

**California Regional Water Quality Control Board  
Central Valley Region**

**Long-term Irrigated Lands Regulatory Program  
Straw Proposal – Advisory Workgroup Strategy**

**December 10, 2008**

In Fall 2008, the California Regional Water Quality Control Board, Central Valley Region (Water Board) convened a Long-term Irrigated Lands Regulatory Program Advisory Workgroup (Workgroup) to provide Water Board staff with input on the development of the long-term irrigated lands regulatory program (long-term program). For more background information on the development of the long-term program, see the Long-term Irrigated Lands Regulatory Program Background document posted online at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/irrigated\\_lands/long\\_term\\_program\\_development/](http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/long_term_program_development/)

Water Board staff and the Workgroup must move efficiently to develop a recommended long-term program for California Environmental Quality Act (CEQA) Environmental Impact Report (EIR) analysis prior to expiration of the current program. To do this Water Board staff and the Workgroup must have a method to:

1. Develop viable long-term program alternatives (alternatives),
2. Evaluate the alternatives, and
3. Select recommended alternatives to evaluate in the EIR.

This document proposes a strategy to help Water Board staff and the Workgroup develop and prioritize alternatives for analysis in the EIR. The strategy is intended to provide an organized method by which the Workgroup can work with Water Board staff to develop and evaluate long-term program alternatives. We are hopeful that the proposed approach will help us quickly move from identifying the universe of alternatives that could be considered to a manageable number of alternatives that the Workgroup can consider and discuss in depth. The strategy is meant to ensure new ideas developed during the Workgroup process are considered. In addition, we hope the strategy will also help the Workgroup and staff avoid spending too much time on alternatives that do not seem feasible and are not of interest to the stakeholders represented.

That being said, the proposed strategy is complex, reflecting the many possible directions the long-term program could go. Staff have worked diligently to try and reduce the complexity of the proposed strategy and encourage Workgroup members to provide any ideas towards the same goal.

Water Board staff realize that there are a number of ways to develop program alternatives and evaluation measures, and put forth this strategy for consideration as one such method. Workgroup members are encouraged to propose alternate strategies and comment on this proposal.

### **Overview on Developing and Evaluating Alternatives**

There are many options to consider when developing the long-term program. The alternatives need to be objectively evaluated to determine a recommended alternative, or in the context of CEQA: to define the “project.” Initial staff work, using a simplified, example matrix of program options, indicates that there are at least 300 different alternatives due to the extensive range of program elements to be considered (described in detail below).

Balancing the significant number of alternatives with the limited time available to conduct this project, a Workgroup strategy needs to support developing and evaluating alternatives in an efficient, effective manner. The proposed Workgroup strategy involves the following steps, also shown graphically in Figure 1:

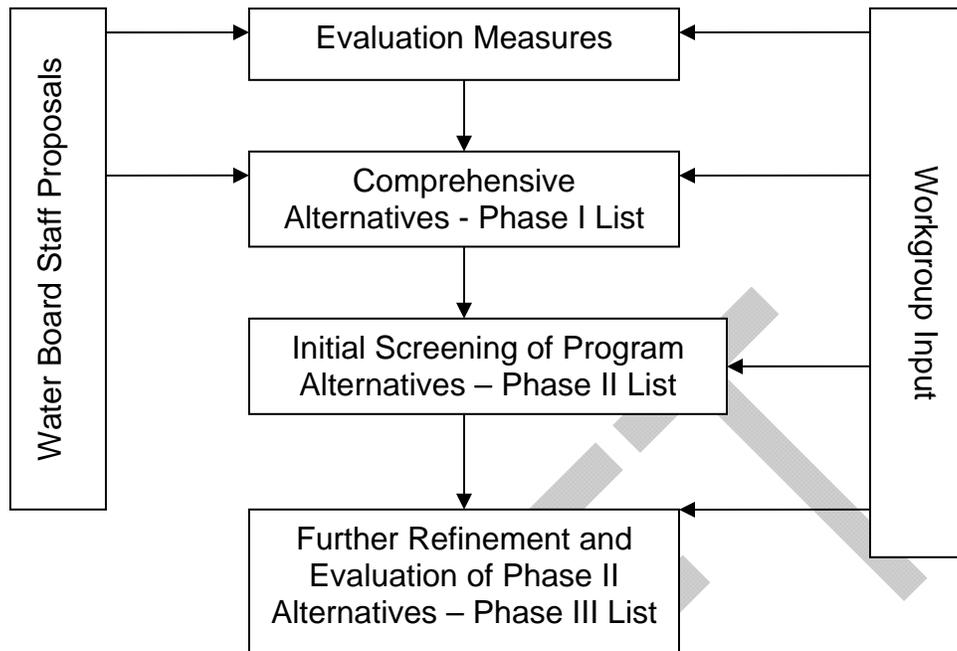
1. **Identify how the alternatives will be evaluated** – Develop evaluation measures and an evaluation system for alternatives.
2. **Identify all potential program alternatives** – Develop a Phase I, comprehensive list of alternatives.
3. **Conduct initial screening of program alternatives** – Screen the Phase I list of program alternatives, and develop a more limited (e.g., 10-20), Phase II list of alternatives.
4. **Select final program alternatives** – The Phase II list will be further refined and evaluated by the Workgroup. The refinements will include a more detailed description of each program alternative. Based on the evaluation, the final, Phase III list, of alternatives (e.g., 5-7 alternatives) will be selected for evaluation in the EIR.

The details of the above strategy are described below.

### ***Feedback Requested***

Water Board staff are seeking feedback on the overall process for getting input and recommendations from the Workgroup. Do the general process steps appear appropriate or would another approach potentially be more efficient and effective?

Figure 1. Flowchart of Proposed Workgroup Strategy



### Long-term Program Matrix

As described above, Workgroup time would not be well spent thoroughly evaluating all possible long-term program alternatives. Instead, the Phase I analysis will focus Workgroup efforts on developing an evaluation system that can be used to quickly evaluate and prioritize potential alternatives for further (Phase II) consideration.

A key step in the evaluation process is to identify the potential range and combination of alternatives. To help in this process, Water Board staff proposes the use of the attached Long-term Program Matrix (matrix) (Attachment I). The matrix is illustrative only, and does not purport to represent the full range of alternatives possible. Water Board staff are seeking feedback on whether the matrix is helpful in succinctly capturing potential alternatives and what other key categories and elements should be identified.

The matrix includes the following essential program categories<sup>1</sup>:

- Program Organization: Will program requirements be broadly applicable or will they be tailored based on geographic region, threat to water quality, or another scheme?

<sup>1</sup> Note – staff expects that other program elements, such as public participation and education and outreach will be added. However, to try to simplify the illustration of how the analytical framework would be used, the size of the matrix is intentionally limited.

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- Core Requirements: What will be the focus of the requirements (management practices, discharge limitations)?
- Lead Entity: Who will the Water Board interact with (coalitions, growers, other)?
- Monitoring: What type of monitoring will the program require?
- Implementation Mechanism: waiver(s), waste discharge requirements (WDRs), conditional prohibitions of discharge, or a combination?

Each matrix category contains several elements. Elements are possible options that will satisfy the categorical requirement. For example, monitoring is considered an essential program category; however, there are several options that could be considered viable monitoring programs (watershed-based, farm-based, or both). The program categories and elements are described in Attachment II.

Moving from left to right in the example matrix and selecting a program element from each category will represent one complete long-term program alternative. Given the elements represented in this example, there are around 150 possible surface water program alternatives and 150 possible groundwater program alternatives (a total of 300 possible alternatives). This example highlights the number of possible combinations that could be analyzed as part of the long-term program and represents the complex nature of the evaluation of alternatives. It should be noted that the approaches to addressing discharges to surface water and groundwater need not be identical, however, the complexity of implementing groundwater and surface water programs that differ in terms of their approach will be considered.

### **Initial Screening of Program Alternatives – Phase I**

It is not feasible to thoroughly evaluate the specifics of all possible program alternatives. A screening process needs to be employed to develop a subset of preferred alternatives for further investigation by the Workgroup. The proposed screening of the Phase I list of alternatives includes developing evaluation measures and a scoring system for program elements (i.e., farm-based monitoring), scoring the elements, and subsequent summary scoring of each of the possible program alternatives.

Each element will be evaluated and scored using program evaluation measures such as:

- Effectiveness at protecting water quality
- Cost to growers
- Cost to the State
- Enforceability
- Feasibility for grower administration

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- Feasibility for State administration
- Fairness

The sum of all element scores in a specific alternative will provide the total score for that alternative. The Phase II list of program alternatives will then be developed by ranking the alternatives by total score (highest score = most desirable; lowest score = least desirable). The Workgroup should make every effort to limit the Phase II list to a manageable number of alternatives for further consideration. If the Phase II list is too extensive, the Workgroup may not be able to comprehensively consider all the alternatives.

Attachment III presents an illustrative example of a scoring system developed for a surface water program alternative using two of the above measures as examples: feasibility for State administration and cost to growers. The example scoring system utilizes -1 for less desirable, 0 for similar to other options/status quo or no effect, and +1 for more desirable. The -1 to +1 scale is used to prevent weighting one evaluation measure over another. The logic used to assign the scores to each example matrix element is given in Attachment III.

Matrix elements representing the Water Board's waste discharge requirements for the Grasslands Bypass Project with evaluation measure scores from Attachment III are shown in Table 1. The Water Board's waste discharge requirements for the Grasslands Bypass Project set enforceable maximum selenium loading limitations at a specific discharge location. The Grasslands Bypass Project is an example of a "standard-based" program (maximum selenium loading limits) with a "3<sup>rd</sup> party joint powers authority" for Lead Entity. Monitoring under the program is conducted at a single location for many growers (watershed-based/regional). The Implementation Mechanism is waste discharge requirements applied to growers that discharge to the Grasslands Bypass. Program Organization is therefore tailored to a subset of growers instead of all Central Valley growers. For more information on the Grasslands Bypass Project, see the Water Board's website: <http://www.usbr.gov/mp/grassland/>.

Table 1. Example Scoring of Grasslands Bypass Project WDRs<sup>2</sup>

Category	Program Element	Grower Cost	Feasibility <sup>a</sup>	Total
Program Organization	Tailored	0	0	0
Core Requirements	Standard-based	0	0	0
Lead Entity	3 <sup>rd</sup> Party w/JPA	-1	+1	0
Monitoring	Watershed-based/regional	0	+1	+1
Implementation Mechanism	WDRs	0	+1	+1
Score Summation		-1	+3	+2

a. Feasibility for State administration.

As shown in Table 1, a total score for an alternative resembling the Grasslands Bypass program can be determined by summing the scores for each evaluation measure.

Under this proposed strategy, the Workgroup will help develop the long-term program matrix and the evaluation measure-based scoring system. The scoring system will be applied to all combinations of ground and surface water elements in the matrix.

In the last step of the Phase I evaluation the Workgroup will provide recommendations on whether there are any preferred alternatives that are infeasible or if there are certain alternatives that should be considered for Phase II evaluation even though the scoring system eliminated them.

Based on Workgroup recommendations, Water Board staff will make the final decision on whether to add preferred alternatives or remove infeasible alternatives (Phase II list).

### Final Selection of Program Alternatives – Phase II

The list of alternatives from the initial screening (Phase II list) will be developed in a more specific manner and analyzed further. For example, further explanation is needed to describe an alternative with the “tailored” element selected in the Program Organization category. Program Organization could be tailored based on a threat to water quality, geographical location, or type of operation. Water Board staff and the workgroup will need to describe the alternatives to a level of detail that will allow evaluation in an EIR.

Once all the elements in an alternative are fully described the Workgroup will make recommendations on which preferred alternatives should be evaluated in

<sup>2</sup> Note that the “scoring” is for illustrative purposes only and does not represent any Water Board position regarding the Grassland Bypass project.

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the EIR (Phase III list of alternatives). The Workgroup may also identify new alternatives based on combining desirable features of the alternatives in the Phase II list.

Although the same evaluation measures will be used as in the initial screening, selection of program alternatives would not be based on a quantitative scoring system, as in Phase I. The Center for Collaborative Policy team and Water Board staff will develop a proposed process for Workgroup identification of the Phase III list. To the extent feasible, that process will be structured to ensure that the preferred alternative of each interest represented is included.

Water Board staff and EIR contractor (ICF-Jones and Stokes) will evaluate the Phase III alternatives and determine whether any additional alternatives should be included. For the EIR analysis, staff will need to identify one recommended program alternative. The recommended program alternative, as well as the other Phase III alternatives will be included in the EIR. In this evaluation, staff will consider the following measures:

- Workgroup developed evaluation measures
- Workgroup recommendations and comments

The deliverable to the Water Board from this process will be a *Long-Term Irrigated Lands Program Staff Report* which will include the:

- Workgroup alternatives selection process,
- Phase I and Phase II alternatives,
- Workgroup recommendations (Phase III list of alternatives), and
- Staff recommended alternative.

### **Workgroup Strategy - Next Steps**

Table 2 outlines a proposed timeline to accomplish the Workgroup strategy described above. This timeline is intended to provide more detail than the timeline described in the Long-term Irrigated Lands Regulatory Program Advisory Workgroup Charter (Workgroup Charter) in terms of developing long-term program alternatives. As such, this timeline is consistent with and is not intended to replace the Charter timeline. Water Board staff and the Workgroup will work collaboratively to establish reasonable time periods for Workgroup review and comment on interim products.

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Table 2. Proposed Workgroup Strategy Timeline

<b>Date</b>	<b>Action</b>	<b>Outcome/Deliverable</b>
December 17 (2008)	Workgroup meeting	<ul style="list-style-type: none"> <li>• Discuss and finalize October 9 meeting summary and charter document</li> <li>• Present proposed Workgroup strategy</li> <li>• Introduction to groundwater issues</li> </ul>
January 7 (2009)	Comments due (Workgroup)	Workgroup strategy, matrix, evaluation measures.
February 10 (2009)	Revised strategy due (staff)	<ul style="list-style-type: none"> <li>• Revised strategy, matrix, and evaluation measures</li> <li>• Proposed Phase I alternatives and evaluation system</li> </ul>
February 17 (2009)	Workgroup meeting	Agreement on the Phase I alternatives to evaluate and the Phase I evaluation system
March 30 (2009)	Workgroup meeting	Agreement on the Phase II alternatives to evaluate
May 19 (2009)	Workgroup meeting	<ul style="list-style-type: none"> <li>• Comments on draft refined descriptions of the Phase II alternatives</li> <li>• Agreement on the Phase II evaluation process</li> </ul>
June 23 (2009)	Workgroup meeting	Final description of the Phase II alternatives
July 28 (2009)	Workgroup meeting	Selection of the Phase III alternatives to be included in the EIR
September (2009)	Long-term program staff report due (staff)	Staff report describing workgroup alternatives selection process, Phase I and Phase II alternatives, workgroup recommendations, and the staff recommended alternative
November (2009)	Comments due (Workgroup)	Workgroup comments on the long-term program staff report
Transfer to required CEQA and Water Board public participation process.		

The timeline shown in Table 2 is proposed, and could be changed based on Workgroup comments. The top long-term programs (Phase III list) must be determined by summer 2009 so that the EIR phase of the project can be initiated. For more information on the required project timeline see the Workgroup Charter.

### ***Feedback Requested***

Water Board staff are seeking feedback on the Workgroup strategy timeline. Are the expected outcomes and deliverables clear or are there items requiring clarification? Do the steps in the process appear appropriate or are there changes that should be made? Does the timeline appear feasible? Are there any other issues/concerns with the proposed timeline and next steps?

ATTACHMENT I – LONG-TERM PROGRAM MATRIX

**Categories** →

Program Type	Program Organization	Core Requirements	Lead Entity	Monitoring	Implementation Mechanism
Surface water	All Irrigated Ag+Wetlands	Standard-based (set enforceable standards)	3rd Party (coalition, watershed group)	Watershed-based/regional	Waiver
Groundwater	Tailored (threat to water quality), geography)	Plan-based	Direct Water Board administration	Farm-based	WDRs
		Standard+Plan-based	3rd Party w/Joint Powers Authority (JPA)	Watershed/regional+Farm-based	Waiver+WDRs

↑ Program Elements

green shading indicates that additional information is needed to describe the alternative  
 yellow shading indicates that the alternative is already described

## ATTACHMENT II – LONG-TERM PROGRAM MATRIX DEFINITIONS

The following provides the definitions associated with the categories and elements in the long-term program matrix.

### **Program Organization**

Program organization dictates how the requirements for the long-term program will be applied. Program requirements could apply to all irrigated lands or be tailored for different geographical locations, crop types, or based on relative threat to water quality.

### **Core Requirements**

The core requirements establish the methods by which the program will ensure waste discharges from irrigated lands are in compliance with applicable State policy and regulations (e.g., [California Water Code](#) requirements and [Central Valley Regional Water Board Water Quality Control Plan](#), or *Basin Plan* standards). Alternative elements for core requirements include standard based, plan-based, and standard+plan-based. These elements are described in more detail below:

*Standard-based* - Under a standard-based approach, enforceable waste constituent (fecal coliform, pesticides) limitations would be set for discharge from agricultural lands. The limitations could be on a watershed or individual farm basis. Under this approach, growers would be required to implement management practices to meet limitations.

*Plan-based* - Under an entirely plan-based approach, growers would be required to develop water quality management plans that would minimize or prevent waste discharge, whether or not they are causing or contributing to exceedances of water quality objectives. Since this approach does not establish enforceable waste discharge limitations, all agricultural waste dischargers would be required minimize discharge through implementation of management practices that protect water quality.

*Standard+plan-based* - This option requires that the Water Board set waste constituent limitations, but would also require the development of water quality management plans for all agricultural discharges or in a targeted manner (i.e. in sensitive areas, where water quality concerns exist, etc.).

### **Lead Entity**

Lead Entity describes the mechanism for Water Board interaction with growers. The Water Board could 1) work through third party groups that do not have direct responsibility for the discharge, but represent the growers 2) work directly with growers, or 3) work with an entity that includes multiple growers and has legal

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responsibility for the discharge (e.g., some water districts or a joint powers authority). These three elements are described below:

*3<sup>rd</sup> Party - 3<sup>rd</sup> party Lead Entity* is where a number of growers are represented by a single entity. Under this option, the “single entity” is not responsible for compliance with program requirements. This is analogous to the current coalition-based program.

*Direct Water Board Administration* - In this approach, the Water Board would work directly with growers. Growers would directly enroll in a waiver or WDRs. This approach is similar to the point source and stormwater permitting programs at the Water Board.

*3<sup>rd</sup> Party with Joint Powers Authority (JPA)* - This approach would be mechanically similar to the 3<sup>rd</sup> Party approach. The main difference being that the 3<sup>rd</sup> party in this case would form a JPA which would take responsibility for compliance with program requirements. Water Board enforcement actions and requests for information would be legally addressed to the JPA. An example of this type of program would be master water recycling permits. The Water Board sets permit requirements for a master water recycling agency, the agency in turn regulates sub-entities who receive and use their purveyed recycled water.

### **Monitoring**

Monitoring requirements must be established to ensure that a regulatory program is having the intended effects and to ensure that regulated entities are discharging waste in accordance with established requirements. While monitoring is a requirement in any regulatory program, the type of monitoring could be widely different depending on the specific problems the regulatory program is addressing. Options for monitoring in the irrigated agriculture program include watershed-based/regional, farm-based, and watershed+farm-based.

*Watershed-based/regional* – In this monitoring scheme, water bodies or ground water basins are monitored for compliance with water quality objectives or limitations. Watershed-based/regional monitoring can be used to effectively determine whether there is a problem in the watershed or groundwater basin, but has significant limitations when it comes to the determination of problem sources; especially where there are non-agricultural waste sources within the watershed/basin (natural sources, municipalities, septic systems). Navigating the confounding influences of additional pollutant sources can add significant costs to watershed-based monitoring programs and there are questions regarding the fairness of placing this burden directly upon agriculture.

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Benefits of watershed or regional monitoring include the ability to spread monitoring costs to all agricultural waste sources and that individual growers do not need to sample and report field discharge events.

*Farm-based* - Farm-based monitoring would require that each grower conduct water quality monitoring. For surface water discharge, the waste discharge characteristics of runoff from each farm would be determined. However, with this approach, it will be difficult to characterize the actual effects agricultural waste discharges are having on receiving water bodies. A good example is where a farm discharges to a large river. Farm-based monitoring would not provide enough information to tell whether the discharge is affecting the river's water quality. The cost is likely to be significant for growers with multiple fields and multiple discharge points.

For groundwater, a farm-based approach could determine whether a grower is impacting groundwater quality. However, the cost of this type of analysis will likely be significant (e.g., drilling several wells, and analyzing background concentrations).

*Watershed-based/regional+farm-based* – This type of monitoring is some combination of watershed-based/regional and farm-based monitoring. An example would be requiring photographic monitoring of installed management practices in addition to Watershed-based/regional monitoring. Alternatively, farm-based monitoring might be required for those farms with discharges known to impact water quality.

### **Implementation Mechanism**

Long-term program requirements will need to be established in an enforceable regulatory mechanism. Options include conditional waivers of waste discharge requirements (waiver), waste discharge requirements (WDRs), and conditional prohibitions of discharge. While all three of these mechanisms are enforceable and could be applied to a wide variety of discharges, there are some differences that should be considered.

*Waivers* – Waivers can be applied to a type or class of discharges. Waivers can contain enforceable discharge limitations and monitoring requirements. To enroll in a waiver, a discharger must meet the requirements of the waiver, including any specified management measures. However, the discharger is not required to submit a report of waste discharge. A report of waste discharge is essentially an application for waste discharge requirements, and must include specific information such as: the characteristics of the proposed discharge and receiving waters, discharger information, and discharge location.

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*WDRs* – WDRs can be issued for individual dischargers or for a general class of dischargers. WDRs can contain enforceable discharge limitations and monitoring requirements. WDRs can not be used to require specific management practices. Instead, WDRs can be used to establish discharge limitations or a requirement to develop management plans and practices that will minimize waste discharge. In order to obtain WDRs, a discharger must file a report of waste discharge with the Water Board. The Water Board will use the submitted information to establish WDRs.

*Conditional Prohibition of Discharge* – Conditional prohibitions of discharge can be established in the Basin Plan for any type of discharge. The Basin Plan would need to be amended to include a conditional prohibition of discharge; consequently, developing conditional prohibitions could take much longer than Board adoption of waivers or waste discharge requirements. Conditional prohibitions can contain enforceable limitations and monitoring requirements. Conditional prohibitions can also be used to require specific types of management practices. A report of waste discharge is not required to discharge under a conditional prohibition.

### ***Feedback Requested***

Water Board staff are seeking feedback on the categories and elements of each category. Are there other categories that should be included or should the categories be described differently? Are there other elements within a category that should be described or other elements added? Is the matrix an effective way of succinctly identifying the potential program alternatives or would another approach be more effective?

## ATTACHMENT III –LONG-TERM PROGRAM MATRIX EVALUATION SYSTEM

The following example provides the definitions of two evaluation criteria (feasibility for State administration and grower cost). The evaluation criteria will be applied to each element in the program matrix. The evaluation of the Phase I list of program alternatives will include the development of a numeric “score” for each element.

Each Phase I program alternative represents a different combination of program elements. The “score” for a program alternative is the sum of the scores of each individual program element. The scoring system will only be applied to the Phase I list. The scoring is used as a rough screening to identify which program alternatives should receive further scrutiny in Phase II and which alternatives do not require further evaluation. Workgroup members will have an opportunity to include program alternatives in the Phase II evaluation that would not be included based solely on their score.

The evaluation measures will be used to analyze the Phase II list of program alternatives; however, the numeric scoring system will not be used.

### **Feasibility for State Administration**

Estimating feasibility for State administration of an alternative could be done by evaluating whether the Water Board could reasonably administer the alternative. Given that this analysis is at the programmatic level, it must be realized that certain alternatives may be feasible in a general sense, but specific implementation measures may be infeasible. For example, it is feasible in a general sense for the Water Board to utilize a “tailored” approach for Program Organization. However, it would not be feasible if separate WDRs for all commodity groups were required. The scoring system is not intended to capture this level of detail. The detailed analysis will be conducted as part of the Phase II evaluation process.

Options in the long-term program matrix (Attachment I) have an associated State administration feasibility rating. Table III-1 describes the feasibility for State administration scoring system and the factors that were developed to assign scores to each option within the matrix.

Table III-1. Scoring System Rationale for Feasibility for State Administration (Surface Water Program)

<b>Score</b>	<b>Scoring System Rationale</b>
-1	It would be relatively difficult for the Water Board to administer the alternative compared to other Water Board programs.
0	The Water Board could readily administer the alternative in a manner similar to other Water Board programs.

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+1	The Water Board could easily administer the alternative. For example, the existing Water Board structure or organization would make it easy to administer the alternative; other existing programs are already partially implementing the alternative (e.g., Department of Pesticide Regulation programs).
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Table III-2 provides a discussion of the feasibility for State administration scores assigned to each alternative in the matrix.

Table III-2. Feasibility for State Administration Scores for Long-term Program Alternatives (Surface Water Program)

Element	Score/Rationale
<b>Program Organization</b>	
Inclusive approach	+1 This alternative is similar to the current irrigated lands program. Under this approach, all growers would be subject to the same set of general requirements. The Water Board could easily administer this alternative.
Tailored approach	0 Under this alternative, the Water Board may need to develop a number of specific program requirements for different discharges. For example, program requirements could be developed for different commodity types. While this could require more effort than the “inclusive” approach, the Water Board could administer the alternative.
<b>Core Requirements</b>	
Standard-based	0 Under this alternative, discharge standards would be developed for grower waste discharges. The Water Board could administer this alternative.
Plan-based	-1 Under an entirely plan-based approach, growers would be required to implement management measures to reduce waste discharge. Under this approach, all growers would need to develop and implement a farm management plan. It would be difficult for the Water Board to review and track management plans for growers. Therefore, it would be difficult for the Water Board to administer this alternative.
Standard+plan-based	0 This alternative is similar to the current irrigated lands program. The Water Board could administer this alternative.
<b>Lead Entity</b>	
3 <sup>rd</sup> Party	0 This alternative is similar to the current irrigated lands program. The Water Board could administer this

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	alternative.
Direct Water Board Administration	-1 Under this alternative, the Water Board would need to work directly with each grower in the Central Valley to administer the requirements of the long-term program. Given the number of growers that potentially fall under the irrigated lands program (estimated at 40,000) it would be difficult for the Water Board to administer this alternative.
3 <sup>rd</sup> Party w/JPA	+1 This alternative would be similar to the current irrigated lands program from the perspective of Water Board administration except that in the current program the Water Board deals with coalitions and/or growers depending on the action to be taken; whereas under a JPA the Water Board would only deal with a single entity for all actions. Many Water Board actions are already in place to exclusively deal with singular entities in a regulatory program (point source and land disposal programs). The Water Board could easily administer this alternative.
<b>Monitoring</b>	
Watershed-based/regional	+1 This alternative is similar to the current irrigated lands program. Under this alternative, sampling is conducted at a small number of specific locations to determine the effects of many agricultural waste discharges. The Water Board could easily administer this alternative.
Farm-based	-1 Under this alternative, the Water Board would need to review farm-based monitoring reports for all growers in the Central Valley (estimated at 40,000). Considering the large number of growers in the Central Valley, it would be difficult for the Water Board to administer this alternative.
Watershed+Farm-based	0 Under this alternative, farm-based monitoring requirements could be used in a targeted manner to provide additional information while the bulk of the monitoring would be done at the watershed/regional level. The Water Board could administer this alternative.
<b>Implementation Mechanism</b>	
Conditional Waiver	+1 Under a conditional waiver, growers would not be required to submit reports to the Water Board characterizing their waste discharge(s) and receiving waters; which would otherwise need to be reviewed by the Water Board. Since this alternative does not require Water Board review of a potentially large number of reports, it could easily be

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	administered.
WDRs	-1, +1 If WDRs were used to implement the regulatory program on growers directly, growers would be required to submit in depth information to the Water Board regarding their waste discharge(s) and the receiving waters. It would be difficult for the Water Board to administer this alternative (-1). If WDRs were issued to a single entity covering a large area, the Water Board could easily administer this alternative (+1).
Conditional Prohibition	+1 Grower enrollment is not required under a conditional prohibition. For this reason, a conditional prohibition would likely be easier to administer than WDRs. The Water Board could easily administer this alternative.
Waiver+WDRs	0 Under this alternative, the Water Board could use waivers for most agricultural discharges and WDRs in a targeted manner. Using WDRs in a targeted manner could reduce the number grower waste discharge reports required. The Water Board could administer this alternative.
Waiver+WDRs+ Conditional Prohibition	0 Under this alternative, the Water Board could use waivers or conditional prohibitions for most agricultural discharges and use WDRs in a targeted manner. Using WDRs in a targeted manner could reduce the number of grower waste discharge reports required. The Water Board could administer this alternative.

**Cost to Growers**

Each long-term program alternative will impose financial burden on the regulated community. Example requirements include: monitoring and reporting, implementing source control or treatment measures, technical evaluation of information to determine potential sources of waste constituents, time associated with meetings, and education efforts. Implementation of the above examples would cost growers and other management entities (coalitions, watershed groups) time and resources.

For the purpose of this discussion direct costs are costs directly to growers (e.g., management plan development, management practice implementation). Indirect costs are costs to management entities for program administration, such as monitoring and education costs that the coalitions manage under the current program. In the current program, these indirect costs are paid by growers as a

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per acre coalition fee. Water Board permitting fees are also examples of indirect costs to growers.

Considering the number of growers potentially affected by the long-term program, it is necessary to estimate whether the long-term program will impose additional costs on growers in comparison with the current irrigated lands regulatory program. Additional or reduced costs will need to be balanced with associated benefits of the long-term program.

Elements in the long-term program alternatives matrix have an associated additional cost, reduced cost, or similar cost when compared with the current program. Each element is assigned a score of -1, 0, or 1 indicating whether the alternative is estimated to cost growers more, the same, or less than the current program (respectively). Table III-3 describes the scoring system and the factors that were developed to assign scores to each option within the matrix.

Table III-3. Scoring System Rationale for Grower Cost (Surface Water Program)

<b>Score</b>	<b>Scoring System Rationale</b>
-1	It is estimated that the alternative will cost growers directly or indirectly significantly more time and or/resources than the current irrigated lands regulatory program.
0	It is estimated that the alternative will not significantly change the resource or time expenditure from that incurred under the current irrigated lands regulatory program.
+1	It is estimated that the alternative will significantly reduce direct and indirect grower costs when compared with the current irrigated lands regulatory program.

Table III-4 provides a discussion of the grower cost scores assigned to each alternative in the matrix.

Table III-4. Grower Cost Scores for Long-term Program Alternatives (Surface Water Program)

<b>Element</b>	<b>Score/Rationale</b>
Program Organization	
Inclusive approach	0 This approach is similar to the current program, where all irrigated lands will be regulated under a single set of requirements. Therefore, this alternative will not lead to increased or decreased grower costs.

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Tailored approach	<p>0</p> <p>Since this approach could be used to specialize requirements for different types of operations, some growers may experience increased cost and other may experience reduced cost. This alternative is an organization of requirements and will not on its own lead to overall increased or decreased grower costs. The actual requirements prescribed are what will lead to increased grower cost.</p>
<b>Core Requirements</b>	
Standard-based	<p>0</p> <p>Under a standard-based approach, enforceable waste constituent (fecal coliform, pesticides) limitations would be set for discharge from agricultural lands. The limitations could be on a watershed or individual farm basis. Under this approach, growers would be required to implement management practices to meet limitations. Since the current program already requires that growers implement management practices to meet Basin Plan water quality objectives, it is estimated that this approach will not lead to an increase or decrease in grower costs.</p>
Plan-based	<p>-1</p> <p>Under an entirely plan-based approach, growers would be required to develop water quality management plans that would minimize or prevent waste discharge, whether or not they are causing or contributing to exceedances of water quality objectives.</p> <p>While management plans could be developed for commodity types, geographic areas, or at the farm level, the idea is that every grower will assess waste discharges and implement management practices to minimize or prevent these discharges. This approach would require “blanket” management plan development and implementation of practices, even in areas without exceedances of water quality objectives. Therefore, it is estimated that this option will cost growers more than the current program, where management plans are only required for areas with exceedances of Basin Plan objectives.</p>

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Standard+plan-based	0, -1 This option requires that the Water Board set enforceable standards, but would also require the development of water quality management plans for all agricultural discharges or in a targeted manner (i.e. in sensitive areas, where water quality concerns exist, etc.). The above score of “0” is associated with alternatives with “targeted” management plan development similar to the current program; the score of “-1” is associated with “blanket” management plan development similar to the plan-based approach described above.
Lead Entity	
3 <sup>rd</sup> Party	0 3 <sup>rd</sup> party lead entity is where a number of growers are represented by a single entity. Under this option, the “single entity” is not responsible for compliance with program requirements. This is analogous to the current coalition-based program. This alternative will not lead to an increase or decrease in grower costs from the current program.
Direct Water Board Administration	-1 In this approach, the Water Board would work directly with growers. Growers would directly enroll in a waiver or WDRs. Since each grower would be responsible for enrolling, providing information to the Water Board, and complying with the terms of the program, it is estimated that this alternative will cost growers more than the current program.
3 <sup>rd</sup> Party w/JPA	-1 This approach would be mechanically similar to the 3 <sup>rd</sup> party approach. The main difference being that the 3 <sup>rd</sup> party in this case would form a JPA which would take responsibility for compliance with program requirements. Since this alternative will require the formation of a JPA, this option will likely add costs for formation and administration of the JPA. This alternative will cost growers more than the administration of the current program.
Monitoring	
Watershed-based	0 The current monitoring program is watershed-based. This alternative would not cost growers more or less for monitoring than the current program.

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Farm-based	-1 Farm-based monitoring would require that each grower provide management practice and/or water quality monitoring. There are “economies of scale” that must be considered when evaluating monitoring and reporting costs. In the current program, the most expensive coalition fees are under the smallest coalitions. By reducing monitoring to the farm-level, costs on each grower would likely exceed the most expensive coalition fees. This alternative will cost growers more than the current monitoring program.
Watershed+Farm-based	-1 This alternative would add farm-based monitoring to watershed-based monitoring. Examples would be including requirements for photo-monitoring of management practices. This alternative would cost growers more than the current program.
<b>Implementation Mechanism</b>	
Conditional Waiver	0 Selecting a conditional waiver for regulatory program implementation will be the same mechanism as the current program.
WDRs	-1, 0 If WDRs were used to implement the regulatory program, growers would be required to submit information to the Water Board regarding their waste discharge(s) and the receiving waters. Considering the large number of growers in the Central Valley, this option could cost growers much more than the current program because of the reporting requirement (-1). If WDRs were issued to a single entity covering a large area, grower cost would not be significantly more than the current program (0).
Conditional Prohibition	0 Grower enrollment is not required under a conditional prohibition. For this reason, a conditional prohibition would likely cost growers less than the current program, but this cost would probably not be significantly less.
Waiver+WDRs	-1 This option would cost some growers more than the waiver-based program because some dischargers would be under WDRs.
Waiver+WDRs+ Conditional Prohibition	-1 This option would cost some growers more than the current program because some dischargers would be under WDRs.