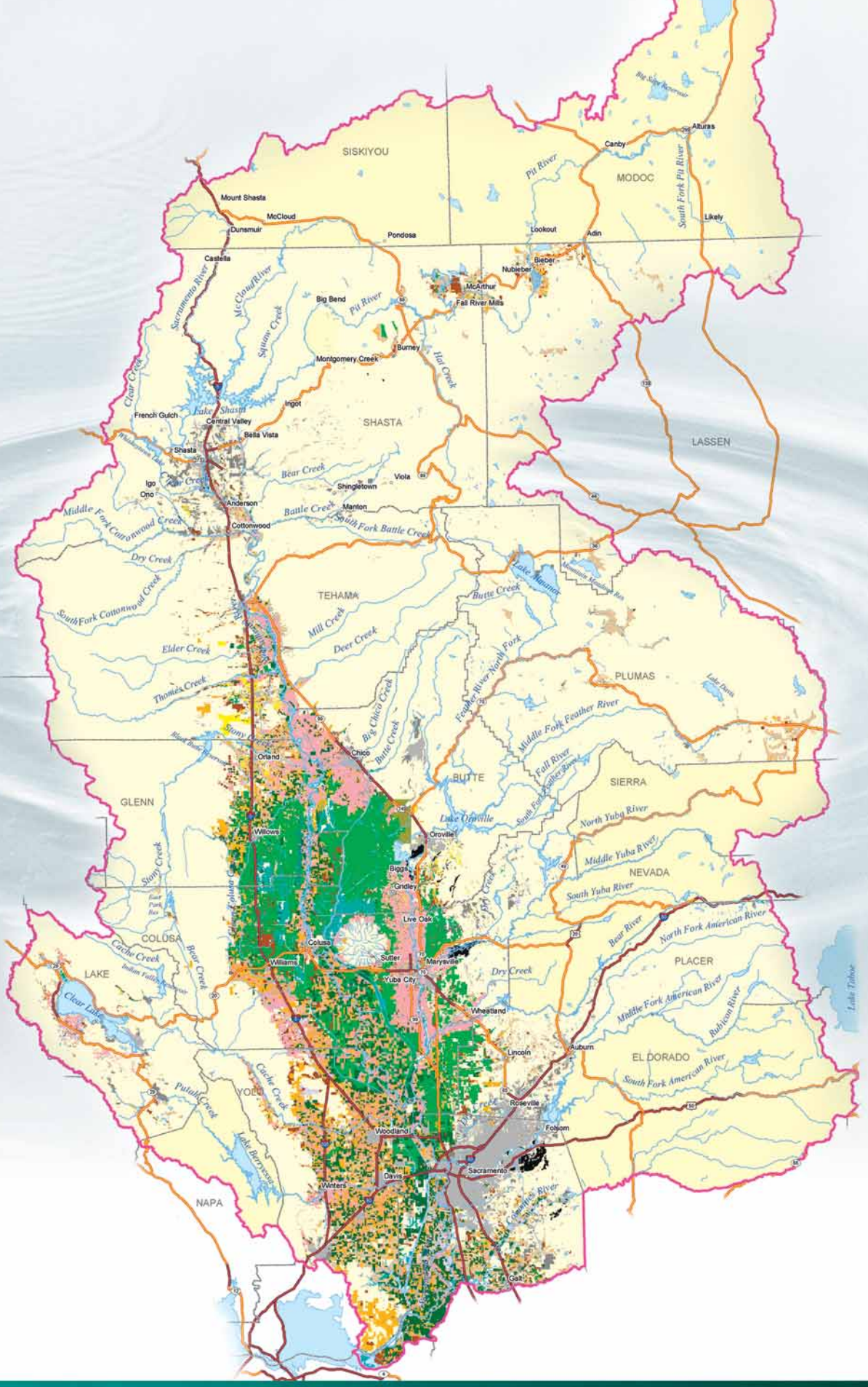
A Regional Plan for Action

The Sacramento Valley Water Quality Coalition

June 2003

The Regional Plan for Action is a grassroots, collaborative effort to enhance and improve water quality for farms, cities and the environment in Northern California.



Sacramento River Basin

A Regional Plan for Action

The Sacramento Valley Water Quality Coalition

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Introduction –
A Watershed Approach for the Sacramento Valley

The Coalition is a grassroots, collaborative effort to enhance and improve water quality for Northern California farms, cities and the environment.

A broad coalition of agricultural and waterfowl interests have formed the Sacramento Valley Water Quality Coalition (Coalition) with local governments throughout the region to enhance and protect water quality in the Sacramento River Basin, while sustaining the economic viability of agriculture, associated values of managed wetlands and sources of safe drinking water. The Coalition is a grassroots, collaborative effort to ehance and improve water quality for Northern California farms, cities and the environment. The Coalition partners are committed to scientifically-based watershed management for the Sacramento River Basin and have begun to implement the following Regional Plan for Action (Plan) to foster further collaboration and to meet the objectives in the Porter-Cologne Water Quality Control Act (Water Code §13000 et seq.).

The Plan advances a framework for Coalition partners to sustain healthy watersheds that are essential to the long-term viability of farming in the Sacramento Valley, and are important to continue agriculture's role as the cornerstone of the region's economy. Maintaining healthy watersheds are also critical to fish and wildlife in the Sacramento Valley.

Farmers and waterfowl interests have an impressive track record for collaborating in locally driven watershed efforts to improve salmon and steelhead in the Sacramento River and its tributaries and to help meet water quality standards in the Bay-Delta. This Plan will build upon these partnerships and their successes to improve water quality in the region and to meet the Central Valley Habitat Joint Venture objectives of the North American Waterfowl Management Plan. These partnerships illustrate the opportunities to harmonize the diverse demands on the landscape to meet the needs of agriculture, fisheries, wetlands and municipalities.

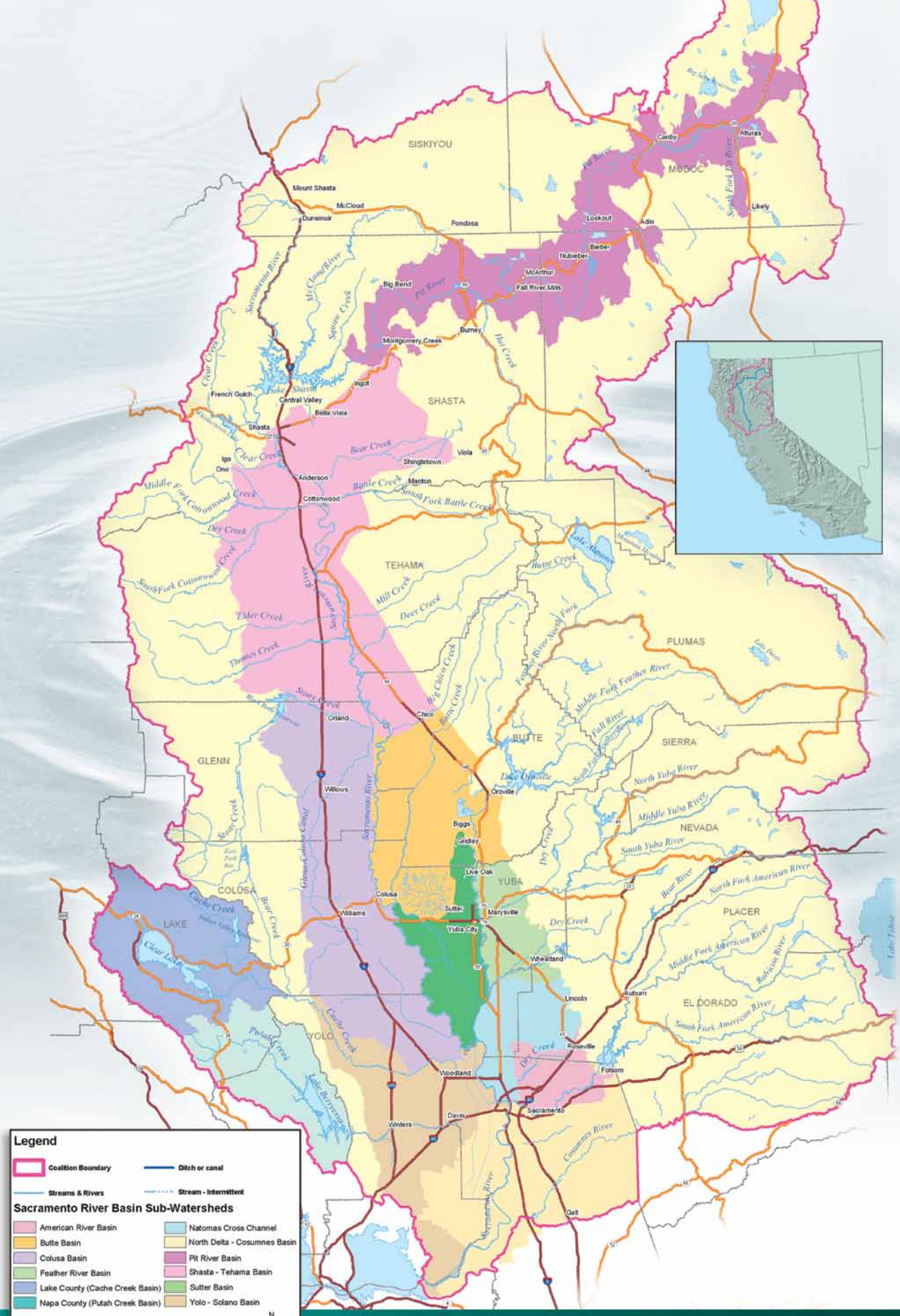
Great Blue Heron

The Plan also provides an effective way to enhance the water quality in the Sacramento River Basin. Most notably, the Coalition will help the State Water Resources Control Board (SWRCB) and the Central Valley Regional Water Quality Control Board (Regional Board) implement their Strategic Plan and the Watershed Management Initiative by utilizing local leadership to develop and then implement the Plan. The Coalition supports the SWRCB and Regional Board vision in its Strategic Plan to look at entire watersheds rather than focusing only on specific water quality constituents. The Plan offers unique solutions for the Sacramento River Basin that consider local conditions and the different constituents within its numerous water courses.

The Plan recognizes the complex water systems in the Sacramento River Basin and is particularly well suited for agricultural non-point source runoff. The SWRCB and Regional Board initially developed and then approved the Watershed Management Initiative to help them meet their goals of providing water resources protection, enhancement and restoration while balancing economic and environmental impacts. The Plan will serve as the framework to implement the Watershed Management Initiative as a more holistic watershed approach to meet water quality objectives in the Sacramento River Basin.

Significantly, the Regional Board's Basin Plan for the Sacramento River Basin and the Watershed Management Initiative specifically recognize the Sacramento River Basin as a management area or watershed. To assure consistency with the Porter-Cologne Water Quality Control Act, the Coalition is committed to a macro-level watershed approach where the geographic boundaries are identical to the Regional Board's Basin Plan for the Sacramento River Basin and the area described in the Watershed Management Initiative, known as Region 5a (see page 8). As a watershed organization covering the entire Sacramento River Basin, the Coalition is committed to address water quality in a holistic manner as envisioned in the Strategic Plan.

Addressing agricultural runoff throughout a predominantly rural area requires a long-term collaborative effort among the people who live and work within the region's watershed. Nested within the macro-level watershed group are twelve subwatershed groups that have initially emerged to address water quality in their respective geographic areas. Within these subwatersheds, Resource Conservation Districts, Farm Bureaus, Water Districts, Reclamation Districts, local watershed groups and other stakeholders have stepped forward to actively participate in these subwatershed efforts and the Plan coordinated by the Coalition. These groups for many years have worked with landowners to implement local watershed enhancement projects for various purposes and are now committed to implement this Plan. The leadership of these groups is actively working with farmers and waterfowl managers to ensure that a unique approach to managing water quality is tailored to their crop conditions, land uses and the local hydrology.



Sacramento River Basin Subwatersheds

This nested subwatershed framework is important to the Sacramento River Basin. A macro-watershed group provides a systematic approach to address water quality in a manner that reflects the hydrologic nature of the Sacramento River Basin and is consistent with the Basin Plan and the Watershed Management Initiative. The subwatersheds are all part of the Sacramento River Basin, which ultimately funnels together at the southern end of the watershed. As a result, actions in one tributary or subwatershed will often impact other segments of the watershed. Coordinating these actions will help to avoid conflict and to enhance overall water quality throughout the region.

Additionally, a coordinated approach by subwatersheds within the Sacramento River watershed will provide economic efficiency for the State of California, its agencies and Coalition partners as they implement the Plan. Such macro-level coordination will also help streamline efforts to allocate the limited financial and human resources necessary to carry out the Plan.

Finally, the Plan is consistent with the CALFED regional strategy for the Sacramento Valley and will help implement source protection programs in the CALFED Record of Decision by 2007.

Wood Duck

At a Glance

The Sacramento River Basin

Sacramento River Basin

- Originates north of the Oregon border draining south to the San Joaquin River in the Delta.
- The Sacramento River is 370 miles long.
- Drains 22 million acre-feet from over 27,000 square miles of land making it the largest river in California.
- Provides water for 2 million irrigated acres.
- Serves as a drinking water source for 20 million people.

Sacramento Valley Agriculture

- Comprises 22% of California's total farmland.
- Primary crops include rice, fruit, nuts, alfalfa, grain and tomatoes.
- Serves as the economic engine for the region.

Sacramento Valley Wildlife

- The Pacific Flyway provides crucial habitat for the annual migration of waterfowl, geese and waterbirds.
- Seasonal and permanent wetland habitats provide for 65% of the North American Waterfowl Management Plan Central Valley waterfowl habitat objective of 7.2 million birds.
- Waterfowl utilizing the Pacific Flyway migrate from distances as far as Siberia to winter in California.
- Many migrating waterfowl have no alternative destination that equals the habitat values of the Central Valley, which has the highest concentration of waterfowl in North America.
- Provides habitat for 50% of the threatened and endangered species in California.

Plan for Action

As the Coalition embarks on the watershed approach for the Sacramento Valley, it is committed to proceed in a comprehensive – yet practical – manner that will enhance water quality. This Plan is unique to the Sacramento Valley and will initially focus on the following components.

Monitoring

The Coalition is developing a comprehensive and economically feasible plan to monitor water quality in the Sacramento River watershed. This planning effort is already underway and being developed by leading scientists in collaboration with Regional Board staff (see Technical Steering Committee, page 10).

The SWRCB, in a March 5, 2002 statement by its Chairman, has indicated that "a well designed monitoring program is clearly the first step" to address agricultural runoff. The SWRCB's Strategic Plan also calls for appropriate systems to assess and report on progress toward improving California water resources.

To help implement the Strategic Plan, the Coalition will develop a regional water quality monitoring program that addresses agricultural runoff (irrigation season and stormwater) and respects all beneficial use protections and water quality standards in the Sacramento River Basin Plan. The Coalition will utilize a Quality Assurance Project Plan (QAPP) to ensure that the data is scientifically valid. The Coalition will select certified water toxicity testing labs to perform assessments that are consistent with Regional Board policies.

The Coalition will compile existing data in the Sacramento River watershed and utilize this data as the foundation to develop its monitoring plan. This will include identification of the designated beneficial uses for each major waterbody, identification of waterbodies on the Clean Water Act Section 303(d) impaired waterbodies listing and the constituents responsible for the 303(d) listing. The synthesis and statistical analysis of all historical Constituent of Concern (COC) data by site and date is a critical first step for designing a science based monitoring program in the Sacramento River Basin. Spatial and temporal scale monitoring components will be determined based on historical analysis of COCs. Historical analysis will also provide a benchmark for measuring progress in reducing concentrations of COCs through implementation of management practices.

The Coalition will pursue economies of scale realized by a regional, watershed-based plan that assures cost-effective monitoring, sample collection, sample analysis, data evaluations, data storage and management. The monitoring program will be designed in conjunction with SWRCB and Regional Board staff to fill gaps in existing monitoring programs by adding additional strategic sites, more testing or constituents that are not currently monitored.

To achieve the goal of a cost effective monitoring, analysis and management program, the Coalition plans to utilize a "phasing" approach for the use of assessment tools. There will be four phases to the monitoring:

Phase 1 – The initial round of monitoring will be focused on significant discharges to major water courses and on water courses that have been previously identified by the Regional Board or the subwatershed group as having water quality problems. The intent is to gain better understanding of current water quality conditions and to identify future monitoring needs to determine the extent and nature of water quality impairments.

During Phase 1, initial monitoring will be conducted utilizing toxicity testing with a suite of appropriate water column and/or sediment species. If a pattern of toxicity is detected, additional monitoring will be conducted to determine the cause of toxicity. Additional monitoring could include the use of U.S. Environmental Protection Agency (EPA) pesticide screens (i.e., organochlorines, organophosphate, pyrethroids and carbamate pesticides) based on the pesticides commonly used in the watershed or found through toxicity identification evaluations (TIEs).

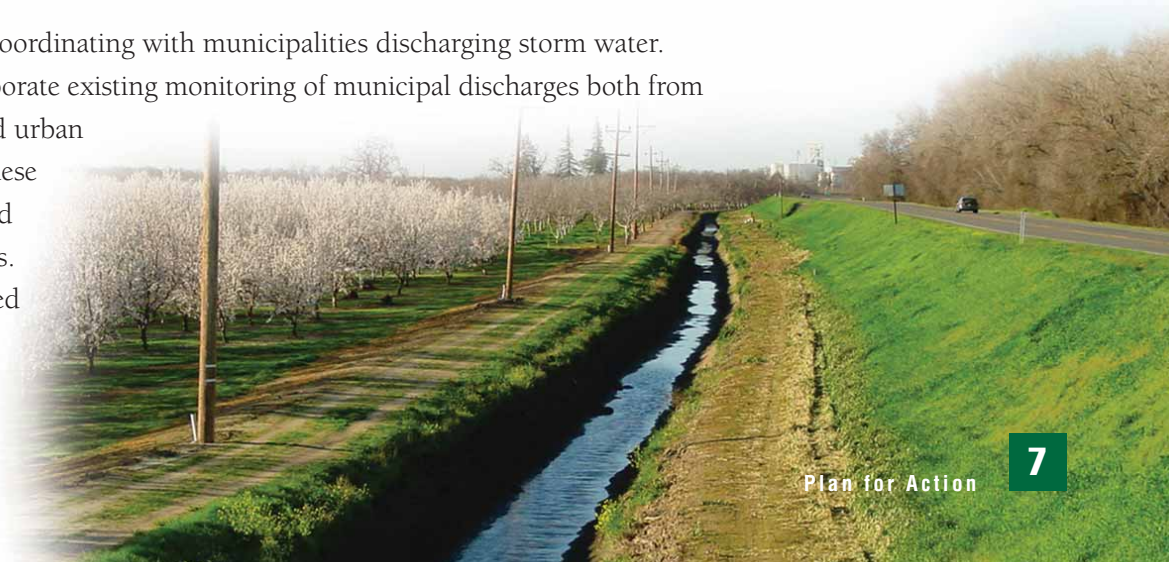
Phase 2 – If toxicity is evidenced in Phase 1, Phase 2 will entail moving upstream (i.e. mainstream, tributaries, agricultural streams) in a watershed to gain more specific information on sources of the problems. The Coalition will work with Regional Board staff to determine the appropriate follow-up monitoring once toxicity has been established at a monitoring location. This information will then be used to determine the need for specific management practices and can be used to refine existing management practices.

Phase 3 – This phase of monitoring will be conducted after management practices are implemented. The monitoring will focus on evaluating the effectiveness of management practices to improve water quality.

Phase 4 – When it is determined that management practices have been implemented and are effectively improving water quality in a watershed, monitoring may be suspended unless a problem is identified downstream and thought to originate within the watershed. Additional monitoring may also be needed in this phase if land uses in the watershed are substantially altered.

The Coalition is committed to coordinating with municipalities discharging storm water. The monitoring plan will incorporate existing monitoring of municipal discharges both from wastewater treatment plants and urban stormwater runoff. Generally, these discharges are already monitored through waste discharge permits. These discharges will be analyzed to determine impacts from these sources.

The Coalition will develop a regional water quality monitoring program that addresses agricultural runoff and respects all beneficial use protections and water quality standards in the Sacramento River Basin Plan.

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Big Sage Reservoir
MODOC
Canby
Adin
Pit River
Lookout
Bieber
Nubieber
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Fall River Mills
Hat Creek
Burney
Pondosa
SISKIYOU
Big Bend
Pit River
Montgomery Creek
SHASTA
Viola
Shingletown
Manton
South Fork Battle Creek
Battle Creek
Bear Creek
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Bella Vista
Central Valley
Anderson
Cottonwood
Squaw Creek
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Clear Creek
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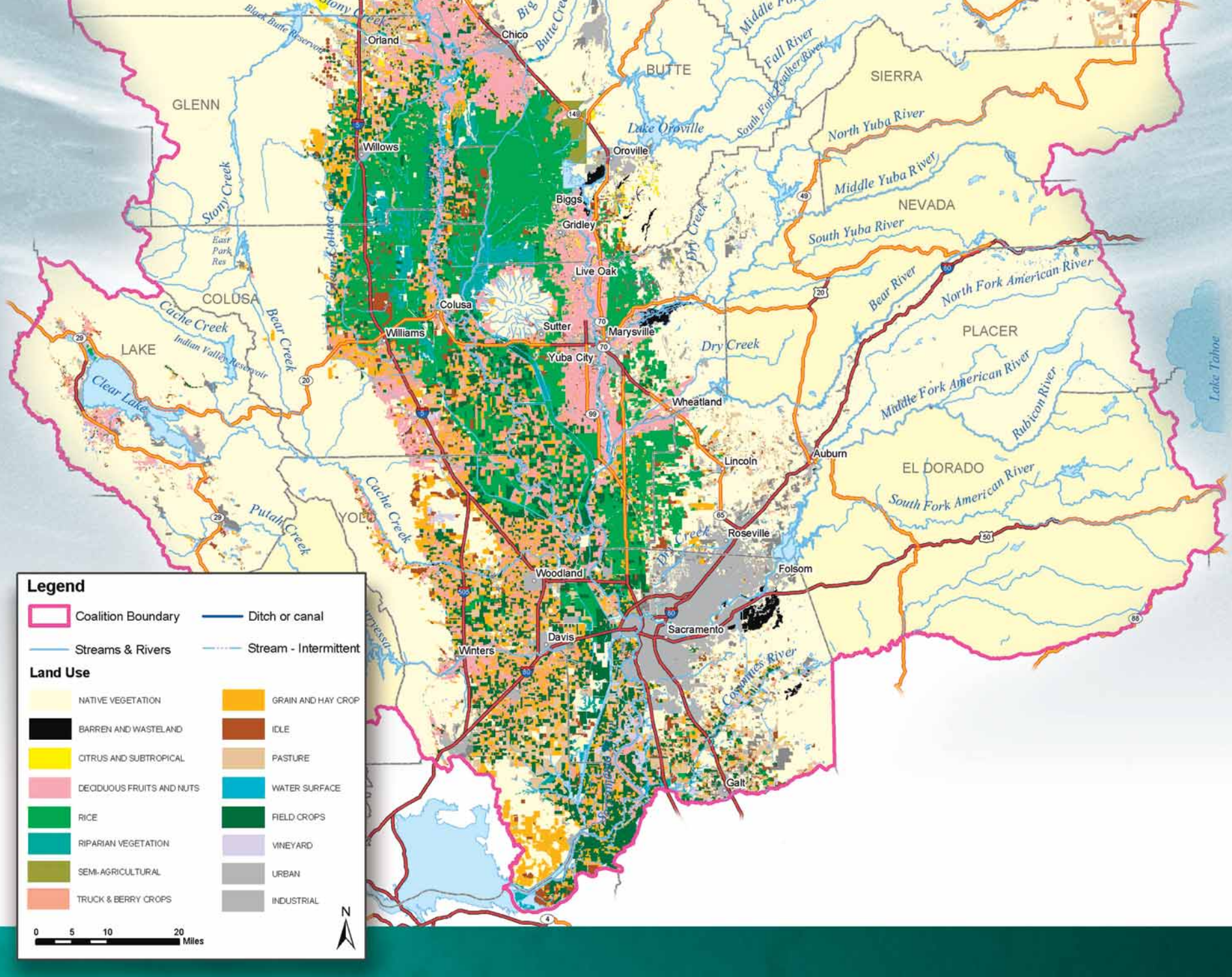
Middle Fork Cottonwood Creek
Dry Creek
South Fork Cottonwood Creek
Elder Creek
Thomes Creek
Mill Creek
Deer Creek
TEHAMA
Lake Davis
PLUMAS
Mountain Meadows Res
Lake Almanor
Butte Creek
North Fork Feather River
Feather River
Chico Creek



Sacramento River Basin

Technical Steering Committee

The Coalition is determined to ensure that the scientific and technical aspects of the Plan will fulfill two important criteria:

- Base management decisions upon the best current knowledge from science, engineering and other domains of technical expertise; and
- Ensure that management decisions are credible.

To meet these criteria, the Coalition has assembled a Technical Steering Committee (TSC) that is comprised of acknowledged experts including academic, industry and regulatory members who understand the complexity of the water quality issues in the Sacramento Valley. This team of experts will meet regularly to advise the Coalition during all phases of development and implementation and provide peer consultation to the Plan. Most notably, the Coalition and the subwatershed groups will present their program plans to the TSC for review. This technical review will ensure that the program will meet established scientific goals, regulatory requirements and satisfy quality assurance requirements.

The TSC will provide advice on such activities as risk assessments, technical studies and guidance, analytical methods, scientific database designs, technical models, monitoring programs, technical protocols, statistical survey/studies, technical background materials, technical guidance, milestone setting, research plans and research strategies proposed or initiated by the Coalition.

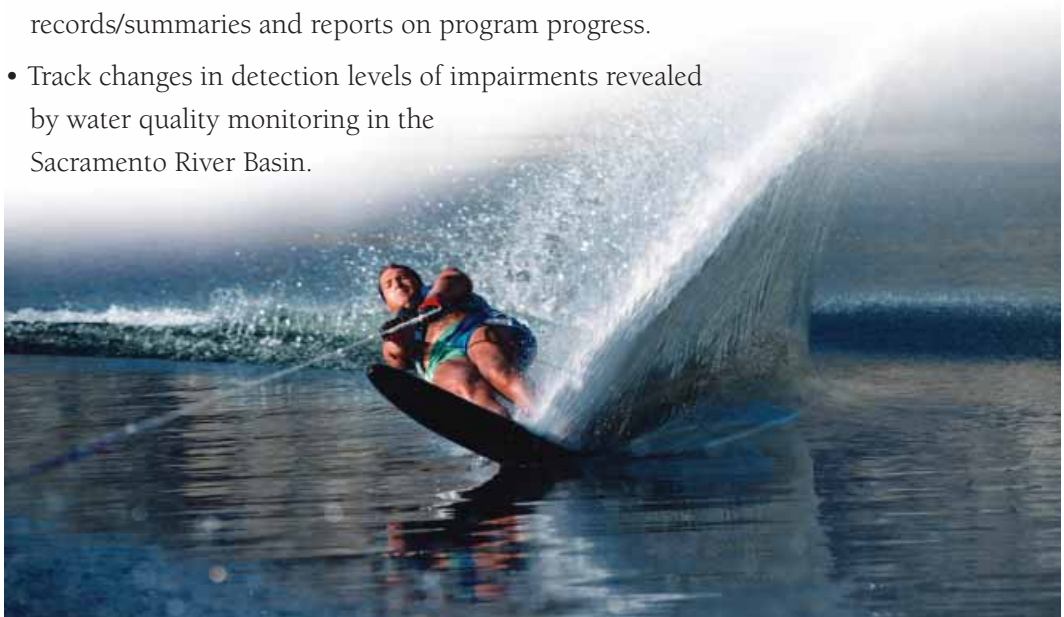
In addition, the TSC will work with state and federal agencies to integrate research and water quality programs within the Sacramento River Basin. This important link will provide a strong foundation to sustain long-term water quality improvements for the Sacramento River Basin by combining valuable resources and eliminating duplication of effort.

Management Practices

Many farmers, ranchers and agricultural entities have adopted and utilized a variety of management practices to address agricultural non-point source runoff. These practices are an integral part of farming in the Central Valley and are so broadly implemented that they are taken for granted as part of the agricultural working landscape. The same is true for managed wetlands. Expanding and strengthening the management practices already adopted in the Sacramento River Basin can help enhance water quality and sustain the long-term viability of agriculture and managed wetlands, which will contribute to the long-term health of the watershed. These management practices will continue to evolve through the experiences of farmers and other landowners and the ongoing research on practices most appropriate for specific areas in the Sacramento River Basin.

To be effective, management practices will be identified and tailored for particular subwatersheds and the crops produced in those areas. The Coalition management practice implementation program will:

- Compile existing and potential management practices that are effective in mitigating identified non-point source runoff and communicate through various means and provide the information to farmers and crop advisors.
- Track the implementation of locally appropriate management practices for orchards and field crops. This will include monitoring and reporting on research of management practice effectiveness performed in ongoing and new projects such as orchard filter strips, improvements in pesticide application practices and irrigation runoff management.
- Assess the progress of the subwatersheds to address water quality issues and report back to subwatersheds and to the Regional Board, completing a feedback loop for critical assessment of the management practices and their implementation.
- Develop a centralized information system that provides the Coalition and its TSC with the ability to easily analyze data.
- Utilize performance measures including grower surveys tracking management practice adoption, literature distribution/frequency reports, meeting attendance records/summaries and reports on program progress.
- Track changes in detection levels of impairments revealed by water quality monitoring in the Sacramento River Basin.



Expanding and strengthening the management practices already adopted in the Sacramento River Basin can help enhance water quality and sustain the long-term viability of agriculture and managed wetlands, which will contribute to the long-term health of the watershed.

The subwatersheds will implement monitoring and management practices that reflect regional hydrology, existing and proposed infrastructure and water quality objectives with the ultimate goal of enhancing water quality in the Sacramento River Basin.

Canvasback

Several components of this management practice implementation plan are underway through an existing CALFED Watershed Program grant to the Coalition for Urban/ Rural Environmental Stewardship (CURES). The project "Promotion of Farming Best Management Practices to Mitigate Organophosphate Pesticide Runoff into the Sacramento River Watershed" is specifically addressing implementation efforts to comply with the diazinon Total Maximum Daily Load (TMDL) for the Sacramento and Feather Rivers. This project extends through 2005 and will work in conjunction with efforts of the Coalition and subwatershed groups to address diazinon runoff in the Sacramento River Basin.

Another example of an ongoing program is the Glenn County Surface Water Stewardship Program. The California Dried Plum Board and the Almond Board of California are currently refining management practices to reduce or eliminate off-site movement of pesticides. The results from these and other projects will provide useful information that will be communicated to farmers in the region.

Subwatershed Implementation

Nested within the Sacramento Valley watershed will be a series of subwatershed groups that will be closely coordinated by the Coalition. The subwatersheds will implement monitoring and management practices that reflect regional hydrology, existing and proposed infrastructure and water quality objectives with the ultimate goal of enhancing water quality in the Sacramento River Basin. The Coalition has identified entities operating within the following twelve subwatersheds: American River, Butte Basin, Colusa Basin, Feather River Basin, Lake County (Cache Creek), Napa County (Putah Creek), Natomas Cross Channel, North Delta/Cosumnes River Basin, Pit River, Sutter Basin, Tehama-Shasta and Yolo/Solano Basin. The Coalition is taking this opportunity to build upon this unprecedented level of cooperation among farmers and build capacity to manage water quality challenges in the future.

The Regional Board has prioritized impaired water courses based upon the severity of the contamination. Following the Regional Board's timelines, the Coalition's initial priority will be pesticides. The Coalition will first address those impaired water courses for which the Regional Board has developed a TMDL. The Coalition will work with the Regional Board to implement the diazinon TMDL in the Sacramento and Feather Rivers. The Coalition will help farmers to implement management practices by 2007, when constituent limits must be met.

Other Sacramento Valley water courses listed as impaired by diazinon include: Butte Slough, Natomas East Main Drain, Sacramento Slough and the Sutter Bypass. While the Regional Board has not established a TMDL completion date for these impaired segments, the Coalition and respective subwatershed groups will engage in their development and aggressively promote management practices that achieve water quality improvements.

According to the Regional Board's Water Management Initiative, the strategy for controlling agricultural discharges of organophosphate pesticides is to encourage local stakeholders to identify management measures that will reduce the levels of pesticide runoff to acceptable levels while maintaining agricultural productivity. Each subwatershed will address runoff issues with programs that are consistent with this principle.

The Coalition recognizes that the 303(d) list identifies other priority COCs such as chlorpyrifos and nutrients and the Coalition will cooperate with the Regional Board to develop TMDLs and implementation plans. The Coalition supports the following approach to selecting pesticides to monitor other than those on a 303(d) list: 1) collect all historical pesticide monitoring data for a watershed; 2) review recent California Department of Pesticide Regulation Pesticide Use Report data for each subwatershed to identify all pesticides used, including the amount applied, time of application and application point; 3) determine the chemical/physical properties of each pesticide used to assess potential fate and transport of the pesticide in a waterbody; and 4) determine the potential toxicity of the pesticides to aquatic biota based on a review of laboratory and/or field toxicity data to assess the likelihood of ecological risk.

Physical Solutions

While the monitoring and management practice implementation are underway, the Coalition and its participating entities will explore physical solutions that will avoid or reduce discharges to impaired waterbodies and otherwise enhance water quality in the Sacramento River Basin. These actions include re-routing flows or other infrastructure modifications that will enhance and improve water quality in the Sacramento River Basin.

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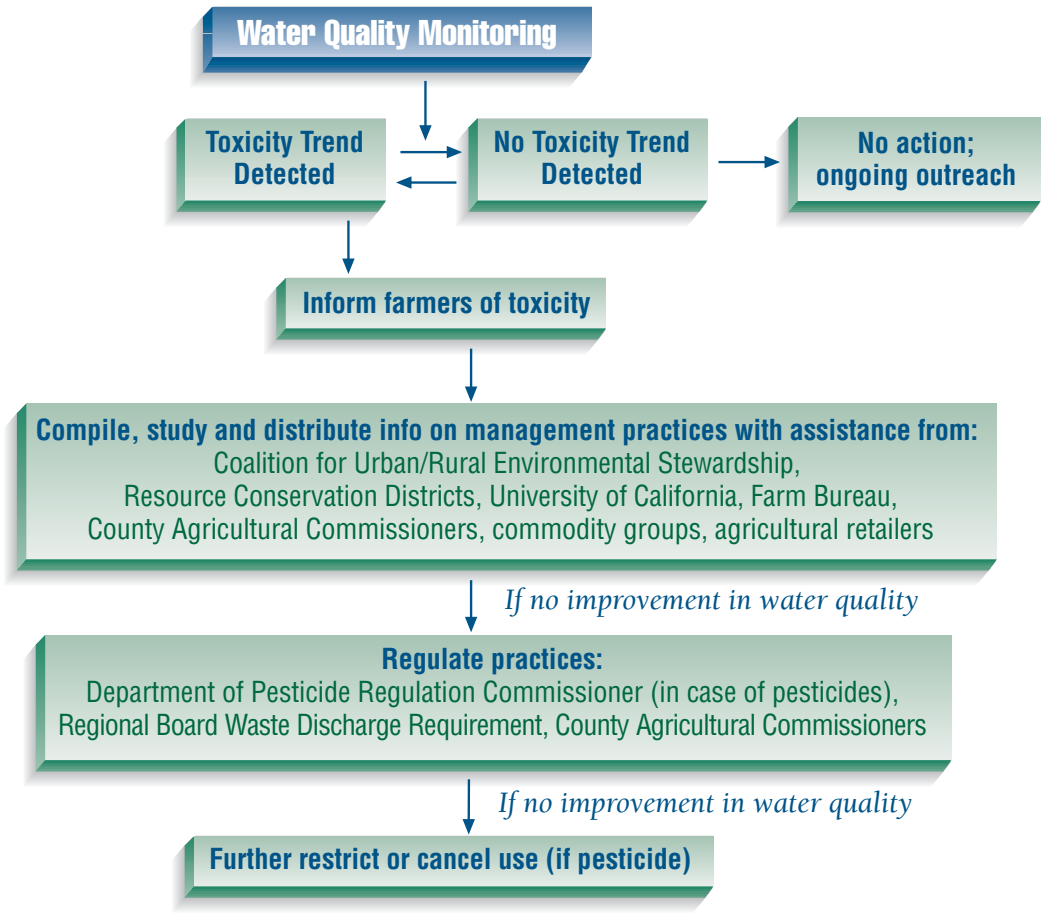
Accountability

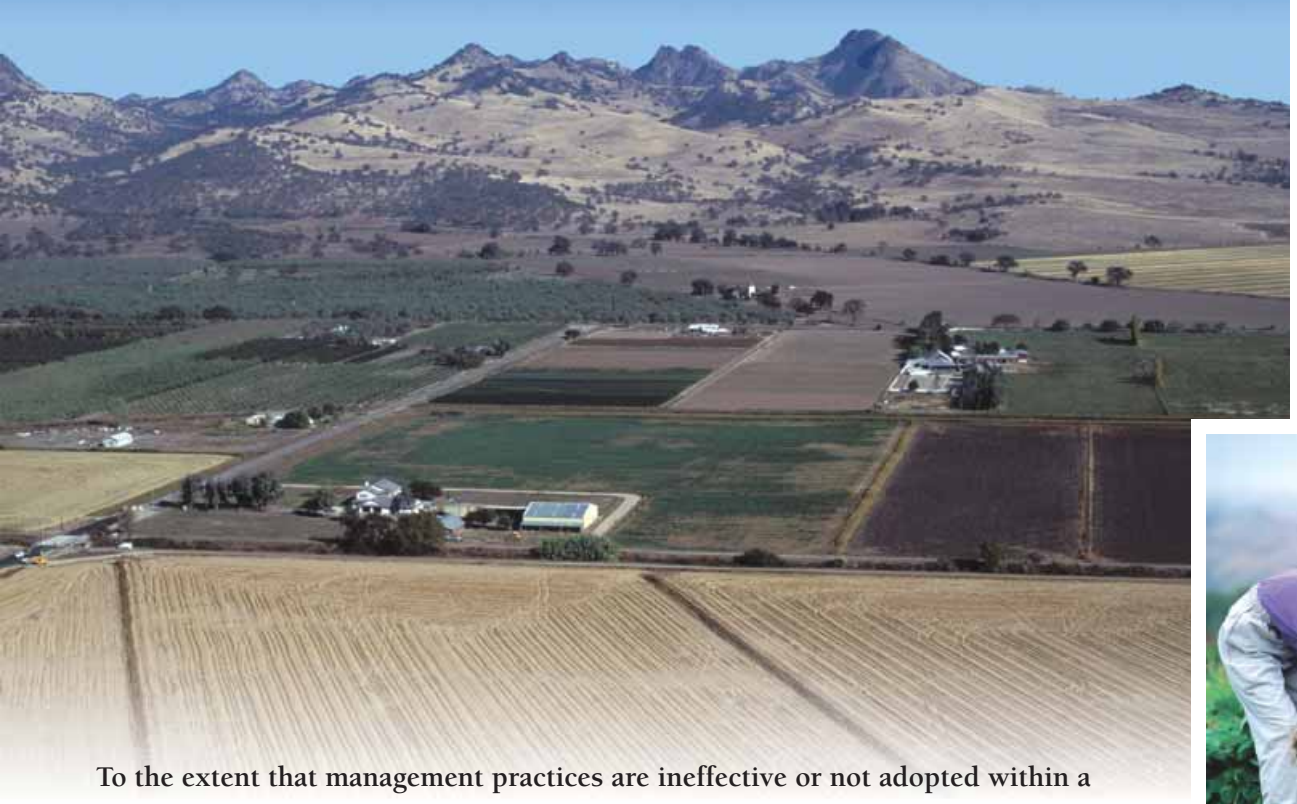
The Coalition is a broad, cross-section of interests from throughout the Sacramento River Basin. Its members have a proven record of implementing programs for social, economic and environmental benefits. The Coalition is committed to a program to enhance and improve water quality in the Sacramento River Basin while sustaining the economic viability of agriculture and the associated values of managed wetlands.

To ensure accountability, the Coalition is committed to present updates and status reports on Plan implementation to the SWRCB or Regional Board semi-annually or more frequently upon request. This will provide an opportunity to determine the progress made within the Sacramento River Basin and to target any additional efforts that are necessary.

Initially, the Coalition will identify water quality problems through monitoring. As previously discussed, the monitoring program will be developed by the Technical Steering Committee in conjunction with SWRCB and Regional Board staff. This monitoring will be conducted under a strict QAPP to assure uniformity and accuracy in monitoring results. The monitoring will establish a range of potential actions within the subwatersheds. The Coalition will help the local subwatershed groups respond to the problems identified by the monitoring. With this capacity in place, once a problem is identified, the subwatershed groups will isolate the particular problem and take all efforts, through management practices and other appropriate actions, to address these problems.

The Coalition is committed to a program to enhance and improve water quality in the Sacramento River Basin while sustaining the economic viability of agriculture and the associated values of managed wetlands.

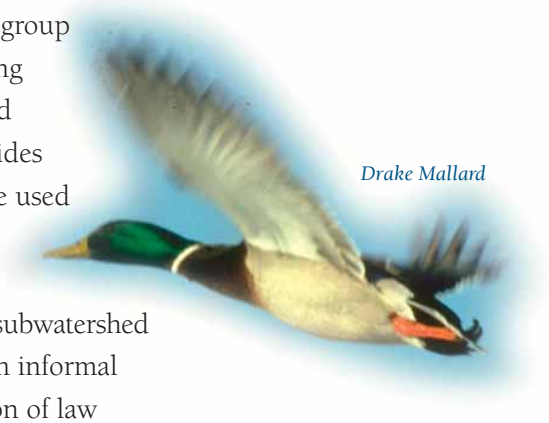




To the extent that management practices are ineffective or not adopted within a subwatershed, there are three mechanisms for ensuring dischargers are accountable to the Coalition and the Regional Board:

- To protect water quality and to address non-point source runoff, the SWRCB and Regional Board utilize a three-tier framework with increasing levels of regulatory action based on watershed activities. This provides the SWRCB and Regional Board with continual oversight in the watershed and the ability to increase the regulatory requirements if actions within the watershed do not address a problem. Additionally, the priority actions will focus on impaired water bodies governed by the Regional Board TMDL process. This provides complete control and accountability to the SWRCB and Regional Board.

- Although subwatershed groups have limited legal control over the management actions taken by landowners, the subwatershed groups can determine who is deemed a cooperating and participating member. Consequently, if the Coalition or subwatershed group recognizes that a discharger is not sufficiently participating in, or cooperating with the subwatershed program, it will dismiss them from the subwatershed group and inform the SWRCB and Regional Board of the action. This provides direct accountability to participation in the subwatershed group or could be used as a tool to compel involvement.



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- If a subwatershed group encounters a discharger failing to cooperate with the subwatershed program, the subwatershed group will identify the situation and facilitate an informal conversation about the situation. If this effort is unsuccessful and a violation of law or the Basin Plan is believed to be ongoing, the subwatershed group will work with the proper regulatory authorities to address the issue. The Coalition will report pesticide misuse to the County Agricultural Commissioner. For other constituents, the situation will be reported to the Regional Board staff. This provides accountability to assure compliance with the law.

The Coalition's education and outreach efforts will ensure that consistent plans and accurate messages regarding water quality issues will effectively reach dischargers in the region.

Education and Outreach

The Coalition's education and outreach efforts will ensure that consistent plans and accurate messages regarding water quality issues will effectively reach dischargers in the region. The target audiences include, but are not limited to landowners, wetlands managers and farmers. The Coalition will act as a facilitator and central hub for transfer of information among the Sacramento Valley subwatersheds and ultimately to farmers and wetlands managers. Furthermore, the Coalition will facilitate the identification and distribution of relevant information from activities and projects developed in other areas of the Central Valley.

The outreach message will evolve over time, initiating with general water quality issues and management practice reviews, and advancing to the communication of specific results by watershed monitoring programs and offering information on various management measures that could be adopted by farmers to improve water quality. The collaboration offered through the Coalition will ensure that useful and scientifically accurate information about management options appropriate for the crops and geographic conditions in the region is available in a timely fashion to farmers. The outreach will build upon historic and new information and relies on a long-term collaborative effort among the people who live and work within the watershed.

Participating Entities

A broad cross section of agricultural and waterfowl interests as well as local governments throughout the region are participating in this unprecedented Coalition and are committed to implement the Regional Plan for Action. A list of these entities is enclosed in this Plan. An updated list can be seen at: www.norcalwater.org (Integrated Water Management/Water Quality).

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