

Recreational Uses & Criteria: Options under Evaluation for TCEQ WQS Revisions
Water Quality Standards Workgroup May 16, 2007
TCEQ Staff Draft

Broader range of recreational uses

- Option 1: No changes to 2000 TSWQS recreational uses & criteria.

- Option 2: Separate contact recreation use into two subcategories (primary and secondary) and keep noncontact recreation use.
 - a) Primary contact recreation: significant risk of ingestion of water; examples include wading by children, swimming, water skiing, diving, and surfing.

 - b) Secondary contact recreation: incidental contact; probability of ingesting appreciable quantities of water is minimal; examples include fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity. May be assigned only where a use attainability analysis has been conducted consistent with 40 CFR 131.10 that further demonstrates there is no reasonable potential for primary contact recreation uses to occur.

 - c) Noncontact recreation (NCR): incidental contact; probability of ingesting appreciable quantities of water is minimal; any type of contact recreation considered unsafe for reasons unrelated to water quality; recreation prohibited for safety reasons (i.e. ship channel, etc.); examples include fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity. Applies to NCR segments designated in Appendix A; no new NCR designations for Appendix A are recommended at this time.

- Option 3 (for freshwater): Have two types of primary contact recreation waters (Recreation Class 1A and Recreation Class 1B), secondary contact recreation, and noncontact recreation.
 - a) Primary contact recreation
 - i. Recreation Class 1A (Existing PCR Use)
 - 1. Default use category
 - 2. Primary contact recreation uses have been documented or are presumed to be present.
 - ii. Recreation Class 1B (Potential PCR Use)
 - 1. Intended to protect waters with the potential to support primary contact recreation uses and may be assigned only if a reasonable level of inquiry has failed to identify any existing primary contact recreation uses of the waterbody.
 - b) Secondary contact recreation (same as Option 2)
 - c) Noncontact recreation (same as Option 2)

- Additional options: Developed in coordination with workgroup.

Freshwater risk levels for the options listed above

- Option 1 Risk Levels

- 1) No change in risk levels used in 2000 TSWQS
 - a. Contact recreation: 8 illnesses per 1000 swimmers (Geometric mean: 126 per 100 ml)
 - b. Noncontact recreation: 14-15 illnesses per 1000 swimmers (Geometric mean: 605 per 100 ml)

- Option 2 Risk Levels

- 1) Primary contact recreation
 - a. 8 illnesses per 1000 swimmers (Geometric mean: 126 per 100 ml)
- 2) Secondary contact recreation
 - a. Five times the primary contact recreation geometric mean (630 per 100 ml). This is a risk level between 14-15 illnesses per 1000 swimmers.
- 3) Noncontact recreation
 - a. Five times the primary contact recreation geometric mean (630 per 100 ml). This is a risk level between 14-15 illnesses per 1000 swimmers.

- Option 3 Risk Levels

- 1) Primary contact recreation
 - a. Recreation Class 1A: 8 illnesses per 1000 swimmers (Geometric mean: 126 per 100 ml)
 - b. Recreation Class 1B: 10 illnesses per 1000 swimmers (Geometric mean: 206 per 100 ml)
- 2) Secondary contact recreation
 - a. Five times the primary contact recreation geometric mean (630 per 100 ml). This is a risk level between 14-15 illnesses per 1000 swimmers.
- 3) Noncontact recreation
 - a. Five times the primary contact recreation geometric mean (630 per 100 ml). This is a risk level between 14-15 illnesses per 1000 swimmers.

- Additional options: Developed in coordination with workgroup.

Saltwater risk levels for the options listed above

- Option 1 Risk Levels

- 1) No change in risk levels used in 2000 TSWQS
 - a. Contact recreation: 1.9 illnesses per 1000 swimmers (Geometric mean: 35 per 100 ml)
 - b. Noncontact recreation: 27-28 illnesses per 1000 swimmers (Geometric mean: 168 per 100 ml)

- Option 2 Risk Levels

- 1) Primary contact recreation
 - a. 1.9 illnesses per 1000 swimmers (Geometric mean: 35 per 100 ml)
- 2) Secondary contact recreation
 - c. Five times the primary contact recreation geometric mean (175 per 100 ml). This is a risk level between 27-28 illnesses per 1000 swimmers.
- 3) Noncontact recreation
 - d. Five times the primary contact recreation geometric mean (175 per 100 ml). This is a risk level between 27-28 illnesses per 1000 swimmers.

- Additional options: Developed in coordination with workgroup.

Non-human sources of bacteria

- Currently, TCEQ utilizes Bacterial Source Tracking (BST) to help establish relative sources for Total Maximum Daily Loads but does not use BST with respect to water quality standards.
- EPA's current position on addressing non-human sources of bacteria can be found in the final rule promulgating EPA's water quality criteria for bacteria for coastal recreation waters. In an attachment to a December 20, 2006 EPA Region 6 letter, Region 6 provided an option to limit the application of bacteria criteria in waters affected solely by non-human sources. Region 6 stated that "while this rule is specific to coastal waters, the policy regarding the application of bacteriological criteria in waters impacted by non-human sources applies to inland freshwaters as well: "States and Territories must apply the *E. coli* and enterococci criteria to all coastal recreation waters. If, however, sanitary surveys and epidemiological studies show the sources of the indicator bacteria to be non-human and the indicator densities do not indicate a human health risk, then it is reasonable for the State or Territory to not consider those sources of fecal contamination in determining whether the standard is being attained. This is the approach taken in the 1986 bacteria criteria document. It would be reasonable for a State or Territory to use existing epidemiological studies rather than conduct new or independent epidemiological studies for every water body if it is scientifically appropriate to do so."".

Options for Presumptions (Freshwater)

- a) Continue to assume contact recreation for all unclassified water bodies.
- b) Apply secondary contact recreation to unclassified intermittent streams.
- c) Additional options: Developed in coordination with workgroup.

Update the freshwater single sample numbers

- Options for contact recreation or primary contact recreation
 - a) Use newly collected state data to calculate a new standard deviation based on 82% moderate use. 82% was used to calculate single sample numbers in the 2000 TSWQS.
 - b) Use EPA's single sample values based on different levels of recreational usage.
 - 75th percentile: designated bathing beach
 - 82nd percentile: moderate use
- Options for secondary contact recreation and noncontact recreation
 - a) Use newly collected state data to calculate a new standard deviation based on 82% moderate use.
 - b) Use EPA's single sample values based on different levels of recreational usage.
 - 82nd percentile: moderate use
 - 90th percentile: light use
 - 95th percentile: infrequent use