

# Basin Plan Amendments

## Recreation Standards for Fresh Waters in the Santa Ana Region

January 21, 2014 Board Meeting

Item 8



# Recreation Standards for Fresh Waters in the Santa Ana Region

- Regional Board Adoption: June 15, 2012
  - Resolution No. R8-2012-0001
- Executive Officer Corrections:
  - February 12, 2013
  - November 15, 2013

# Culmination of Stormwater Quality Standards Task Force (SWQSTF) effort:

- Significant stakeholder commitment
- Open/inclusive process
- Guiding principles:
  - Process must be objective
  - Proposed changes must be based on best available science
  - Proposed changes must comport with existing law/regulation

# Key Objectives

- Protect public health
- Ensure reasonable protection of beneficial uses
- Overall goal: develop pathogen control strategy to protect public health/meet legal requirements AND allow/encourage prioritized use of finite public resources

# Recreation Standards Amendments

- Meet Objectives
- Significant improvement over existing Basin Plan standards and implementation strategies

# Recreation Standards Amendments

- Delete fecal coliform objectives for REC1 and REC2
  - Objectives are obsolete, scientifically invalid
- Add *E. coli* objectives for REC1 waters (USEPA 1986 criteria) [Table 4- pio]
  - Note: REC1 waters also designated REC2
    - REC1 objectives obviate need for separate REC2 objectives
    - No scientific basis for REC2 objectives
- Add a narrative pathogen objective

# Use Attainability Analyses

- Remove REC1 and, in some cases, REC2 designations for 8 specific water segments in 4 streams via Use Attainability Analyses (UAAs)
  - Uses not “existing”
  - Uses cannot be attained by imposition of more stringent effluent limits or controls on non-point sources
  - Factors identified in 40 CFR 131.10(g) preclude attainment:
    - Hydrological modifications and, in most cases, low flow conditions

# Implementation Strategies

- Use of single sample maximum *E. coli* values for REC1 waters [Table 5-REC1-Tiers; Table 5-REC1-ssv]
  - Based on intensity of REC1 use
  - Employ equation to calculate on site-specific basis, or default value if necessary
- Antidegradation targets for REC2-only waters [Tables 5-REC2 Only Targets – FW, Other Waters]
  - As stringent as REC2 objectives
- Temporary, high flow suspension of REC standards
- Monitoring

# EPA Review/Approval

- Re UAAs: November 14, 2013 letter to Reg. Bd. Executive Officer:
  - “Informal” review of re-formatted UAA reports
  - Non-committal re UAA approval
  - Reports appear to have addressed many of EPA’s concerns
  - EPA will provide more detailed comments when amendments submitted for formal review

# EPA Review/Approval

- Re Use of single sample maximum *E. coli* values for REC1 waters:
  - Based on intensity of REC1 use
    - Tier “D” (rarely used) SSM: 575 (default)
    - EPA 2012 criteria: STV= 410 (assumes geometric mean= 126 *E. coli*)
  - EPA may disapprove Tier D SSM
    - Tier D waters: likely UAA candidates (no REC use)

# RECOMMENDATION

- Adopt Resolution 2014-xxxx:
  - Approve the Basin Plan amendments adopted under Santa Ana Water Board Resolution No. R8-2012-0001, with Executive Officer corrections (February 12, 2013; November 14, 2013)
  - Authorize the Executive Director or designee to submit the amendments adopted under Santa Ana Water Board Resolution No. R8-2012-0001 to the Office of Administrative Law and to the USEPA for approval.

# End of Brief Presentation

# Basin Plan Amendments

## Recreation Standards for Fresh Waters in the Santa Ana Region

# New *E. coli* Objectives: REC1 waters

- Geometric mean: 126/100mL (min. 5 samples/30 days (running)) [Table 4 –pio]
- ~8/1000 gastrointestinal illness rate in swimmers (1986 and prior USEPA estimate)
- Risk level approx. that estimated for fecal coliform objectives

# Use Attainability Analyses

- “Existing” use?
  - Water quality
  - Evidence of REC1 use

[USEPA describes “existing” uses in terms of water quality and actual use (2008 guidance to Oklahoma; 2013 proposed water quality standards revisions)]
- Probable future use?
  - Regional plans, flow and channel characteristics, land use, access, safety, etc.
- 40 CFR 131.10(g) factor(s) apply?

# Use Attainability Analyses

- “Existing” use:
  - Historical investigation
  - Field Observation
  - **Remote camera surveys:**
    - Images every 15 min. during daylight hours
    - One year or more
    - Thousands/tens of thousands of images at each site

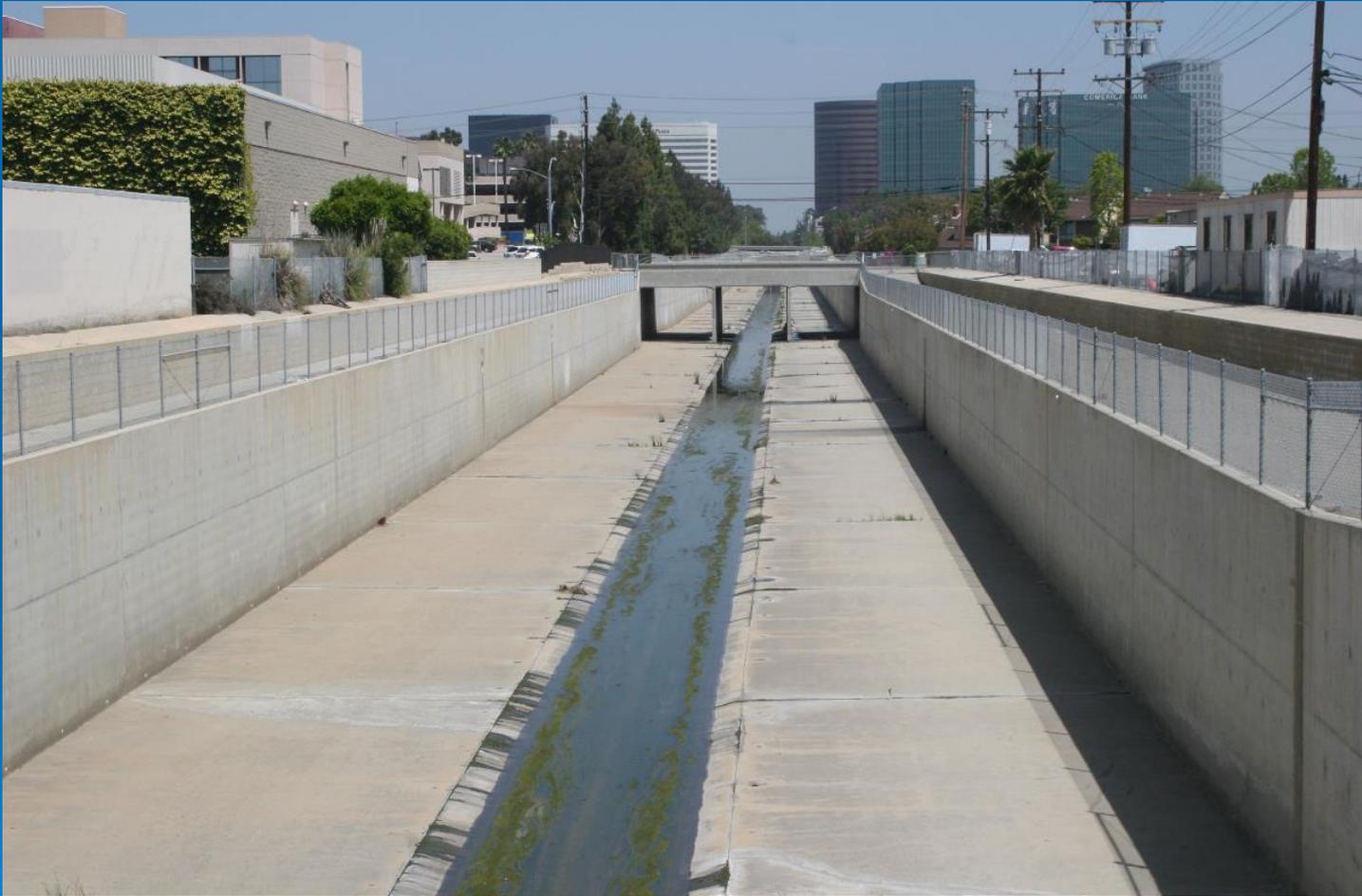
# Summary of Photographic Survey Results for UAA Waters

Camera Locations	Channel Type	Total # Images	Immersive Contact	Incidental Contact	Non-Contact
Santa Ana Delhi Channel @ Mesa Drive	Vertical, Concrete	21,284	0%	0%	0%
Santa Ana Delhi Channel @ Sunflower Ave.	Trapezoidal, Rip-rap	20,978	0%	0%	0%
Greenville-Banning Channel	Vertical, Concrete	2,977	0%	0%	0%
Cucamonga Creek @ Hellman Ave.	Trapezoidal, Concrete	2,546	0%	0%	1 (0.04%)
Cucamonga Creek @ IEUA-RP1	Vertical, Concrete	27,122	0%	0%	0%
Temescal Creek, Main St. & Corona WWTP	Trapezoidal, Concrete	11,120	0%	2 (0.02%)	31 (0.28%)

# Use Attainability Analyses

- No evidence of “existing” use
- No reasonable probability of future use
- Very conservative approach: any contact that might result in ingestion= REC1; any people= REC2
  - Findings subject to triennial review
- 40 CFR 131.10(g) (4) and, in most cases, (2) apply
  - Hydrologic modifications prevent attainment (factor 4)
  - Low flow conditions prevent attainment (factor 2)

# Santa Ana-Delhi Channel Reach 1



# Santa Ana-Delhi Channel Reach 2



# Santa Ana-Delhi Channel Tidal Prism



# Greenville-Banning Channel Tidal Prism



# Greenville-Banning Channel Reach 1



# Temescal Creek Reach 1a



# Temescal Creek Reach 1b



# Cucamonga Creek Reach 1



# Cucamonga Creek Reach 1



# Cucamonga Creek Reach 1



# Recreation Standards Amendments

- *E. coli* Single Sample Maximum Values (SSM, ssv)
  - Use SSM as objective where data insufficient to calculate geometric mean
  - Principal SSM use: public notification/investigation

[Note: 2012 USEPA criteria employ a revised approach to use of single sample data]

# *E. coli* Single Sample Maximum Values

- Equation to calculate SSMs included:
  - Geometric mean objective: 126/100mL *E. coli*
  - Variability: site-specific log standard deviation or USEPA default
  - Statistical confidence factor: dependent on intensity of REC1 use
    - Designated beach (heavy REC1 use) to infrequent REC1 use

# *E. coli* Single Sample Maximum Values

- Fresh surface waters placed in REC1 use tiers [Table 5-REC1-Tiers]
  - Tier A (heavy REC1 use): Santa Ana River, Reach 3
  - Tiers B, C, D: moderate, light, infrequent REC1 use
  - “N” designated waters: treat as Tier A for SSMs



**Santa Ana River, Reach 3**



## Santa Ana River, Reach 3

# Temporary Suspension of Rec. Stds.

- Engineered/heavily modified channels
- Flow-based triggers:
  - Stream velocity  $> 8$  fps
  - Stream depth  $\times$  velocity  $> 10$  ft<sup>2</sup>/sec
  - Rainfall in tributary area  $0.5 \geq$  inches
- [LARWQCB Res. No. 2003-010; USGS National Field Manual]

# Temporary Suspension of Rec. Stds.

- Automatic termination:
  - 24 hours after rainfall stops (unless stream flows continue to exceed suspension criteria), or
  - Once stream flows return to baseline ( $\leq 98^{\text{th}}$  percentile of calibrated hydrograph)

# Policy Considerations

- Postpone Santa Ana Reg. Bd. rec. stds. amendments: await statewide objective process (based on 2012 USEPA criteria) ?
- Regional Board response: **NO**
  - Important to proceed to consider amendments to protect public health and beneficial uses; delay would reduce public health protection
  - Amendments support regional BMPs to attain TMDLs

# Policy Considerations

- Santa Ana Reg. Bd. rec. stds. amendments vs. revised USEPA bacteria criteria/statewide objective process
  - Santa Ana Reg. Bd. amendments not all contingent on new criteria/statewide policy
  - Santa Ana Reg. Bd. *E. coli* objectives/implementation strategies provide superior public health/beneficial use protection

# Amendments vs 2012 USEPA criteria:

- USEPA 2012 criteria (December 2012):
  - Intent: national consistency; ensure equivalent health protection in all waters
  - Two sets of *E. coli* geometric mean (GM) and Statistical Threshold Values (STVs) to choose from
    - Includes 126 cfu/100mL GM; 410 cfu/100 mL STV
  - Different approach to single sample data (STV)
    - Both geometric mean and STV apply independently and simultaneously
    - No variation based on intensity of REC1 use
    - No equation to account for site-specific variability

# Key Points

- 2012 criteria recommendations do not rely on new *E. coli* science
  - Change in policy intended to assure consistency, equivalent health protection for REC1 waters nationwide
- Santa Ana Reg. Bd. amendments remain scientifically defensible and protective of public health/beneficial uses
  - Differences between Reg. Bd. amendments & future statewide policy can/should be addressed upon policy adoption.

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# Summary – Amendments

- Will assure reasonable protection of beneficial uses and prevent nuisance
- Will assure protection of public health
  - Exceed public health protection of existing Basin Plan recreation standards
  - Amendments remain scientifically defensible approach
    - Any revisions to address 2012 USEPA criteria can be made upon statewide policy adoption
- Implement applicable federal and state law and regulation
  - CWA & CWC
  - BEACH Act rule (2004)
  - Antidegradation provisions

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