MONITORING & REPORTING SUBCOMMITTEE
of the
BEACH WATER QUALITY WORKGROUP
Subject: 303(d) Lists

SUMMARY

Outline for discussion:

I. **How is impairment defined?**
   - **Frequency?**
   - **Magnitude?**
   - **Duration?**
   - **Multiple indicators?**
   - **Effects of season?**

II. **How is data adapted of different types?**
   - **Sampling location?**
   - **Sampling method?**
   - **Laboratory methods?**

III. **How much data is necessary to make decision?**
   - **How old can that data be?**
   - **What quality is acceptable?**

303(d) listing guidelines currently used				
	Region 4	Region 8	Region 9	AB 538
Closures	> 1 /year	Not used for listing	>10days/year P + C	Std. exceeded any 3 wks. of 4 or if >weekly sampling, >75%days in any month
Postings	>10% days/year	Duration of ≥7 days		
Standards	20%>1,000 TC 10%>10,000TC 10%>400FC geo.mean>200FC			
Beach listed as:	Beach name	Stretch of beach associated with sampling point	0.2 miles up and down coast of sampling point	

General Agreement of Participants

- "Listing" 303(d) is the correct tool to use where standards are not attained or some Beneficial Use is lost and a TMDL is required to resolve the problem.
- If there is a way to solve the problems without a TMDL, listing may not be justified.
- Focus of 303(d) listing should be on chronic multi-source problems rather than event driven or single source problems.
- Closures due to spills should not be a basis for listing because they are better addressed through other mechanisms, e.g., enforcement.
- Frequency is the preferred metric to look at data rather than duration.
- 303(d) listing should occur when the frequency of posting exceeds that in areas minimally affect by human activities in wet years. In absence of complete or site specific data use 10% of calendar days posted/year.
- There is a loss of Beneficial Use when a sign is posted. Both postings and closures result in loss of beneficial use (REC 1).
- Standards = Objective + BU + anti-degradation requirements.

Conclusions

- 303(d) listing should occur when the frequency of posting exceeds that in areas minimally affect by human activities in wet years. In absence of complete or site specific data use 10% of calendar days posted/year.
- Imperfections exist in data collection/analysis (both of raw laboratory data and posting data provided to SWRCB) due to variations in sampling frequency, laboratory methodology and local environmental health agency policy all lead to inconsistency and these factors need to be addressed.
- Permanent postings:
    - Permanent postings either at a creek mouth or dry weather urban runoff represent a loss in BU.
    - Precautionary permanent postings are not based on bacterial data, and they should be distinguished from permanent postings based on professional judgments that a discharge is contaminated and supported by bacterial data.
    - Allow local environmental health agencies assist in the determination of which "permanent" postings are truly contamination problems and deserving of TMDLs by differentiating between permanent and precautionary postings. This may require a change in the way the data is collected by the State Board and used in the database.

Time Period:

The 3 southern California RWQCBs currently use the following time periods:

Source of data	Region 4	Region 8	Region 9
Postings data	Most recent year	3 years	Most recent year
Raw Data	3 years		

Note: The 303(d) list is supposed to be reviewed every 2 years, however recently the review period has been stretched to 3 years.

Issues:

Given the fact that the listing period is two years, when should the time period begin? How are wet and dry weather years "adjusted"?

It was generally agreed that the number of bacterial standard exceedances or AB411 "postings" during a 1 year time period is too weather dependent and could result in beaches or beach areas being listed and delisted frequently without demonstrating real impairment or water quality improvement as the case may be.

It was generally agreed to that 3 years was a time period where weather conditions could be averaged out and true impairment (for listing) or improving water quality (delisting) could be demonstrated.

It was agreed to that:

- **The time period should begin with the last assessment or last "listing", i.e., every 2 to 3 years.**
- **Flexibility in the use of this time period should be allowed.**
- **Discretion should be allowed for known changes in the watershed, e.g., best management practices (BMPs) may have been introduced and implemented that resulted in water quality improvements.**

How should the time periods be viewed? Average the multiple years? Use the number of exceedances in any one-year as the listing criteria? Divide the year into seasons and apply the exceedances criteria by season?

The participants agreed that annual data should be used for two reasons:

1) Rain is unpredictable by season, and
2) The data based on weekly monitoring is too "thin" for use given the few numbers of days of posting in the summer. If sampling is done weekly, a single exceedance could trigger 303(d) listing. Also, the TMDL itself will take seasonality into effect.

Beach X	Year 1	Year 2	Year 3	Average
Days of posting	20	60	20	33
Rainfall	Low	Moderate	Moderate	

It was agreed that if the average number of bacterial standards exceedances of the years in the time period is greater than 10%, the beach/water body fails and is listed. When 2 of the 3 years exceed the 10% threshold for bacterial exceedances, the beach/water body fails and is listed.

In order to achieve a consistent approach given the above scenario, a philosophical question must be settled, namely:

- **Is it preferable to list a beach that will or should be delisted in the following cycle? or**
- **Fail to list a beach that should have been listed?**

Participants, including RWQCB representatives, did not agree on the issue when there is a single year that exceeds the threshold for exceedances. The basis for the difference is whether this case represents true water quality impairment. The debate centered on whether to act conservatively and list the water body because there may be a problem or wait until more information becomes available before listing.

It was argued that in order to be comprehensive all water bodies that appear to have water quality limited segments requiring TMDLs should be listed. The other argument was that water bodies should not be listed until a real problem has been fully identified. The philosophical difference stems from repercussions of 303(d) listing (increased workload and negative publicity regarding the public health threat of the water body) and the difficulty with delisting a water body.

The most protective philosophy uses the most conservative (restrictive) criteria.

Some argued that the beach in the above scenario should be put on a "watch list".

There was no agreement on this issue and the participants agreed to disagree at this time.

Issue: Should "rain advisories" be used in determining posting days for a beach?
There is no provision for permanent postings or precautionary postings in AB411. This is a practice that has been developed by local environmental health agencies each using their own criteria for their actions. The reporting of this type of posting to SWRCB is not consistently applied.

The participants agreed that "rain advisory" days should not be counted towards the threshold (>10%) of bacterial standard exceedances days. However, any routine monitoring results of samples taken during the time period (outside of AB 411 period) should be used.

Issue: Some county environmental health agencies permanently post the beach with warning signs where storm drains discharge. Some also post the channel or creek with warning signs. How should these permanent postings be used?

It was agreed to that counties would be requested to differentiate between "precautionary" and "permanent" postings, and "permanent" postings would be used if backed by bacteriological data.

Issue: What length of beach should be listed?
There is currently no rule or standard regarding the length of beach to be listed. A bacterial monitoring station represents one data point.

It was agreed to that exceedances at monitoring stations associated with storm drain discharges encompass 50 meters on each side of the discharge unless:

- **Adaptive sampling data are available indicating a broader length of beach is impaired by the discharge.**
- **Two adjacent monitoring stations are linked by hydrological conditions. In this case the beach segment between the stations is listed as well as the 50 meters on each side.**
- **Flow rates are known and indicate a broader length of beach is impaired by the discharge. Currently, no data exist providing criteria for this kind of finding and flow dispersal patterns may significantly differ from drain to drain preventing the use of such data in a meaningful manner.**

A TMDL must address the central source of the impairment, e.g., a storm drain discharge regardless of the length of beach involved.

<u>How should the distance of monitoring data from the source be used?</u>

1. The Monitoring & Reporting Subcommittee had previously recommended that 25 yards on each side of the source be the distance of the impairment.
2. The use of 37 days was based on bacterial counts in the wave wash.
3. If the monitoring station is 25 yards away from the source, dilution should be considered and an adjustment made for the number of postings allowed, i.e., it should be less than 10%.

Consequently, the number exceedances allowed as background per 305(b) and RWQCB 4 must be adjusted for based on the distance of the monitoring station from the source. There is no recommendation for any adjustment however, based on available data.

Laboratory Methods

Since Idexx measures the level of *E. coli*, should and adjustment be made for fecal coliform levels?

It was agreed to that no adjustment is called for at this time.

Data Acceptability

It was agreed to that:

- **In order for the data to be used for "listing", it must be statistically significant (80% confidence level). If it is below the confidence level, the area in question should be placed on the monitoring priority list.**
- **If the data is seasonally biased, an adjustment must be made in the number of exceedances allowed.**
- **Data can only be accepted from an ELAP certified laboratory. If the laboratory is not certified, QA/QC must be approved.**

Is it preferable to list a beach that will or should be delisted in the following cycle? or

Fail to list a beach that should have been listed?

Currently, it is "easy" to list a beach but very difficult to remove said beach from the list. The SWRCB believes that confidence is needed in determining water quality impairments that will require TMDLs to improve water quality. The SWRCB wants to complete TMDLs that are most meaningful with respect to improving water quality.*Issue: How or which data should be used?*

NEW SCENARIOS
POSTING DAYS

SCENARIO	# of Postings Year 1	# of Postings Year 2	# of Postings Year 3	Average for Period
1	20	60	40	40
2	20	40	40	33
3	20	80	20	40
4	20	60	20	33

Participants agreed that scenarios 1 & 2 result in "Listing".
Participants did not agree on scenarios 3 & 4.

"Listing" results in the initiation of the TMDL process. How confident should we be of the "listing?"

The group supports the idea of a list for waterbodies with uncertain information about whether or not they are water quality limited, a Monitoring Priorities List. Waterbodies

on this list require additional monitoring to make a decision re they are water quality limited. In these cases the group agreed that:

- Older comparable data would not be useful in making the determination because conditions in the watershed may have changed
- The use of secondary criteria such as rainfall data or magnitude would also not provide sufficient information to make the determination.

It was suggested that scenarios 3 & 4 should go to a Monitoring Priorities List (MPL). Candidates may be listed as partially supporting uses per Clean Water Act Section 305(b) Report, the state assessment of all water bodies. The MPL list would not be part of the official 303(d) list transmittal but would be included in the information provided to U.S. EPA.

It was agreed that:

- **New data would be needed.**
- **Frequency of monitoring might be increased, e.g., weekly to daily or 5x per week until the next 303(d) listing cycle.**
- **Where monitoring frequency would remain the same the next review cycle would review new data.**

A lengthy discussion followed as to how the new monitoring data should be used.

- **Should the yearly number of postings be averaged? It had previously been agreed to that averaging over the time period was appropriate and if the average exceeded 36 postings per year the beach should be "303 (d) listed". In this discussion participants changed their minds and no clear agreement was reached.**
- **Participants agreed that if postings exceeded 36 days per year for 2 of the 3 years or 3 of the 6 years, "listing" was appropriate.**
- **Participants agreed that if postings only exceeded 36 days per year once during the six years "listing" was not appropriate.**
- **If the number of postings exceeded 36 for 1 of 3 years, the waterbody belonged on the MPL and increased monitoring was appropriate.**