

The Big Bang ...for Water Quality



and Your Buck ...Theory

What This Session Will Address

- USEPA recommendations for watershed based planning from the Watershed Based Plan Review – July 2011 and how this class addresses them .
- CA NPS Program “jargon” and how it applies to the Watershed Based Planning Process.
- How the SWRCB currently uses the Watershed Plan Nine-Key Elements to make funding decisions.
- Tetra-Tech’s Watershed Plan Review Tool – how does it work and what is it used for.
- Where is the CA NPS going in the future with respect to Watershed Based Planning.

Recommendations from USEPA National Review on Watershed Based Plans (Review)

- USEPA Regional offices should use the results of the Review to discuss with States the specific components that the states are struggling with, and to also share information from States that have successfully addressed those components.
- USEPA Regional offices should work more closely with the States to assure that the States and their watershed partners have sufficient technical capacity and are investing sufficient funds to develop robust watershed-based plans that will lay a good foundation for a successful implementation efforts.
- States should take greater care in their development of watershed-based plans (WBPs) to assure that the plans truly address all nine components of USEPA's guidelines and provide as good and specific a guidepost to future actions in the watershed as reasonably possible.

Recommendations from USEPA National Review on Watershed Based Planning (Review) (con't)

- USEPA should follow up with the developers of the best WBPs. Interviewing writers of successful plans would provide insight from those “on the ground” as to what resources contribute most to a successful plan. This information can in turn be used by EPA to prioritize training and tool development.
- USEPA should make the best watershed plans, as well as the best examples of different components of watershed based plans, available online and in tools such as EPA Plan Builder. Providing more examples of what is considered adequate will clarify what an excellent WBP should look like. USEPA should also take actions to promote the resources available for WBP's.
- States should focus on developing plans at a scale that allows for the development of the right level of detail. This means, for example, that even if a State develops an integrated watershed plan at an 8-digit HUC level, it may, and likely will, need to develop a more detailed watershed-based plan at a smaller scale (e.g., HUC-12).

Why Do We Use the Term “Management Measures” (MMs) and What Does It Mean

- Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) require implementation of MMs in six land use categories:
 1. Agriculture
 2. Forestry (Silviculture)
 3. Urban
 4. Marinas and Recreational Boating
 5. Hydromodification
 6. Wetlands, Riparian Areas, and Vegetated Treatment Systems
- The State is committed to implementing the 61 NPS MMs by 2013 consistent with Federal Administrative Guidance.

Definition of Management Measure

Management Measure (MM) – defined in section 6217 of CZARA as economically achievable measures to control the addition of pollutants to our coastal waters, which reflect the greatest degree of pollutant reduction achievable through the application of the best available NPS pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives.

Definition of Management Practice (MP)

Management Practice (MP) – activities that include, but are not limited to, structural and non-structural (operational) controls which may be applied before, during and after pollution producing activities to eliminate or reduce the generation of NPS discharges and the introduction of pollutants into receiving waters.

MM 1A - Erosion and Sediment Control

- Apply the erosion component of a conservation management system as defined in the Field Office Technical Guide of the U.S. Department of Agriculture – Natural Resources Conservation Service (NRCS) to minimize the delivery of sediment from agricultural lands to surface waters, *or*
- Design and install a combination of management and physical practices to settle the settleable solids and associated pollutants in runoff delivered from the contributing area for storms of up to a 25-year, 24-hour frequency.

Management Measure 1A - Erosion and Sediment Control Management Practices

- | | |
|---|-------------------------------------|
| a. Conservation cover | k. Field border |
| b. Conservation cropping sequence | l. Filter strip |
| c. Conservation tillage | m. Grade stabilization structure |
| d. Contour farming | n. Grassed waterway |
| e. Contour orchard and other fruit area | o. Grasses and legumes in rotation |
| f. Cover and green manure crop | p. Sediment basins |
| g. Critical area planting | q. Contour strip-cropping |
| h. Crop residue use | r. Field strip-cropping |
| i. Delayed seed bed preparation | s. Terrace |
| j. Diversion | t. Water and sediment control basin |

How the SWRCB Uses Watershed Based Plans to Make Funding Decisions

- Assists in making funding decisions for the CWA 319 Program.
- Approximately \$4.5 million available annually through the CWA 319 Program - with approximately \$1.0 million for planning/assessment (P/A) projects and \$3.5 million for implementation projects.
- Projects must meet three (3) basic criteria: (1) located in a watershed that has an adopted or a nearly adopted total maximum daily load (TMDL) for the constituent addressed; (2) located in a watershed that has watershed based plan that meets USEPA's Nine-Key Element Requirement; and (3) addresses one or more of the RWQCBs NPS Program Preferences.
- PA project funding can be used to address “shortcomings” in existing watershed based plans.

CA NPS Program Implementation and Enforcement Policy

All NPS pollution control programs must meet the requirements of the following (Five) Key Elements described in the NPS Implementation and Enforcement Policy. Each implementation program must be endorsed or approved by the appropriate RWQCB.

- Key Element 1: A NPS control implementation program's ultimate purpose must be explicitly stated and at a minimum address NPS pollution control in a manner that achieves and maintains water quality objectives.
- Key Element 2: The NPS pollution control implementation program shall include a description of the management practices (MPs) and other program elements expected to be implemented, along with an evaluation program that ensures proper implementation and verification.

CA NPS Program Implementation and Enforcement Policy

- Key Element 3: The implementation program shall include a time schedule and quantifiable milestones, should the RWQCB so require.
- Key Element 4: The implementation program shall include sufficient feedback mechanisms so that the RWQCB, dischargers, and the public can determine if the implementation program is achieving its stated purpose(s), or whether additional or different MPs or other actions are required.

Basically – define the problem, tell me what your going to do to fix it, how long is it going to take, how are you going to determine if it works, and if it doesn't then what are you going to do!

2012 CWA 319 Request for Proposal - Sample Appendix F: USEPA Nine Key Element Verification Table

| | | | | | | | | | | | | | | | | | | | | | |
|-----------------|--|---|--|------------|---------|--------------|---------|----------|---------|------|---------|-----------|---------|-----------|---------|----------|---------|---------|------|------|------|
| Proposal Pin #: | 23188 | Project Title/Description: | Big Bear Lake Watershed TMDLs Planning/Assessment for BMP Site Selection and Prioritization Plan for NPS Load Reductions | | | | | | | | | | | | | | | | | | |
| Region #: | Region 6 | Applicant Name: | Big Bear Municipal Water District | | | | | | | | | | | | | | | | | | |
| TMDL: | Big Bear Lake Nutrient TMDL | Watershed: | Big Bear Lake Watershed | | | | | | | | | | | | | | | | | | |
| No. | List Name of Watershed Plans or Other Documentation | Provide Web Address to Plan or Documentation | Required Watershed Elements Addressed Note: See KEY below. | | | | | | | | | | | | | | | | | | |
| | | | Chapter | Page | Chapter | Page | Chapter | Page | Chapter | Page | Chapter | Page | Chapter | Page | Chapter | Page | Chapter | Page | | | |
| 1 | TMDL Action Plan 2010 | http://www.bearwater.com/Portals/0/BigBearLakeWatershedTMDLActionPlan2010.pdf | 1 | 1-2 to 1-9 | 1.4 | 1-10 to 1-12 | 2 | 2.1-2.31 | 1.4 | 1-11 | 3 | 3.14-3.17 | 2 | 2.30-2.31 | 3 | 3.8-3.19 | 5 | 5.1-5.5 | 1 | 1-10 | |
| 2 | Big Bear Nutrient TMDL for Dry Hydrologic Conditions | http://www.bearwater.com/Portals/0/BigBearLakeWatershedTMDLforDryHydrologicConditions.pdf | Attachment (Att.) | 1-7 | | | | | | | | | | Att. | 7-9 | | | Att. | 1-18 | Att. | 1-18 |
| 3 | Big Bear Lake Nutrient Monitoring Plan | http://www.bearwater.com/Portals/0/BigBearLakeNutrientMonitoringPlan.pdf | | | | | | | | | | | | | | | | | Plan | | 1-14 |

So what is the “bar” you have to clear in order to have an acceptable watershed based plan?



Watershed Plan Review Tool Comparison with US EPA Watershed Based Planning Guidance - Nine Elements for Watershed Plans

- a** An identification of the causes and sources or groups of similar sources that will need to be controlled to achieve the load reductions estimated in this watershed-based plan (and to achieve any other watershed goals identified in the watershed-based plan), as discussed in item (b) immediately below. Sources that need to be controlled should be identified at the significant subcategory level with estimates of the extent to which they are present in the watershed (e.g., X numbers of dairy cattle feedlots needing upgrading, including a rough estimate of the number of cattle per facility; Y acres of row crops needing improved nutrient management or sediment control; or Z linear miles of eroded stream bank needing remediation).
- b** An estimate of the load reductions expected for the management measures described under paragraph (c) below (recognizing the natural variability and the difficulty in precisely predicting the performance of management measures over time). Estimates should be provided at the same level as in item (a) above (e.g., the total load reduction expected for dairy cattle feedlots; row crops; or eroded stream banks).

Watershed Plan Review Tool Comparison with US EPA Watershed Based Planning Guidance - Nine Elements for Watershed Plans (con't)

- c** A description of the NPS management measures that will need to be implemented to achieve the load reductions estimated under paragraph (b) above (as well as to achieve other watershed goals identified in this watershed-based plan), and an identification (using a map or a description) of the critical areas in which those measures will be needed to implement this plan.
- d** An estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon, to implement this plan. As sources of funding, States should consider the use of their Section 319 programs, State Revolving Funds, USDA's Environmental Quality Incentives Program and Conservation Reserve Program, and other relevant Federal, State, local and private funds that may be available to assist in implementing this plan.

Watershed Plan Review Tool Comparison with US EPA Watershed Based Planning Guidance - Nine Elements for Watershed Plans (con't)

- e An information/education component that will be used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing the NPS management measures that will be implemented.
- f A schedule for implementing the NPS management measures identified in this plan that is reasonably expeditious.
- g A description of interim, measurable milestones for determining whether NPS management measures or other control actions are being implemented.

Watershed Plan Review Tool Comparison with US EPA Watershed Based Planning Guidance - Nine Elements for Watershed Plans (con't)

- h A set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made towards attaining water quality standards and, if not, the criteria for determining whether this watershed-based plan needs to be revised or, if a NPS TMDL has been established, whether the NPS TMDL needs to be revised.
- i A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under item (h) immediately above.

Tetra Tech Watershed Plan Review Scoring Guidance

Scoring Key

1 Incomplete

A significant amount of additional information is needed to complete the section.

2 Partially Complete

Most information has been included, but some additional information is needed to complete the section.

3 Adequate

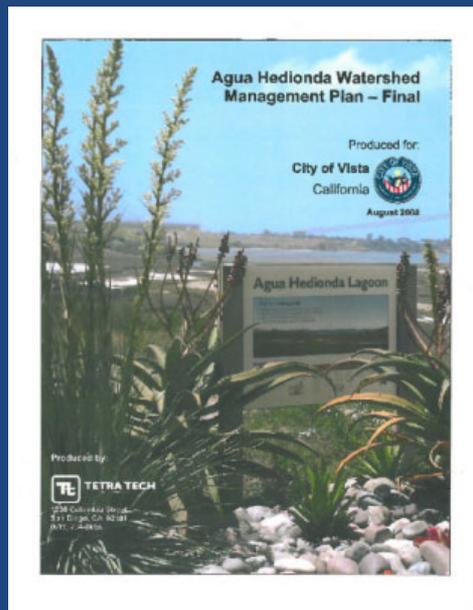
The section has adequate information and addresses the minimum criteria.

4 Exceeds Requirements

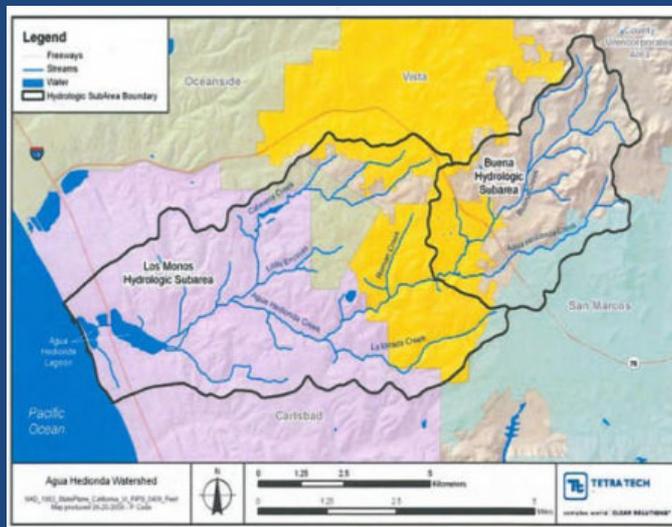
Exceeds the minimum amount of information needed to address the criteria.

5 Outstanding

A significant amount of current, applicable, exceptional information is presented.



Aqua Hedionda Watershed Map



Element (a) - Identification of the causes and sources of impairment or threats to the water body

| Sub-Element Review Criteria | Score (1-5) |
|--|-------------|
| 1. Water body use designations (from relevant Water Quality Standards) are listed for waters in the planning area | 4 |
| 2. Water quality criteria (from relevant Water Quality Standards) for the use designations are cited | 4 |
| 3. Impaired, partially impaired, and/or threatened uses (from state CWA 303[d] or integrated report) are listed by water segment or area | 5 |
| 4. Specific causes and sources (CWA 303[d]) of impairments and/or threats (if applicable) are listed by water body segment or area | 5 |

Element (a) - Identification of the causes and sources of impairment or threats to the water body (con't)

| Sub-Element Review Criteria | Score (1-5) |
|---|-------------|
| 5. Causes of impairment (or threats) are listed as loads, WQC exceedance amounts/ percentages, or via other quantifiable method | 3 |
| 6. Sources of impairments/threats (if applicable) are mapped or identified by area, category/subcategory, facility type, etc. | 4 |
| 7. Contributions from each source location or category is quantified by load, percentage, priority, or other method | 3 |
| 8. Estimates, assumptions, or data used in the analysis is presented or cited and appears reasonable | 5 |
| Number unacceptable | 0 |

Element (b) - Estimate of the load reductions expected from the proposed management measures

| Sub-Element Review Criteria | Score (1-5) |
|--|-------------|
| 1. Load reductions needed to address each impairment and threat (if applicable) are listed, and are quantified by weight, concentration, percentage reduction needed, etc. | 4 |
| 2. Listed load reduction estimates are linked to each cause and source location or category | 4 |
| 3. Load reductions will achieve water quality criteria, address threats (if applicable), or achieve other goals | 5 |
| 4. Estimates, assumptions, or data used in the analysis are presented or cited and appear reasonable | 4 |
| Number unacceptable | 0 |

Element (c) - Description of the management measures needed to achieve the proposed load reductions

| Sub-Element Review Criteria | Score (1-5) |
|--|-------------|
| 1. Water quality and other watershed goals are listed for each water body segment in the planning area | 5 |
| 2. Management measures needed to address each cause and source of pollution or impairment (or threat) are listed, described, and prioritized | 5 |
| 3. Proposed management measures are applicable to causes and sources and are feasible | 5 |
| 4. Critical locations or high-priority sites for each management measure are mapped or described | 5 |
| 5. Load reductions linked to each management measure are listed and quantified via reasonable estimates | 4 |
| 6. Estimates, assumptions, or data used in the analysis is presented or cited and appear reasonable | 5 |
| Number unacceptable | 0 |

Element (d) - Estimate of the amount of technical, financial, and regulatory assistance needed

| Sub-Element Review Criteria | Score (1-5) |
|--|-------------|
| 1. General type and amount of technical assistance needed to implement the management measures are listed | 4 |
| 2. Actual or potential/possible sources of the needed technical assistance are identified | 3 |
| 3. Overall costs for implementing, operating, and maintaining the management measures are estimated and listed | 5 |
| 4. Possible/potential sources of financial assistance needed to implement the management measures are listed | 4 |
| 5. Regulatory or other authorities responsible for (or needed) to implement the management measures are listed; entities exercising the regulatory or other authorities are identified | 4 |
| Number unacceptable | 0 |

Element (e) - Public information, education, and participation

| Sub-Element Review Criteria | Score (1-5) |
|--|-------------|
| 1. Information, education, and public participation goals and objectives for the management program are listed | 5 |
| 2. An overall strategy or plan for the public information, education, and participation component is provided | 5 |
| Number unacceptable | 0 |

Element (f) - Reasonably expeditious schedule for implementation

| Sub-Element Review Criteria | Score (1-5) |
|---|-------------|
| 1. An overarching timeline or schedule showing projected dates for developing and implementing each management measure is presented | 5 |
| 2. The timeline or schedule indicates the actions, steps, or accomplishments associated with implementing the management measures in the plan | 5 |
| 3. The timeline or schedule follows a logical sequence for implementing the management measures | 5 |
| 4. The timeline or schedule lists short-term (up to 3 yrs.) and long-term (up to 10 or more yrs.) implementation steps | 5 |
| Number unacceptable | 0 |

Element (g) - Interim measurable milestones for implementing the management measures

| Sub-Element Review Criteria | Score (1-5) |
|---|-------------|
| 1. A list of reasonable and attainable interim milestones, benchmarks, phases, or steps for implementing each group of management measures or control actions is provided | 5 |
| 2. A logical sequence of dates for achieving the milestones, benchmarks, phases, or steps is listed | 5 |
| Number unacceptable | 0 |

Element (h) - Criteria to determine whether or not load reductions are being achieved

| Sub-Element Review Criteria | Score (1-5) |
|--|-------------|
| 1. Criteria are identified that are linked to the causes and/or sources of impairments/threats (if applicable) | 5 |
| 2. The listed criteria include numeric and/or narrative water quality criteria, in-stream physical habitat assessment criteria, or other criteria linked to the causes/sources | 5 |
| 3. Listed criteria include those incorporated into any TMDLs developed or to be developed for water bodies addressed by the plan | 5 |
| 4. Provisions for reviewing progress and revising the plan or any TMDLs involved are addressed | 5 |
| Number unacceptable | 0 |

Element (i) - Monitoring component to evaluate the effectiveness of implementation

| Sub-element Review Criteria | Score (1-5) |
|--|-------------|
| 1. An approach for establishing monitoring sites or procedures and relevant parameters is provided, or procedures for acquiring and reviewing other monitoring data is described | 5 |
| 2. Non-environmental monitoring parameters are clearly identified and provide a reasonable yardstick for measuring progress toward implementing the management measures | 5 |
| 3. Monitoring parameters include the criteria identified in (h) and the milestones, benchmarks, phases, or steps cited in (g) above | 5 |
| 4. Frequency of monitoring or schedules for assessing implementation progress is included in the plan | 5 |
| 5. Parties responsible for implementing the monitoring program are listed | 5 |
| 6. Quality Assurance Project Plans for water quality parameters are referenced or cited, if appropriate | 3 |
| Number unacceptable | 0 |

Where Do We Go From Here?

- More enhanced review of Watershed Based Plans by USEPA – Region 9 and CA NPS Program.
- Used enhanced review to make recommendations for improvement and scoring for CWA 319 planning/assessment and implementation funding.
- Establish a list of “acceptable plans” that can be used by applicants rather than “reinventing the wheel” during each funding cycle with the caveat of “adaptive management”.
- Coordinate with State and federal programs with respect to implementation and monitoring consistent with watershed based plans.
- Coordinate with other State and federal funding programs to support the most effective implementation projects.

State and Federal Program Synergy to Effectively Allocate Resources and Improve Water Quality



Resources and Contacts

California NPS Program:

http://www.waterboards.ca.gov/water_issues/programs/nps/

California CWA 319 Grant Program:

http://www.waterboards.ca.gov/water_issues/programs/nps/grant_program.shtml

California - USEPA Measure W Watershed Priorities:

<http://www.epa.gov/region9/water/watershed/index.html>

Steve Fagundes

Chief, NPS Program Plan Implementation Unit

Division of Water Quality - State Water Resources Control Board

1001 I Street – Sacramento, CA 95814

Phone: (916) 341-5487

E-Mail: sfagundes@waterboards.ca.gov