FC to EC & Enterococci



# Other Recommendations

- Number of samples
  - Do not support 10 sample threshold
  - Minimum dataset for assessment = 60-84
- High flow exclusion
  - Consider high flows as outliers & unrepresentative of typical flows assoc. w/ designated use / contact recreation
  - Do not apply standards to flows above the 90<sup>th</sup> percentile



# Status of Water Quality Standards Revisions

- TCEQ has produced a staff mark-up
- Mark-up still under management review
- As soon as staff get clearance, TCEQ anticipates posting changes and scheduling a workgroup meeting
- Post changes = tentatively Nov.-Dec.
- Workgroup meeting = tentative Dec.-Jan.





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