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Agenda
Monitoring and Reporting Subcommittee
September 24, 2002
9:30 am to 3 pm
SCORWP

Discussion of problems encountered by Regional Boards staff during review of 2002 list

Discussion of how to address those problems

Expanding our current set of recommendations

Lunch

De-listing recommendations

26
6

EPA HQ (1 hour for discussion on variety of topics including California's beach program, data collection, data reporting (database, data transfer), the EPA grant program (National Grant Program recap and Cal Grant Program progress), and the National and state performance measures or goals (we talked briefly about this last year, but a year has passed and Charles would like to get our latest perspective).

① groups: frequency of days.

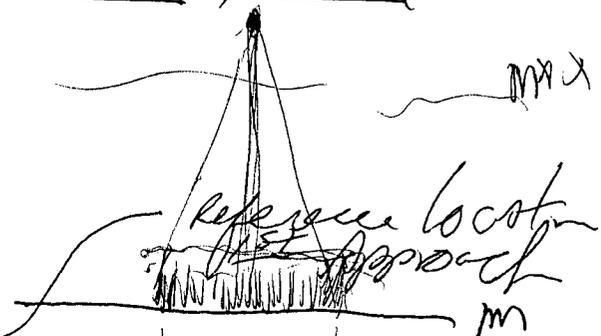
② day is sample \varnothing : Bacterial indicators.
Assumptions of Binomial are not violated.

③ Lumping or splitting doesn't matter.
↳ This is up to SWRCB/DORA

④ SWRCB TMDL 10% of days exceeded...

⑤ Lumping data across yrs OK.

⑥ 4% (Based on dry weather): need sufficiently high n,
& avoid dry weather.
↳ might be compromised if rain occurs.



① Binomial: $P\%$

~~Oct 21: Next meeting~~

Oct 21: Next meeting ②

DISAGREE WITH STEVE.

MONITORING & REPORTING SUBCOMMITTEE BEACH WATER QUALITY WORKGROUP

303(d) LISTING CRITERIA

The Monitoring & Reporting Subcommittee recommends the following:

Recommendation 1: Listing should be based on the frequency of water quality standards exceedances.

The frequency of exceedances of water quality objectives established by the State Water Resources Control Board (SWRCB) in the Ocean Plan, and the exceedances of standards established by the Department of Health Services¹ should determine when an ocean water body/beach segment is 303(d) listed. This represents the most appropriate means of measuring the failure to meet water quality objectives and the loss of designated beneficial use (Rec1).

The SWRCB² and the State Department of Health Services³ and have respectively established water quality objectives and bacterial standards for ocean waters. When these bacterial standards are exceeded the local health officer/environmental health agency having jurisdiction must warn the public that the standards have been exceeded by posting warning signs on the beach where the standard exceedances have occurred. The posting of warning signs on the beach constitutes a failure to meet water quality objectives and the loss of beneficial use (Rec. 1) for that water body.

Routine bacteriological monitoring of ocean water is conducted in accordance with the requirements of AB411⁴ by local environmental health agencies and various NPDES permits issued by California Regional Water Quality Control Boards (RWQCB). The latter monitoring is conducted by agencies discharging sewage effluent into the ocean waters.

Frequency of water quality standard exceedances should be used as the "first screen", and site-specific information should be considered when appropriate. For example, best management practices (BMPs) may have been instituted to address impairment and a TMDL may no longer be required to address the problem.

A (beach) should be listed when there is no enforcement action available to address the water quality impairment, and the only means available to address the water quality impairment is a TMDL.

¹ Title 17, California Code of Regulations

² California Water Code.

³ AB411, Statutes of 1997.

⁴ AB411, Statutes of 1997.

The number of beach closures should not to be considered in the listing criteria since the causes of beach closures can best be addressed by enforcement actions. If site specific conditions warrant their use, RWQCB staff may use this data.

The number of postings (the posting of warning signs on the beach by the local environmental health agency having jurisdiction) or the total number of days a beach is posted should not be considered since postings may not accurately reflect the frequency that the water body does not meet the health standards or water quality objectives.

Implementation: RWQCB staff must obtain all relevant data and determine the number of samples that exceed the water quality objectives or state health standards. Some health agencies may have the number of exceedances at any given site "flagged".

Recommendation 2: The threshold frequency for listing should be the number of water quality standard exceedances in an unimpaired watershed.

Bacteriological water quality data should be collected from water bodies where water quality is not impaired by storm drain discharges or other environmental conditions caused by human activity, i.e., pristine water bodies, in both dry and wet weather. If said background data is not available, EPA recommends that the threshold for exceedances should be 10% of the total samples.

If water quality monitoring at any given site is only conducted during the AB411 period (April 1 thru October 31)⁵, the threshold frequency for exceedances at that site should be set at 4% the total samples.⁶

Implementation: RWQCBs must determine what is the appropriate threshold to use for frequency criteria. If data is available from unimpaired waters, this data must be analyzed to determine the appropriate threshold value for exceedances. Lacking data, the RWQCB may use most appropriate; either 10% or 4% of the samples as the exceedances threshold.

Recommendation 3: Listing should be primarily based on the frequency of water quality standards exceeding the threshold number in multiple years.

⁵ AB411, Statutes of 1997.

⁶ SCCWRP, Bight 98 Study.

(Need precise reference)

RWQCBs' staff draft 303(d) lists every two years. Recently, it has been every 3 years. The entire bacteriological data set for the entire period between listings for any given site should be used to determine impairment and the need to implement a TMDL.

Using the entire time period provides the greatest confidence in the data. Using a single year period may distort the data set since bacteriological water quality parameters are weather dependent, i.e., wet weather vs. dry weather years may significantly influence bacteriological water quality.

Implementation: No issues are foreseen.

Recommendation 4: Permanent postings should be counted as exceedances when they are based on site-specific water quality data. "Precautionary" postings should not count as water quality exceedances.

Local environmental health agencies may "post" beach areas adjacent to storm drain and creek discharges with warning signs permanently. These postings are long term and are based on the experience of the local agency in that they have accumulated sufficient data to show the ocean water in the area is always impaired when there is a discharge. This type of posting is referred to as a "permanent posting". There are other instances when warning signs are posted because the local health agency believes that the receiving water will be impaired by the discharge even though there is little or no confirmation monitoring to validate this belief. These are referred to as "precautionary postings".

Since permanent postings reflect ongoing water quality monitoring, these postings should be counted as exceedances of water quality parameters. A permanent posting therefore constitutes water quality impairment and must be listed. Precautionary postings not supported by water quality data should not be considered in the listing process even though both types of postings result in a loss of beneficial use in the area of the posting.

Implementation: RWQCB staff must obtain the posting information from each local health jurisdiction. Permanent postings should be available on the SWRCB's web site also.

Recommendation 5: "Rain Advisories"⁷ should be considered in the same manner as precautionary postings. Site-specific data should be collected and used for listing determination.

⁷ Needs to be defined.

“Rain advisories” are issued by local health jurisdictions when rainfall is imminent or after rainfall has begun. These advisories are usually issued in lieu of posting the beach during the non-AB 411 periods. During the AB411 period, routine monitoring is required, and if the AB411 standards are exceeded the beach must be posted. Consequently, monitoring data is usable to the degree that it is appropriate during rainfall.

AB411 and its regulations⁸ do not recognize “rain advisories”. They are an activity that local health jurisdictions generally conducted before the passage of AB411 and the practice has been continued. No protocols have been established for the issuance of these advisories.

Implementation: No implementation issues exist since the recommendation essentially says to ignore these advisories. Some can argue however, that the advisories constitute a loss of beneficial use and should be used for listing purposes.

Recommendation 6: Establish monitoring stations at defined distances from storm drain discharges in order to enhance data consistency.

Monitoring locations have been established in NPDES permits by RWQCBs and the local health agency establishes monitoring locations for its AB411 regulatory activities. AB411 and its regulations do not prescribe the location of monitoring stations in relation to storm drain discharges. As a result, no consistency exists between the agencies conducting monitoring activities relative to the distances samples are collected from storm drain discharges.

The BWQW has recommended that the distance of a monitoring station from a storm drain discharge be set at 25 yards, but it is unknown how many health agencies or RWQCBs are following this recommendation.

Implementation: Neither RWQCBs nor DHS have the authority to establish a consistent location for monitoring stations from storm drain discharges. RWQCBs set the monitoring locations for NPDES compliance but they have no authority over health jurisdictions’ monitoring locations. DHS may have the statutory authority to determine monitoring locations, but it did not exercise this authority, if it exists, in the regulations. TMDL compliance monitoring may further complicate any action regarding this recommendation.

Recommendation 7: Listing should be based on sufficient samples to achieve the 80% “confidence” level that the frequency threshold has been exceeded (Type 1 error of 0.2).

⁸ Title 17, California Code of Regulations

The monitoring data used for listing must be statistically valid. Enough samples at any one monitoring locations must be collected to meet the confidence level. The amount of samples that need to be collected may not be met where health agencies do not monitor during non-AB411 periods to meet the validity required for the AB411 standards and probably are not sufficient to validate compliance with Ocean Plan water quality objectives.

A "binomial" model should be used.

Although the use of geometrical means are provided for in the AB411 regulations, their use is not recommended for listing purposes.

Implementation: RWQCB staff will have to determine the statistical confidence levels of the data.

Recommendation 8: Differences in the results of laboratory analyses utilizing different laboratory methods are insignificant.

Currently, most health agencies are using Colilert for the laboratory analyses of their collected samples. Because EPA has not approved this method, dischargers are either using membrane filter or multiple tube fermentation methodologies for sample analysis. Bight 98⁹ studies demonstrated that there was no significant difference in the results each method produced.

Implementation: No implementation issues exist.

Recommendation 9: The length of beach to be listed should be 50 yards (meters?) on each side of the storm drain discharge.

The Monitoring & Reporting Subcommittee has recommended that monitoring stations be located 25 yards from the source of the impairment, e.g., storm drain discharge. When the bacterial standard(s) are exceeded, signs are routinely posted at 25 yards on each side of the source of the impairment. They can be seen for a distance of approximately 25 yards. Consequently, the loss of beneficial use is approximately 50 yards on each side of the source of impairment.

"Adaptive" sampling may be employed by some monitoring agencies when a monitoring station frequently exceeds bacterial standards in order to assess the area of beach impacted by the storm drain discharge. In these cases, signs are posted at a greater distance from the source discharge point. These distances are reported to SWRCB and are in the database.

⁹ Noble, Rachel, et al., Southern California Bight 1998 Regional Monitoring Program: I. Summer Shoreline Microbiology, Southern California Coastal Waters Research Project.

In some cases, two monitoring stations may be linked by hydrological conditions. It may also be demonstrated¹⁰ in the future that the amount of flow and its pattern from the discharge point can significantly increase the amount of beach affected by the discharge. In both of these cases the entire area affected should be listed.

SIDE ISSUES:

- No data samples have been provided to discuss the use of averaging of year-to-year data usage. Are they needed?
- There is no recommendation regarding the review of listings and delisting. What happens to the discussions concerning 5-6 years of data?
- Is there any discussion warranted regarding loss of beneficial use as defined by the posting/closure process?
- What about Monitoring Priority Lists?

¹⁰ Currently, there is a study being conducted at two discharges into Santa Monica Bay that would try to model storm drain flows into the surf-zone.

From: Robin McCraw
To: Craig J. Wilson
Date: 9/10/02 11:38AM
Subject: Re: 4 percent

Yes, it came from Bight 98 study.

>>> Craig J. Wilson 09/10/02 11:24AM >>>
Hi Robin,

In the data evaluation approach we say to use a 4% exceedance rate during the AB 411 period. Where does that 4% number come from. Is it the Bight '98 Summer Micro Report?

CJW 341-5560