

**STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION**

**STAFF REPORT FOR REGULAR MEETING OF JUNE 4, 2008**  
Prepared on May 20, 2008

**ITEM NUMBER: 3**

**SUBJECT: Status Report on Regional Board Vision and Measurable Goals**

**SUMMARY**

This staff report summarizes the work staff is currently doing to achieve our vision and measurable goals, and the work we plan to do. This work includes more comprehensive watershed assessment (as the Board saw at the May Board meeting regarding toxicity from agriculture and urban runoff), more comprehensive regulations to address critical issues, and defining measures to gage our effectiveness over time.

We have four vision teams working on these tasks: the Healthy Aquatic Habitat Team, the Sustainable Land Management Team, the Clean Groundwater Team, and the Assessment Team. Our Teams are defining important actions and measures. All staff are contributing to these efforts and are incorporating the specific actions identified by the teams into their daily work. For example, staff in the Agricultural Program evaluates compliance with the Conditional Waiver of Waste Discharge Requirements for Irrigated Agriculture by considering reporting and monitoring information submitted by growers, along with water quality data for nitrate and toxicity in streams, pesticide use information *and* results of inspections. This is the first time we have used Geographic Information System tools to link site and area land uses to water quality data from monitoring programs. Additionally, Storm Water Program staff is incorporating low impact development and watershed protection requirements into municipal storm water management programs. More broadly, our Teams are developing amendments to our Water Quality Control Plan (Basin Plan) to strengthen or establish watershed, wetland, riparian area and groundwater recharge protections.

The Executive Officer and Assistant Executive Officer are also focusing more on actions to help achieve our vision and goals. The Executive Officer is working with the Executive Officers from the North Coast and Bay Area Regions to develop and implement sustainable practices for all the Water Boards, as well stakeholders with whom we work, and helped State Board staff draft a Resolution regarding sustainability, which emphasizes low impact development. The Executive Officer has also helped State Board staff draft the Water Boards' Strategic Plan revisions. He is also working with the Assistant Executive Officer to establish a Central Coast Low Impact Development Center, and with the Coastal Commission, UC Davis, and other organizations to develop a comprehensive, statewide, low impact development education program for all development practitioners.

While these assessments, actions and measures of effectiveness are organized by the Vision Goals and Teams, many of our activities are interrelated and will help us achieve all of our goals and realize our Vision.

## DISCUSSION

The Central Coast Region covers approximately 7.22 million acres (11,300 square miles). The Region includes Santa Cruz, San Benito, Monterey, San Luis Obispo, and Santa Barbara Counties and portions of San Mateo, Santa Clara, Kern, and Ventura Counties.

Our vision for the Central Coast Region is:

### Healthy Watersheds

Our goals are:

#### Goal 1

By 2025, 80% of our aquatic habitat is healthy and the remaining 20% exhibits positive trends in key parameters.

#### Goal 2

By 2025, 80% of lands within any watershed will be managed to maintain healthy watershed functions, and the remaining 20% will exhibit positive trends in key parameters.

#### Goal 3

By 2025, 80% of our groundwater will be clean, and the remaining 20 percent will exhibit positive trends in key parameters<sup>1</sup>.

Our work with respect to each goal and our overall assessment effort, is described below. One of the most important changes we made is the establishment of four vision teams that work across our typical organizational boundaries: Healthy Aquatic Habitat Team, Sustainable Land Management Team, Clean Groundwater Team and the Assessment Team. Organizations usually work in program silos, as illustrated by almost any organizational chart (for example, see our organizational chart, included here as **Attachment 1**). In this typical structure, our work tends to be compartmentalized, which can limit how we think and act. It is not enough to say we have to “think outside the box” to address our increasingly complex challenges; we have to create the mechanism and the space for doing so. The purposes of our vision teams are to engage staff and empower them to act on the big issues facing our Region over the next few decades, as described in **Attachment 2**. Addressing existing watershed degradation is part of the picture; preventing watershed degradation is another critical part of the picture and requires a proactive approach. We have also charged our teams to develop and implement a system to measure effectiveness (assessment) of the tasks and progress towards achieving our Vision. Our Vision Teams are taking on this challenge.

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<sup>1</sup> Clean Groundwater is suitable for all present and future beneficial uses. Whenever the groundwater quality is better than the quality of water suitable for all present and future beneficial uses, the goal will be to maintain such groundwater quality.

**VISION GOAL 1**

***By 2025, 80% of our aquatic habitat is healthy and the remaining 20% exhibits positive trends in key parameters.***

Our Healthy Aquatic Habitat Team created a charter to define, assess, and protect aquatic habitat on the Central Coast. Staff concluded that aquatic habitat is not adequately protected in some areas of the region and the condition is expected to get worse with increasing population if changes are not made to the status quo. The regulatory mechanisms needed to achieve healthy aquatic habitat may reach beyond regulation of discharges, which has been the historic emphasis of the work at the Water Board. In order to protect and enhance healthy aquatic habitat, staff must consider improving enforcement of existing regulations, implementing new regulations and/or other management approaches, and exploring improved opportunities for intra-agency/interagency coordination.

The Healthy Aquatic Habitat Team Charter includes the following:

- A stakeholder list with known internal and likely external stakeholders.
- A description of assumptions, constraints, and tasks, including expected completion time and resource limitations, which may directly affect the project.
- A description of how the healthy aquatic habitat vision work is related to and/or dependent on other projects and programs (agreements, behaviors, resources, etc.) vital to the success of the project.
- A definition of healthy aquatic habitat and beneficial uses.

**Current Actions Regarding Healthy Aquatic Habitat**

The Healthy Aquatic Habitat Team is currently implementing the following actions:

1. Work with local permitting jurisdictions to improve implementation of low impact development and hydromodification principles in planning and project development (e.g., February 15, 2008, letter to Municipalities with expectations for storm water management programs).
2. Request input from local jurisdictions on how we might better support their efforts to protect riparian corridors and improve other early stakeholder outreach.
3. Review and comment on CEQA documents calling out the importance/protection of riparian corridors and other planning approaches that proactively protect aquatic habitat.
4. Scan city and county board meeting agendas for projects that could affect aquatic habitat.
5. Officially and publicly support projects that protect existing healthy aquatic habitats (including riparian areas).
6. Conduct thorough assessments of pollutant sources in Watershed Assessment Projects, and identify certain suspect sources as contributors to impairment of aquatic habitat.

7. Use Total Maximum Daily Load Orders to implement measures that protect and enhance healthy aquatic habitats.
8. Proactively protect aquatic habitat, not reactively.
9. Keep a living list of healthy aquatic habitat stressors as staff becomes aware of them.
10. Work with the agricultural industry to address current agricultural practices affecting aquatic habitat.
11. Look for opportunities to address agricultural impacts to healthy aquatic habitat during the Irrigated Agriculture Program's Order renewal process.
12. Coordinate with staff of the North Coast Water Board, Region 1, and the San Francisco Bay Water Board, Region 2, and the State Board, to determine if we can use their policies and amendments to prepare our own Basin Plan amendment to protect aquatic habitat. Regions 1 and 2 are currently developing a Riparian Area and Wetland Protection Policy and Basin Plan amendments (to be completed in December 2008). The State Board recently adopted a resolution directing its staff to prepare a statewide policy for the same purpose (to be completed in three to four years).
13. Promote grant project proposals consistent with our Priorities for External Projects document (**see Attachment 3**), drafted by our Grants Program staff. Staff is promoting riparian area buffer zone designation and protection as one of the priorities. This document helps grantees develop grant project proposals that are in line with the Water Board's vision and goals. Grant program staff also does significant outreach to potential grantees to make sure they are aware of and understand our vision and goals. This work helps direct tens of millions in State Board grant funds to achieve tangible outcomes, for healthy aquatic habitat and our other vision goals.

### **Measuring Our Effectiveness**

The Healthy Aquatic Habitat Team and the other Vision Goal Teams are coordinating with the Vision Assessment Team to measure the effectiveness of our actions. We are measuring effectiveness in two ways, tangible outcomes and performance. To measure the tangible outcomes of our work, we have selected "key parameters" which measure the changes to the environment such as physical, chemical and biological conditions in water (e.g., nitrate concentrations) and on land (e.g., riparian vegetation). We will continue to test the initial key parameters selected and add additional ones as we learn more about the best indicators of the tangible outcomes for which we are striving. To measure our performance and link our actions to tangible outcomes, we are also developing "operational measures" which measure the results, impacts or benefits of our work. For example, we can mark progress towards achieving tangible outcomes (e.g., reduced toxicity in surface waters) if we can show 1) that we have changed our regulatory requirements (e.g., mandated implementation of and reporting on management practices for irrigated agriculture), and 2) that the regulated community is

complying with the new regulatory requirements (e.g., tracking and mapping locations and types of management practices implemented based on reports submitted and field inspections). Operational measures include measuring both actions by staff and the Board to establish new requirements for land managers and dischargers (or to influence stakeholders), *and* behavioral changes by land managers, dischargers and stakeholders that indicate compliance or response.

The Healthy Aquatic Habitat Team selected initial key parameters indicative of healthy aquatic habitat. The initial key parameters include toxicity and biostimulation because these data are excellent indicators and are readily available.

In conjunction with the Vision Assessment Team, the Healthy Aquatic Habitat Team will develop additional key parameters of bioassessment, riparian habitat and stream physical structure. Each of these additional parameters is composed of several indices. Combined, these five key parameters will give a comprehensive assessment of aquatic habitat health.

The Healthy Aquatic Habitat Team identified riparian buffers and pervious surfaces as operational measures because they indicate performance in two ways: our organizations' effectiveness at influencing and requiring changes, and land manager and discharger behavioral changes. Furthermore, riparian buffers and pervious surfaces are relatively cheap and effective ways of limiting pollution to our surface water bodies while simultaneously improving the recharge of groundwater. If we are able to measure or demonstrate progress towards the following, we will be able to show we are accomplishing our Goal of Healthy Aquatic Habitat and the Vision of Healthy Watersheds:

1. All agriculture lands installing or preserving riparian buffers,
2. All new developments being set back at least 100 feet from riparian corridors,
3. Open space preservation occurring in important groundwater recharge areas,
4. All new developments and redevelopments being designed to minimize runoff and maximize the recharge of groundwater.

### **Longer Term Actions**

1. Identify and develop implementation and management actions needed to protect, enhance, and restore aquatic habitat.
2. Identify and develop (if necessary) regulatory and administrative tools, such as develop and adopt a Basin Plan amendment to protect riparian and wetland habitat.
3. Refine definition and assessment of Healthy Aquatic Habitat.

### **VISION GOAL 2**

***By 2025, 80% of lands within any watershed will be managed to maintain healthy watershed functions, and the remaining 20% will exhibit positive trends in key watershed parameters.***

The Sustainable Land Management Vision Team authored a charter to focus activities toward Goal 2. The Team defined "sustainable land management" and identified key

parameters and operational measures to determine effectiveness of our actions at improving land management. Goal 2 activities are multifaceted and include all water quality programs of the Central Coast Water Board.

### **Current Actions Regarding Sustainable Land Management**

1. The Executive Officers of Regions 1, 2, and 3 (North Coast, San Francisco Bay area, and Central Coast, respectively) are working together to develop sustainable practices for all Water Boards, as well stakeholders with whom we work. The Executive Officer also helped draft the State Board's Sustainability Resolution, which emphasizes low impact development. These efforts will contribute to achieving the other vision goals as well.
2. Per the Board's direction, the Executive Officer and Assistant Executive Officer are continuing work to establish the Central Coast Low Impact Development Center, a non-profit organization that will help achieve healthy watersheds by providing comprehensive low impact development expertise and assistance to municipalities and other stakeholders. The Central Coast LID Center in San Luis Obispo will essentially be a branch office of the Low Impact Development Center of Maryland, which is currently negotiating with a national leading expert for the San Luis Obispo office director position. If this negotiation is successful, we expect the director to start in September 2008. This effort will contribute to achieving the other vision goals as well.
3. The Assistant Executive Officer is working with the Coastal Commission, UC Davis Center for Water and Land Management, and other organizations to develop a comprehensive, statewide, low impact development education program for all development practitioners. Our intent is to reach all those involved at every stage of the development process, from elected officials and planners to the maintenance crews who take care of the final development project. We plan to define the scope of the project and a funding proposal within six months. This educational effort will take several years and will cost millions of dollars. UC Davis will be the lead organization. This effort will contribute to achieving the other vision goals as well.
4. Team members interviewed staff members throughout the office to determine additional ideas and actions to achieve sustainable land management through coordinated program efforts.
5. Staff is identifying urban pesticide best management practices to be required in municipal storm water management programs. Storm water management programs will address pesticide reduction controls in three ways: public education and outreach, illicit discharge detection and elimination, and "good housekeeping" for municipal operations. A few municipalities within our region have implemented pesticide reduction best management practices in their storm water management programs (Santa Barbara County and City of Salinas). Our objective is to reduce the pesticide toxicity loading from all municipal jurisdictions.
6. Staff is requiring municipalities to include storm water management practices in their storm water management programs that protect watershed functions. Staff members have developed goals (e.g., maximize infiltration of clean storm water) and criteria (e.g., match the post-construction hydrograph to the pre-construction hydrograph for

new and redevelopment projects) to improve municipal planning and development approval processes and projects to better protect watershed functions. This effort will contribute to achieving the other vision goals as well.

7. Staff is identifying significant future growth areas and redevelopments through contacts with city and county planners. Staff will use this information to target staff efforts encouraging, requiring or enforcing implementation of storm water management requirements for new and redevelopment that protect watersheds. Specifically, staff will contact city and county planning staff to assess recent and planned growth patterns to forecast growth (i.e., population, dwelling units, and redevelopment), and catalogue the Central Coast Region's urbanizing areas.
8. Staff is identifying municipal (i.e., City and County) planning and development review and approval processes and standards. Staff members will identify key points in the planning/development process to influence or require watershed protection and planning and implementation of low impact development standards and practices. We will continue to learn the municipal planning and development processes and develop two illustrative flow charts. One flow chart will represent the typical municipal planning process for general plans and/or specific plans, and the other flow chart will represent project specific planning and approval sequences. In addition to the flow charts, we will develop a narrative description of each process.
9. Staff is working on agricultural regulation and implementation of best management practices at irrigated agricultural facilities. Over the last four years, by complying with the Conditional Waiver of Waste Discharge Requirements for Irrigated Agricultural (irrigated agricultural order), growers within the Central Coast Region have implemented many practices to some degree, including irrigation management, nutrient management, pesticide management, and erosion controls. Staff has also identified other ways to address toxicity and other agricultural water quality impacts. Examples include:
  - Requiring irrigation tail-water reductions from farm operations.
  - Improving efficiencies of irrigation systems.
  - Reducing fertilizer applications through nutrient budgeting.
  - Inspecting agricultural facilities to verify the effectiveness of changes in growers' practices, and to verify implementation of management practices.
  - Developing ways to track fertilizer applications.
  - Coordinating with the Department of Pesticide Regulation on specifications to incorporate on pesticides labels to address water quality and prevent pesticide movement off-site.

Also, State Board Staff will recommend funding to the State Water Resources Control Board in June for a Central Coast irrigation and nutrient efficiency program. This is a major step forward toward addressing high nitrates in surface and ground water and toxicity from agricultural land uses. Irrigation efficiency increases will also directly address severe groundwater problems from over drafting and will be directly increasing sustainability within our watersheds.

10. Staff members will complete an inventory of water quality issues affecting watershed functions. The purpose of this effort is to identify other potentially high priority water quality issues.

### **Measuring Our Effectiveness**

The Sustainable Land Management Team chose two key parameters to measure the tangible outcomes of sustainable land management and improved watershed functions.

1. Percent impervious surface in the Central Coast Region - Watershed degradation increases directly with increasing impervious surfaces. Minimizing impervious surfaces protects watershed functions by reducing pollutant loading, controlling storm water runoff, and increasing groundwater recharge.
2. Toxicity in runoff - reduced toxicity in water downstream of urban and agricultural land uses is an indicator of improved and sustainable land management practices.

The Sustainable Land Management Team also identified operational measures that indicate effectiveness of staff efforts to promote and gain increased sustainable land management. The Team determined that management practices associated with urban and agricultural land uses (which affect water quality and watersheds the most in our region) are the most meaningful operational measures for this goal. The Team is working with the Vision Assessment Team to develop capabilities to track and map implementation of management practices that are required by the Water Board's storm water permits and irrigated agricultural order.

### **Longer Term Actions**

Staff identified long term actions toward achieving Goal 2, as listed below.

1. Draft regulatory requirements for land management activities, e.g., zoning restrictions in groundwater recharge areas (not started).
2. Mandate buffer zones for aquatic habitat (started).
3. Determine and implement measures for gauging trends in water quality coupled with land uses; e.g., linking management measures to changes in surface or groundwater quality (started and continuing expansion).
4. Engage with internal and external stakeholders to create actions aligned with sustainable land management objectives, including low impact development methods (started).
5. Consider appropriate Water Board responses to major trends in environmental conditions, e.g., local mercury deposition from overseas coal-burning plants, presence and impacts of pharmaceuticals and flame-retardants in waterways and aquatic species, acidification of the Pacific Ocean (started – e.g., our web site has source control information for pharmaceuticals).
6. Incorporate policies and practices into existing programs and staff members' activities to promote or implement increased ground water recharge, water reuse, recycling, and conservation practices (started).
7. Address water supply forecasts associated with growth and global warming impacts and develop locally available supply options to achieve a long-term sustainable water supply (started – e.g., work with multiple Monterey County agencies on a variety of



local water supply projects including recycling and Aquifer Storage and Recovery, and work with agencies regionwide on recycling projects).

### **VISION GOAL 3**

***By 2025, 80% of our groundwater will be clean, and the remaining 20 percent will exhibit positive trends in key parameters<sup>2</sup>.***

The Central Coast Region has 53 groundwater basins (Department of Water Resources). Groundwater accounts for approximately 83 percent of the annual supply used for agricultural and urban needs (DWR, 2003) within the Region. This dependence on groundwater drives our organization to protect, restore, and provide ongoing assessment of regional groundwater quality, for the benefit of current and future generations.

The Water Board effectively identifies, characterizes and directs remedial actions at most of the point-source groundwater pollution sites, and regulates residential, municipal and industrial point source land discharges. In addition, the Agricultural Program currently addresses agricultural non-point source impacts to surface waters that are also directly related to groundwater degradation. However, we don't have formal mechanisms in place to determine if our efforts are appropriately prioritized or whether they improve and protect water quality on a watershed/groundwater basin scale. We recognized that while we addressed point source discharges to groundwater, larger, basin-wide issues (e.g., nitrates, salts, sea-water intrusion, etc.) are not being addressed.

The Clean Groundwater Vision Team is addressing these issues. The Clean Groundwater Team charter outlines a plan to identify, prioritize, and implement actions to protect and restore regional groundwater quality (i.e., meet the measurable goal). The Clean Groundwater Team charter is based on the premise that region-wide groundwater basin management of both water quality and quantity is essential to ensure that our region will continue to have groundwater suitable for all present and future beneficial uses. Historically, our groundwater programs have relied primarily on cleanup-driven (reactive) efforts. The Clean Groundwater Team charter efforts shift our perspective to a combination of preventative/proactive (e.g., recharge area protection) and cleanup actions.

The charter outlines the following six objectives (not necessarily in order of importance):

1. Develop a list of groundwater quality and performance measures.
2. Identify and implement organizational changes to improve cross-program and cross-agency collaboration and communication, such that we utilize and inform all our programmatic authority and capability.
3. Develop and implement an approach for regional monitoring and assessment.
4. Define groundwater use and recharge areas to protect these areas, and use this information in decision-making.

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<sup>2</sup> Clean Groundwater is suitable for all present and future beneficial uses. Whenever the groundwater quality is better than the quality of water suitable for all present and future beneficial uses, the goal will be to maintain such groundwater quality.

5. Develop and implement a tiered ranking system or decision tree for prioritizing groundwater issues and groundwater basins.
6. Identify and implement available regulatory mechanisms that will aid in basin-wide management.

An additional key component of the charter is to implement a modeling pilot study for a groundwater sub-basin or manageable portion of a groundwater basin. The pilot study will be used to optimize and validate the charter objectives listed above. The lessons learned from the pilot study will be applied to projects in other groundwater basins throughout the region.

### **Current Actions Regarding Clean Groundwater**

Staff is taking action toward achieving the measurable goal, both as part of the Clean Groundwater Team and within the existing office programs. Examples of our current priority tasks include the following:

1. Gathering available recharge area maps, recharge definition/criteria, and recharge area protection ordinances for the counties within the region and quality examples from around the country.
2. Coordinating with UC Santa Cruz professor, Dr. Andrew Fisher, on "The Recharge Initiative" in Santa Cruz County.
3. Developing a pilot study for a northern portion of the Santa Maria groundwater basin [within the Groundwater Ambient Monitoring and Assessment (GAMA) study area noted below].
  - a. Gathering available hydrogeologic and geochemical information
  - b. Identifying available wells, available water quality data and data gaps
  - c. Coordinating with key external stakeholders (e.g., Counties) to identify priorities
  - d. Coordinating with internal programs on related projects such as Santa Maria-area Total Maximum Daily Loads, Agricultural Discharge Regulation Program Santa Maria-area inspections, and Central Coast Ambient Monitoring (CCAMP) monitoring efforts.
4. Coordinating with State Board and U.S. Geological Survey personnel on the forthcoming GAMA Program Priority Basin Assessment Project for the South Coast Ranges Study Unit (Santa Maria River Valley and Santa Ynez River Valley groundwater basins).
5. Coordinating with internal (i.e., Point Source Permitting, Underground Tanks, Spills and Cleanups, etc.) and external programs (i.e., Local Implementing Agency/Local Oversight Programs, Department of Toxic Substances Control, EPA, etc.) to identify potential and existing point sources within pilot study area, as well as opportunities for strategic partnerships.
6. Developing and prioritizing lists of groundwater quality and performance measures.
7. Ongoing planning and implementation via regular team meetings to identify, prioritize and assign tasks for charter implementation.
8. Coordinating with Assessment Vision Team.
9. Communicating and collaborating across programs on specific projects.
10. Coordinating with State Board Underground Storage Tank program on Five-Year Review Program.

11. Coordinating with Department of Water Resources on water quality component of the draft of Water Plan Update for 2009.

The current focus of the Clean Groundwater Team on the above-noted actions one through five, ten, and eleven is based on timely and unique opportunities to coordinate with other entities on projects in alignment with our charter objectives and tasks.

Beyond the efforts of the Clean Groundwater Team, program staff is implementing additional changes to align its work with our vision and groundwater goal, including these examples:

1. Developing and employing criteria to prioritize underground tank cases. This effort helps identify cases that pose greatest threat to beneficial uses. Our ranking criteria include threat to beneficial uses, exposure risk, level of site characterization, cleanup fund amount remaining, and nearness to closure.
2. Site Cleanup Program staff are developing a similar prioritization method to assess the most important cases within the program.

By focusing on priorities, we not only do the most important work, we identify lower priority work that may be appropriate for reduced attention. This focus allows us to find staff time to work on new, important initiatives that we determine to be priorities, like the pilot study mentioned above.

The Clean Groundwater Team identified the following work products to evaluate the interim success of the current activities listed above:

1. A Completed GAMA study for Santa Maria groundwater basin that includes data needs for our pilot study. Prior Central Coast Water Board staff coordination integrates our data needs into the GAMA project.
2. A Library of existing recharge area maps, recharge criteria, and local and ideal protection ordinances.
3. Identification and GIS mapping of well locations for pilot study area, including well construction data.
4. GIS data layers for nitrate and TDS data for pilot study area over time.
5. A Pilot study framework and initial development of groundwater basin model.

### **Measuring Our Effectiveness**

The Clean Groundwater Team developed a "short-list" of key parameters to assess groundwater quality throughout the region. The Clean Groundwater Team identified the following parameters to gather, compile, and evaluate both for the proposed pilot study area and region wide:

1. Groundwater nitrate concentrations,
2. Groundwater total dissolved solids (TDS).

Working with the Assessment Vision Team, we compiled this data into a GIS framework. This "short-list" was cut down from an extensive list of physical and chemical analytes that the Clean Groundwater Team compiled as potential key parameters to track within our region, including the significance of recharge areas. This list will be expanded during future phases of implementation to include various additional parameters.

The Clean Groundwater Team identified the following operational measures to gauge our interim progress towards the clean groundwater goal. We will further define these measures as we better understand more specifics surrounding each regulatory requirement:

1. Establishment of significant new Basin Plan updates/amendments (Example: groundwater recharge area protection requirement).
2. Adoption of new local policies/ordinances in alignment with Vision goals (Examples: Number of municipalities with adequate recharge protection ordinances; amount of recharge areas protected by adequate local ordinances.)
3. Adoption of orders containing new requirements in line with Vision goals (Example: number of new orders adopted that contain salts management plans for sites that discharge to targeted groundwater basins. Numeric Target: 100 percent)
4. Funding and implementation of external projects in-line with Vision objectives, tasks, and goals (i.e. Integrated Regional Water Management Plans or IRWM, Proposition 84 grant-funded projects, Supplemental Environmental Projects, etc.)

### **Longer Term Actions**

The Clean Groundwater Team also developed a more comprehensive list of tasks necessary to achieve the clean groundwater goal. This list will grow over time as we better understand the challenges to managing groundwater basins. The longer-term action task list follows:

1. Ongoing planning and implementation via regular team meetings to identify, prioritize and assign tasks for project charter implementation.
2. Ongoing coordinating with Assessment Vision Team
3. Additional GAMA coordination-
  - a. For U.S. Geological Survey program priority basin assessment projects in other groundwater basins within our Region
  - b. To initiate Lawrence Livermore Nuclear Lab special studies in Santa Maria groundwater basin and other basins within our Region
4. Recharge Area Protection
  - a. Gather and review existing recharge area protection local ordinances
  - b. Develop and refine recharge area criteria
  - c. Develop and refine recharge area maps for entire Region
  - d. Develop recharge area land use policies/prohibitions (for Basin Planning)
  - e. Work with local agencies to adopt/implement land use policies/prohibitions for recharge areas
5. Apply Santa Maria basin pilot study lessons learned to assessment of other basins within the Region
6. Compile self-monitoring report data for various Water Board programs (i.e., monitoring well locations and data).
7. Continued cross program communication and collaboration on specific projects
8. Continued cross agency communication and specific project involvement/collaboration:
  - a. IRWM programs
  - b. GAMA (as also noted above)

- c. Department of Public Health Source Water Assessment Program
  - d. Department of Water Resources Water Plan Updates
  - e. Department of Pesticide Regulation Groundwater Monitoring Program
  - f. Water resource agencies and water districts – various water quality and supply studies and projects
9. Make recommendations for Basin Plan updates/amendments
  10. Develop list of key parameters.
  11. Continued development of operational measures.
  12. Identify and implement organizational changes to improve cross-program and cross-agency collaboration and communication.
  13. Develop and implement an approach for regional monitoring and assessment.
  14. Define groundwater use and recharge areas and use in decision-making.
  15. Develop and implement a tool for prioritizing groundwater issues and groundwater basins.
  16. Identify and implement available regulatory mechanisms that will aid in basin-wide management.
  17. GIS mapping of well locations for entire Region.
  18. Regional monitoring and assessment program for entire Region.
  19. GIS data layers for nitrate, TDS, other chemical parameters, and water level data for entire Region.
  20. Modeling/assessment of additional groundwater basins or sub-basins with our Region.

### **VISION ASSESSMENT ACTIVITIES**

The Vision Assessment Team developed a charter that lays out major objectives and measures of success, and identifies issues, assumptions and constraints that must be addressed to successfully assess our effectiveness in achieving our vision of Healthy Watersheds and our specific goals. The charter guides the activities of the Assessment Team. This team includes members with expertise in Geographic Information Systems (GIS), data management, and data analysis and assessment. The Team also includes staff that serves as liaisons from each of the other three teams, as well as from the office administrative program.

The primary role of the Vision Assessment Team is to measure our effectiveness in achieving our three goals. In order to track success towards the three goals, teams have been developing definitions of “healthy aquatic habitat”, “sustainable land use”, and “clean ground water”. Teams are selecting several key parameters and operational measures that are to be used as measures of health, and that will be tracked for each goal. The key parameters measure water quality or habitat health, while the operational measures track our own actions (like completing a Basin Plan amendment on schedule), and implementation by parties affected by our actions (like how many farmers are implementing effective management practices).

The Assessment Team will combine all the measures into multi-parameter indices that serve as surrogate measures of health. For example, for aquatic habitat health, measures include bioassessment, biostimulation, toxicity, riparian habitat and in-stream habitat. For proper land use, measures include impervious surface coverage, pesticide use patterns, implementation of management practices, etc. For clean groundwater, measures include concentrations and trends in key pollutants (e.g., nitrate and salts).

To the extent possible we are using data from existing monitoring programs and information sources. The Central Coast Ambient Monitoring Program (CCAMP) provides the data “backbone” for in-stream measures of health. Other program data provides key information on implementation activities. For example, the irrigated agricultural order is set up to track management practice implementation, irrigation methods, types of runoff, etc. As necessary, Board staff may begin collecting new types of data (for example, on implementation of storm water management practices).

### **Current Actions Regarding Vision Assessment**

1. The Assessment Team is assisting other Vision Teams to define and calibrate key parameters and assess them at a Region-wide scale. We anticipate that other measures will be defined as the project evolves. Current GIS-based assessments include:
  - a. Ground water nitrate concentrations
  - b. Toxicity
  - c. Biostimulation
  - d. Agricultural management index
  - e. Impervious surface cover
  - f. Land use activities found within a buffered distance from each stream reach
2. We are developing a “state of the Region” report based on key parameters
  - a. One team member has begun drafting a “story board” for a Regional assessment report.
3. We are beginning to develop a data management and assessment infrastructure (including software and database structure) so that the Vision assessment process can be successfully maintained and repeated in future years in spite of changing staff.
  - a. The GIS team has organized GIS data layers onto a single server and we are continuing to develop this resource.
  - b. We prototyped a web-based Vision Assessment reporting system using toxicity data and are now exploring its use with other data types.
  - c. We have developed water quality data delivery procedures by outside users (based on a system developed for the Agricultural monitoring program). We are using this procedure for data originating from volunteer and grant projects.
  - d. Admin staff has been improving our ability to incorporate data now in the California Integrated Water Quality System (CIWQS) into our GIS framework by adding information on water bodies to all facility names, by ensuring that data on key parameters like nitrate are reported into the system, and by ensuring location information is complete and correct (see more detailed information below).

- e. We are prototyping a watershed browser (similar to the on-line CCAMP data browser) that displays health attributes at site, reach, and watershed scales and will implement this on the web incorporating all key parameters.
- f. We have developed tools for tracking activities using Wiki software (the same as is used by Wikipedia)

### **Longer Term Actions**

1. We will continue developing and assessing key parameters and operational measures through Geographic Information System analysis and data layer development for all three goals.
2. We will finalize a Vision Assessment information structure.
3. We will support Water Board programs in implementing data uptake from various sources (through new permitting requirements, grants or Non Point Source tracking, etc.) for delivery into the Vision information system.
4. We will finalize the watershed browser to display health attributes at reach and watershed scales.
5. We will create a groundwater data browser that works in conjunction with the watershed browser to display health attributes at a basin scale.
6. We will prepare a baseline evaluation of regional health (Report Card) based on key parameters.

### **An Example of Vision Assessment in Action**

The Administrative Unit has led the way in integrating changes into the way they do business in support of the Vision effort, and their proactive approach provides an excellent example of how this work can be done without necessarily requiring additional staff. The Administrative Unit's focus has been on data management and business process improvements. To support assessing the overall health of the Region's watersheds, the administrative unit created a network of information that incorporates different program information organized by watershed that can be easily viewed without a report. This new approach makes it much easier to track and gauge the water quality impacts that affect our region. They are also working to receive monitoring data and documents electronically. To relieve a heavily-burdened storm water program, they have improved business processes and workflow. Their completed contributions to date include:

- Entered 74 hydrologic unit and sub-unit and 619 waterbody records into CIWQS
- Identifying the hydrologic unit and closest surface waterbody for 117 NPDES, 738 WDR, and 769 construction storm water discharges
- Linked the combined 1624 discharger records to their hydrologic unit and waterbody records
- Entered the 35 draft and active TMDL project records into CIWQS
- Performed a CIWQS audit of timber harvest program records, entering all missing information, and linking the 95 timber harvest records to their hydrologic unit and closest waterbody

- Researched storm water resource and data management issues and developing a storm water inspection entry procedure that includes administrative staff now entering and tracking storm water inspections for the storm water program
- Researched and developed a storm water Notice of Intent and Notice of Termination process that includes administrative students and staff now performing these duties for the storm water program
- Transitioned 50% of our individual NPDES permitted discharges from submitting monitoring data on paper to submitting electronically
- Worked on a statewide committee to create an easier method of receiving monitoring data electronically to bring in a larger quantity of dischargers
- Worked on a statewide committee and insisted they develop a report to view electronically submitted data by constituent, waterbody, and hydrologic unit, rather than by permitted discharge

The Administrative Unit continues to work to improve water quality data management and business processes by:

- Identifying the hydrologic unit and closest surface waterbody for the 397 industrial stormwater records and linking these records in CIWQS.
- Developing a plan to transition the other 50% of our individual NPDES permitted dischargers to submitting monitoring data electronically via CIWQS
- Developing a plan to transition our major WDR dischargers to submitting data electronically via CIWQS
- Implementing an Electronic Content Management System to reduce paper use and group electronic documents by watershed and by permitted discharge

## **CONCLUSION**

Staff continues to implement actions to achieve our vision and goals. Our Vision Teams are defining higher order actions, inspiring higher order actions by all staff, and changing the way we do our day-to-day work. The purpose of creating the teams was to create new opportunities for staff to do outstanding, creative work, and change our normal program tasks so that we achieve our Goals and realize our Vision. Staff has responded well. Staff is integrating Team tasks into the Central Coast Water Board's program work plans for the 2008-2009 fiscal year. This brings the Vision tasks in to our daily activities, giving Vision tasks equal importance relative to more traditional program tasks in our programs. We are developing and implementing new regulatory requirements to achieve our goals, we are defining longer-term actions that are necessary to achieve healthy watersheds, and we are increasingly measuring our effectiveness with one of the most comprehensive assessment programs in the country.

We look forward to discussing this work with the Board on June 4.

## **RECOMMENDATION**

This item is for discussion only. The Board may give staff direction.



**ATTACHMENTS**

**Attachment 1- Central Coast Water Board Organizational Chart**

**Attachment 2- Vision Teams**

**Attachment 3- Central Coast Water Board Priorities for External Projects**

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