Chapter 2

Master Responses: Discussions of Recurring Themes

2.1 Introduction

This chapter discusses several subjects that were mentioned frequently in comment letters on the Draft PEIR. Each of the following sections summarizes the individual comments that refer to a single theme and provides a comprehensive discussion of that theme that serves as a "master response" to those individual comments. These master responses to groups of individual comments are being provided for two purposes:

- to simplify the responses to comments by avoiding unnecessary repetition in individual responses, and
- to address issues in a broader context than might be required by individual comments.

When issues are addressed in this broader context, the interrelationships between some of the individual issues raised can be better clarified; it is also possible to provide a single explanation of an issue that is more thorough and comprehensive than separate, narrowly focused responses would be. The following common comments and master responses are presented below.

1. Rationale for Selecting the Baseline Used in the EIR
2. Rationale for the Description of the No Project Alternative
3. Explanation for Location of the Staff Recommended Alternative (Alternative 6) in the Draft PEIR
4. Adequacy of the Analysis of Impacts Related to Alternative 6
5. Consistency of the ILRP with Nonpoint Source Policy and Antidegradation Policy
6. Feasibility, Legality, and Adequacy of Identified Mitigation Measures
7. Differences in the Level of Detail Required in the Impact Analyses of Program and Project-Level EIRs
8. Rationale for Excluding Detailed Discussions of Environmental Benefits and for Assuming the Alternatives would Produce Similar Environmental Benefits
9. Explanation of Adequacy of the Cumulative Impacts Analysis
10. Consistency of the Range of Alternatives in the EIR with the CEQA Guidelines
11. Consistency of the ILRP with Habitat Conservation Plans or General Plans
12. Justification for the Draft PEIR, Appendix A (Staff Report) Position that All Irrigated Agriculture Potentially Creates a Discharge of Waste that Could Affect the Quality of Groundwater
13. Justification and Legal Basis for the Alternative 6 Proposal for Time Schedules for Compliance with Water Quality Objectives
14. Adequacy of the Indirect Effects Analysis, Including the Effects of Agricultural Land Going out of Production and Other Uses Being Implemented
15. Consideration of Carbon Sequestration from Irrigated Agriculture

16. Adequacy of the Greenhouse Gas Emissions and Global Warming Analysis
17. Explanation Concerning the Disposition of Comments on the Economic Analysis Technical Memorandum
18. Explanation of Requirement to Monitor First Encountered Groundwater
19. Explanation of Groundwater Quality Management Plan Flexibility in Selecting Management Practices

2.2 Master Responses

2.2.1 #1: Rationale for Selecting the Baseline Used in the EIR

2.2.1.1 Comment Summary

A number of comments indicated that the baseline or existing conditions information contained in the Draft PEIR was "misrepresented" or was not provided in sufficient detail to support a full analysis of potential impacts. Some of the comments identified specific conditions that were not discussed in sufficient detail, including the cultural value of salmon in the Central Valley, the current level of surface diversions and groundwater pumping for agricultural irrigation, and the value of agricultural land for wildlife habitat. Those specific resource issues were addressed in individual responses to comments (Chapter 3, Comments and Responses).

2.2.1.2 Response

The State CEQA Guidelines (Title 14 California Code of Regulations [CCR]), at Section 15125(a), state that

> An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.

In 2004, in response to this directive, and following the issuance of the Notice of Preparation and completion of the first set of scoping meetings for the ILRP PEIR, the Central Valley Water Board began compiling a record of environmental conditions within its jurisdiction. In 2008 the information collected was published in the *Irrigated Lands Regulatory Program Existing Conditions Report* (ICF Jones & Stokes 2008) (ECR). The ECR was made available to the public through the Central Valley Water Board website. In March and April 2008, the Central Valley Water Board held a second set of scoping meetings.

The existing conditions information included in Chapter 4, Environmental Setting, and Chapter 5, Environmental Impacts and Mitigation Measures, of the Draft PEIR generally summarize the water quality, hydrology, and land use information from the ECR. Existing conditions information for other resources analyzed in the Draft PEIR is also general because of the large geographic area covered by the regulatory program and the programmatic nature of the impact analysis. The Central Valley Water Board has determined that, although presented in general terms, the existing conditions information is presented in sufficient detail to be used as the baseline for determining the potential

effects of the regulatory program and subsequent changes in agricultural practices associated with the changed regulatory approach. Quantitative information requested by some comments, including the amount of surface water diverted and groundwater pumped for agricultural irrigation, were not included in the ECR or Draft PEIR because this information is not reasonably obtainable as it was not collected and reported by the agricultural industry on a comprehensive and uniform basis. As stated in Section 4.1 of the Draft PEIR, additional resource-specific setting information beyond that included in Chapter 4 is included in the text of Chapter 5 so that the setting is closely associated with the impact analysis of each resources topic. This placement of the additional resource-specific information is designed to facilitate the reader's understanding of the material.

Because the EIR is a programmatic CEQA document analyzing the effects of a Central Valley-wide regulatory program, the existing conditions/baseline information also includes the regulatory conditions that existed at the time CEQA scoping was conducted. The Draft PEIR does not provide a detailed description of resources or values for which implementation of the proposed regulatory changes do not have the possibility to cause a significant effect on the environment. Those resources and values are listed in the Draft PEIR, Chapter 1, Summary, on page 1-8.

2.2.2 #2: Rationale for the Description of the No Project Alternative

2.2.2.1 Comment Summary

Several comments indicated that the No Project Alternative was improperly defined in the Draft PEIR. The comments stated that it was incorrect under CEQA to define the No Project alternative as a continuation of the existing irrigated lands waiver program. Instead, the comments suggested that the No Project alternative should assume that the Central Valley Water Board would take no action to extend the current waiver program and the program would end in June 2011. Only one of the comments included speculation on what regulatory role the Central Valley Water Board would have after the current waiver expires. That comment suggested that the regulatory program would revert to individual waste discharge requirements (WDRs). The comments further stated that, given this misinterpretation of what the No Project alternative should entail, the Draft PEIR was fundamentally flawed and a revised Draft PEIR should be prepared with a properly defined No Project Alternative.

Several of the comments also indicated disagreement with a statement in the Draft PEIR that an extension of the current waiver may be ministerial in nature. It was stated that the Central Valley Water Board's decision to extend the waiver would be a discretionary action and would have to occur in the course of a public meeting.

2.2.2.2 Response

The State CEQA Guidelines (Title 14 CCR) at Section 15126.6(e)(3)(A), state: "When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the 'no project' alternative will be the continuation of the existing plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan." The State CEQA Guidelines, at Section 15126.6(e)(3)(C), further state

> …the Lead Agency should proceed to analyze the impacts of the no project alternative by projecting what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

The Central Valley Water Board has determined that an appropriate interpretation of this section of the State CEQA Guidelines requires that the No Project Alternative for the proposed Long-term ILRP be defined as "the extension or renewal of the ongoing waiver, which would allow continuation of the existing program…" (Draft PEIR, Chapter 3, Program Description, page 3-4). The contention that "no project" should assume that the Central Valley Water Board would take no action on extending the current program (the existing conditional waiver program) assumes that CEQA equates "no project" with no action, which contradicts the directive of Section 15126.6 of the State CEQA Guidelines (as presented above). The Central Valley Water Board believes it is reasonable to expect in the foreseeable future that if a proposed new Long-term ILRP is not adopted, the Central Valley Water Board would extend the existing program until that time when a new program was adopted. None of the cases cited by comments defeat the Draft PEIR's position on the No Project Alternative.

Additionally, Title 14 CCR Section 15126.6[e][1] states that "the purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." Consistent with this guideline provision, the approach to the No Project Alternative taken in this Draft PEIR best serves the purpose of allowing the Central Valley Water Board to compare the impacts of revising the ILRP with those of continuing the existing program. It should be emphasized that, even if the current regulatory program for irrigated agriculture were allowed to expire at the end of June 2011, its expiration would not lead to an absence of regulation of irrigated agriculture. Agricultural dischargers, as persons "discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state," would have the ongoing obligation under California Water Code Section 13260 to file a Report of Waste Discharge, and the Central Valley Water Board would need to issue individual or general WDRs to regulate the discharges or adopt a new waiver. As such, designating the scenario of waiver expiration as the no project alternative, in addition to being contrary to a reasonable reading of the State CEQA Guidelines, would result in the creation of an amorphous alternative incapable of providing a meaningful point of comparison of the impacts of moving forward on the project.

The Central Valley Water Board has not stated that the "no project" alternative would involve no future discretion on its part. The Central Valley Water Board will have to take some action before a long-term program is implemented, as it is likely to take up to one year to develop the implementing mechanisms needed to put the details of the Long-term ILRP (i.e., general orders, WDRs, waivers of requirements) in place. The action supported by this PEIR is to provide Central Valley Water Board with direction on developing the ongoing program's implementing measures. The existing conditional waiver will expire in June 2011, so some action will be necessary. However, the Central Valley Water Board believes that, under the terms of the Porter Cologne Water Quality Control Act (Porter Cologne) and its own policies, it is required to continue a regulatory program for discharges of waste from irrigated agricultural lands and that it cannot simply let agricultural discharges go unregulated while it develops and considers the details of a new long-term regulatory program. While the term "ministerial" was intended to capture this position, it is acknowledged that the use of the term is confusing and it has been removed from the text. See Chapter 4, Revisions to the Draft Program Environmental Impact Report, page 4-2 in this Final PEIR.

2.2.3 #3: Explanation for Location of the Staff Recommended Alternative (Alternative 6) in the Draft PEIR

2.2.3.1 Comment Summary

A number of comments stated that it was inappropriate, misleading, and contrary to CEQA case law to include the staff's recommended program alternative (referred to in the Final PEIR as Alternative 6) in an appendix to the Draft PEIR rather than in the main body of the Draft PEIR. Comments indicated that the Draft PEIR did not provide adequate reference to the staff alternative, and that inclusion of the alternative in an appendix made it difficult for readers to compare the staff alternative with the other five project alternatives. Several comments mentioned that the staff alternative had not been developed and approved through the lengthy stakeholder process undertaken to develop the other alternatives and that the staff unfairly focused efforts on this new alternative. Comments also stated the opinion that it was a violation of CEQA and due process to "arbitrarily" develop Alternative 6 from pieces ("mixing and matching") of the other alternatives.

2.2.3.2 Response

The process by which the Alternative 6 was developed, analyzed, and made available for decisionmaker and public consideration is in keeping with the best practices and the purpose and intent of the CEQA process. Alternative 6 was developed following a thorough review of the many regulatory process options available to the Central Valley Water Board to reduce the effects of discharges from agricultural lands to the waters of the state. The alternatives development process was shared with a broad representation of agricultural and public interest stakeholders (the Stakeholder Advisory Workgroup or Workgroup) assembled by the Central Valley Water Board and engaged over an extended time period (refer to the *Proposed Long-Term Irrigated Lands Regulatory Program Alternatives* [Central Valley Regional Water Quality Control Board and ICF Jones & Stokes 2009] report that was developed through this process).

Once this preliminary range of alternatives had been evaluated for potential environmental and economic effects through the Administrative Draft PEIR and the economic analysis of the ILRP alternatives technical memorandum, and following requests from stakeholders to provide more detail regarding the basic elements of the program options, the Central Valley Water Board crafted a recommended alternative using the "mix and match" approach of combining elements of several of the alternatives analyzed in the Draft PEIR. In doing so, the Central Valley Water Board went beyond CEQA's requirements. CEQA requires that a draft EIR include a project description, including identification of the location and boundaries of the project, a statement of objectives with clarification on the underlying purpose of the project, a general description of technical, economic, and environmental characteristics of the project, and a statement briefly describing the intended uses of the EIR (State CEQA Guidelines Section 15124). CEQA also requires the presentation of a reasonable range of alternatives that meets most of the project objectives, are potentially feasible, and would avoid or substantially lessen any potentially significant effects of the proposed project (State CEQA Guidelines Section 15126.6). CEQA does not require identification of a preferred project.

Moreover, Alternative 6 was crafted to avoid or minimize environmental and economic effects of the other alternatives where possible, to be consistent with the legal mandates of the Central Valley Water Board, and to include added detail to its essential elements. This process of developing and

modifying a proposed project based on potential effects is clearly in the spirit of the CEQA process. The State CEQA Guidelines state that a range of reasonable alternatives be considered in an EIR and that "There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. "(State CEQA Guidelines Section 15126.6[a]). The Central Valley Water Board approach to use "mixing and matching" of various elements of the other alternatives to develop a recommended alternative is common practice for developing a proposed action, and is considered by the Central Valley Water Board to be consistent with the rule of reason included in the State CEQA Guidelines at Section 15126.6(f) and CEQA case law. In the context of project approval, the courts have found that the lead agency is not required to grant "blanket approval" of the proposed project described in the EIR.

> CEQA does not handcuff decision-makers . . . The action approved need not be a blanket approval of the entire project initially described in the EIR. If that were the case, the informational value of the document would be sacrificed. Decision-makers should have the flexibility to implement that portion of a project which satisfies their environmental concerns (*Dusek v. Redevelopment Agency* [1985] 173 Cal. App. 3d 1029, 1041; *see also Sierra Club v. City of Orange* [2008] 163 Cal.App. 4th 523, 533 [citing *Dusek*]; *Sequoyah Hills Homeowners Ass'n v. City of Oakland* [1993] 23 Cal.App.4th 704, 716 (upholding findings as adequate on the basis that reasonable inferences could be drawn from findings on related issues).

This earlier effort to indicate a proposed direction for the program enables earlier and greater public disclosure. As long as all of the elements of the approved project or program have been analyzed in the EIR and the new assemblage of pieces does not create significant adverse effects that have not been discussed in the EIR, this hybrid alternative described in the Draft PEIR appendix can be approved with no additional CEQA consideration. The findings associated with approval of the final project can clearly recognize the disposition and, if needed, the mitigation required to offset any adverse effects.

Further, Alternative 6, although developed concurrently with the administrative draft of the PEIR, was incorporated into the Draft PEIR and circulated with the Draft for public and agency review. The location of this alternative and its analysis is clearly indicated in the introduction to Chapter 3, Program Description, on page 3-1 of the Draft PEIR. The ability of the decisionmaker and the public to compare the environmental merits and deficiencies of Alternative 6 to the other alternatives was clearly considered and effectively supported by making those comparisons on pages 171–173 in Draft PEIR Appendix A, which is, in fact, a part of the Draft PEIR and was circulated with the Draft PEIR. Commenters' reliance on *Vineyard Citizens for Responsible Planning v. City of Rancho Cordova* (2007) 40 Cal.4th 412, for the supposed proposition that the location of Alternative 6 in the appendix constitutes a violation of CEQA law is misplaced, as *Vineyard* only stands for the proposition that key data cannot be "buried in an appendix" in a manner that a "reader . . . could not reasonably be expected to ferret out." Far from burying the discussion of Alternative 6 in an appendix, the Draft PEIR specifically calls out and highlights the discussion of Alternative 6 in the Appendix, and that discussion, in turn, is based on full disclosure of significant impacts and potential mitigation in the body of the Draft PEIR.

2.2.4 #4: Adequacy of the Analysis of Impacts Related to Alternative 6

2.2.4.1 Comment Summary

A number of comments indicated that the Draft PEIR did not contain an analysis of the effects of the staff recommended alternative (referred to in the Final EIR as Alternative 6). Other comments recognized that there was an impact analysis contained in Appendix A of the Draft PEIR, but indicated that the analysis did not provide the detail necessary to fully consider the differences between the various program alternatives. Other comments stated that it was inappropriate to include the impact analysis in an appendix. Finally, a concern was also voiced that Alternative 6 was composed of elements of several alternatives, and the unique combined effects of those elements were not considered as a unit.

2.2.4.2 Response

The decision and the rationale for including a description of Alternative 6 in Appendix A of the Draft PEIR are discussed in Master Response 3.

As stated in Master Response 3, the Central Valley Water Board did include the description and analysis of Alternative 6 within the Draft PEIR. The discussion of Alternative 6 makes it clear to the reader that the alternative's significant environmental impacts are essentially identical to those of Alternatives 2–5; the combined effects of Alternative 6 are listed on pages 171 and 172 of Draft PEIR, Appendix A. Thus, full disclosure of all impacts associated with Alternative 6 has been made within the Draft PEIR. The impact analysis is contained on pages 130–136 and 171–173 of Draft PEIR, Appendix A. Pages 130–136 summarize the detailed analysis of the five program alternatives contained in Draft PEIR Chapters 5, Environmental Impacts and Mitigation Measures, and 6, Cumulative and Growth-Inducing Impacts, and refer the reader to that more detailed information. Draft PEIR, Appendix A, pages 171–173 provide a description and comparison of the effects of the Alternative 6 as they relate to the other five alternatives.

As Alternative 6 is a combination of elements of Alternatives 1 through 5 described and analyzed in detail in other parts of the Draft PEIR, the significant impacts of Alternative 6 are fully disclosed to the public as required by CEQA in the Draft PEIR. This is in keeping with the practice of developing a proposed action from elements of alternatives analyzed in EIRs, as described and supported in Master Response 3. As Alternative 6 does not result in an effect on the environment that was excluded from the EIR, the analysis of that alternative within the Draft PEIR is adequate.

2.2.5 #5: Consistency of the ILRP with Nonpoint Source Policy and Antidegradation Policy

2.2.5.1 Comment Summary

Comments asserted that the Long-term ILRP alternatives are in conflict with the state's Antidegradation Policy and the Nonpoint Source (NPS) Policy. Other comments expressed concern that the Draft PEIR misrepresents relevant legal standards by suggesting that the application of the Antidegradation Policy is triggered by the ILRP simply because it will authorize agricultural discharges to surface and groundwater to continue.

2.2.5.2 Response

Nonpoint Source Policy

The Long-term ILRP would regulate waste discharges from irrigated agricultural lands to state waters as a NPS program. Accordingly, the Long-term ILRP must meet the provisions of the State Water Resources Control Board's (State Water Board's) NPS Policy. Under the NPS Policy, the Central Valley Water Board must find that the ILRP will promote attainment of water quality objectives. The ILRP also must meet the requirements of five key structural elements. The NPS Policy is described in Section IV.C, Nonpoint-Source Program, of the Draft PEIR, Appendix A, page 54. In addition, the Draft PEIR, Appendix A Sections IX, Evaluation of Long-Term Program Alternatives, and XI, Evaluation of Recommended Long-Term Irrigated Lands Regulatory Program, evaluate the consistency of each of the proposed alternatives with the requirements of the NPS Policy (Draft PEIR, Appendix A, page 107 and 165, respectively).

The Draft PEIR, Appendix A evaluation found that Alternatives 1–6 all meet the requirements of NPS Policy Key Element 1. This is mainly because the element requires, in part, that the NPS control implementation program's ultimate purpose be explicitly stated (other portions of this key element are evaluated as part of other sections, see Section IX.A.3, Draft PEIR, Appendix A, page 108, for more information). The purpose of the Long-term Program is explicitly stated in the ILRP Goals and Objectives and the objectives include restoring and maintaining appropriate beneficial uses by ensuring that all state waters meet water quality objectives. As given in the Goals and Objectives, the ultimate purpose of all ILRP alternatives is the same. Accordingly, all program alternatives are consistent with this requirement.

In general, NPS Policy Key Element 2 requires that an NPS implementation program include a description of the management practices expected to be implemented to ensure attainment of the program's purpose (i.e., goals and objectives), and the process used to select and ensure proper implementation of management practices. Successful implementation of water quality management measures will work toward achieving the goals and objectives of the Long-term ILRP. The Draft PEIR and Draft ILRP Economics Report discuss the types of management practices that would likely be implemented for all of the alternatives. ILRP components that would work to achieve consistency with Key Element 2 include water quality management plans to protect surface and groundwater and tracking of implemented management practices. Alternatives 2–6 are consistent with Key Element 2 because they include requirements to develop surface and groundwater quality management plans and mechanisms to ensure implementation of management practices (e.g., tracking, inspections).

The State Water Board's NPS Policy describes that: "A first step in the education process offered by these [NPS] programs often consists of discharger assessment of their lands or operations to determine NPS problems, followed by development of a plan to correct those problems." The first step assessment of lands or operations to determine NPS problems can be accomplished by the development of individual farm water quality management plans (FWQMPs) (required under Alternatives 3, 4, and 5). Regional water quality plans have also been considered (Alternatives 1, 2, and 6). One of the features of the regional plans is for the managers of irrigated agricultural operations to identify the management practices they are implementing to protect water quality, which would require the manager to assess his or her operation. Regional water quality management plans can be used to assess irrigated agricultural operations, provide grower education, and develop a description of the types of practices that need to be implemented. With

appropriate oversight, both regional and individual water quality plan approaches can be utilized to meet the NPS Policy requirement of assessing land/operations and planning to correct water quality problems. Regional management has been selected in Alternative 6 considering the need to coordinate with other programs, costs, and the limitations of the Board (e.g., there are an estimated 7 million acres of land and over 30,000 potential operations).

If the Central Valley Water Board determines that it is necessary to allow time to achieve water quality requirements in an NPS program, Key Element 3 requires that the program include a time schedule with quantifiable milestones. In Sections IX.A.3 and XI.A.3 of the Draft PEIR, Appendix A, Alternatives 2–6 were found to be consistent with Key Element 3 because time schedules would be included in surface and groundwater quality management plans. Alternative 6 also includes specific time schedules for working to achieve water quality objectives in priority areas. Alternative 1 is not consistent with this element because there are recognized exceedances of groundwater quality objectives (e.g., nitrates), and the alternative would not require groundwater protection requirements or a time schedule for working toward achieving water quality objectives.

Key Element 4 requires that an NPS program include feedback mechanisms so that the Central Valley Water Board, regulated operations, and the public can determine whether the program is effective. In Sections IX.A.3 and XI.A.3 of the Draft PEIR, Appendix A (Draft PEIR, Appendix A), only Alternatives 4–6 were found to be fully consistent with this element. This is because these alternatives include surface and groundwater quality monitoring to provide feedback on whether the ILRP is meeting goals and objectives. These alternatives include two different types of feedback mechanisms. Alternatives 4 and 6 include regional monitoring, while Alternative 5 includes individual monitoring. Both individual and regional monitoring approaches are considered acceptable feedback mechanisms for the ILRP (see Draft PEIR, Appendix A, pages 94–95).

While both regional and individual monitoring can be effectively utilized to provide ILRP feedback mechanisms, regional monitoring has been selected in Alternative 6. The benefits and drawbacks of regional monitoring compared with farm-based monitoring have been considered in the Draft PEIR, Appendix A. As described on page 95 of the report:

> …the waste discharge characteristics of runoff from each farm would be determined [under farm-based monitoring]. 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 necessarily provide enough information to tell whether the discharge is affecting the river's water quality.

Farm-based monitoring alone will not answer whether agricultural discharges are affecting receiving waters, e.g., effects of multiple bio-accumulating sources on a single waterway. It is also important to recognize that water quality objectives apply within receiving waters, not within farm fields or in effluent from management practices. Therefore, monitoring edge of field discharge or effluent management practices as the primary monitoring approach would not provide the information necessary to evaluate whether irrigated agricultural operations are meeting water quality objectives. In order to determine whether individual agricultural tailwater discharges are causing or contributing to an exceedance of a water quality objective, information would be needed to tell whether the tailwater reaches a waterway, mass flow of the waterway, the concentration of wastes already in the waterway, and the actual mass discharged must all be known. Under the farm-based monitoring scenario, this type of analysis would be necessary for over 7.5 million acres of irrigated agricultural operations—leading to high costs (see Alternative 5 monitoring costs,

page 122 of the Draft PEIR, Appendix A) and Board staffing requirements (see pages 119 and 120 of the Draft PEIR, Appendix A) when compared with regional monitoring.

The ILRP is a NPS program and cannot be easily compared with point source waste discharge program requirements where a single effluent location can be determined and controlled. Feedback monitoring needs to indicate how changes in management are impacting the overall health of waters receiving agricultural waste discharges. Regional monitoring can be used to determine if water quality is improving to provide program feedback as required by the NPS Policy, and provide information to evaluate whether implemented practices, on a macro—or watershed scale— are protective of beneficial uses and achieving best practicable treatment or control where required under the Antidegradation Policy (see pages 107–116 and 165–168 of the Draft PEIR, Appendix A). However, the Board agrees that direct monitoring of discharge from fields can help address important issues that regional monitoring efforts cannot, such as the efficacy of particular management practices; the characteristics of discharge from specific commodities; and evaluating the impacts of individual dischargers who are not part of a regional effort or are not in compliance with regional orders. The Central Valley Water Board will continue to consider the balance of costs of monitoring (whether regional or site-specific) with the benefits to be gained from that information as the Long-term Program is implemented and any orders are issued.

Key Element 5 requires that the Central Valley Water Board make clear, in advance, the potential consequences for failure to achieve an NPS control implementation program's stated purposes.

Compliance with this element is the responsibility of the Central Valley Water Board. The potential consequences for failure to achieve the Long-term ILRP's stated purpose would be the same regardless of the chosen program alternative and would include the following steps:

1. Require, in an iterative process, additional monitoring information, and/ or management practices where water quality objectives are not being met.
2. Specify enforcement action where an iterative process is unsuccessful, program requirements are not met, or time schedules are not met.
3. Require submittal of a report of waste discharge (ROWD), by operators, to work individually with the Central Valley Water Board.

As described on page 167 of the Draft PEIR, Appendix A, the Central Valley Water Board will ensure consistency with Key Element 5 by including the above potential consequences in waivers and WDRs adopted to implement the ILRP.

Antidegradation Policy

The purpose of the discussion of the Antidegradation Policy in the Draft PEIR, Appendix A is to evaluate the ILRP at a programmatic level for consistency with the legal requirements of the Board. The analysis is therefore by necessity at a general, programmatic level.

While presenting an antidegradation discussion at a programmatic level, the antidegradation discussion does not posit that the antidegradation policies are triggered simply because the ILRP authorizes agricultural discharges to surface and groundwater to continue. Rather, the discussion in the Draft PEIR, Appendix A puts forth that the ILRP will encompass some discharges with potential to degrade high quality waters and therefore compliance with the antidegradation policies at a programmatic level must be analyzed. Available data show that currently existing quality of certain water bodies is better than the water quality objectives. Additionally, whether or not a water body is

high quality is established on a constituent specific basis; therefore, even if a water body is degraded with regard to some constituents, it may be high quality with regard to other constituents. State Water Board Order No. WQ 91-10. Finally, historic water quality may in some circumstances be a more appropriate measure of whether a water body is high quality, if past degradation was not consistent with the applicable antidegradation requirements (State Water Board Order No. WQ 2009-0007 at 12). The fact that the ILRP, as a whole, may lead to improvement in water quality, does not change the conclusion that some discharges permitted under the program may cause degradation of high quality waters.

Because the ILRP will encompass some discharges with potential to degrade high quality waters, the Long-term ILRP must, at a programmatic level, meet the provisions of state and federal antidegradation policies. Applicable antidegradation provisions are described in the Draft PEIR, Appendix A, Section IV.E, State Antidegradation Policy. That section explains that, at the programmatic level, the Long-term ILRP should be consistent with Resolution 68-16 and related policies by ensuring that:

- At a minimum, irrigated agricultural waste discharges must be addressed in a manner that achieves and maintains water quality objectives and beneficial uses.
- Because it is expected that there may be degradation of some Central Valley high quality waters receiving irrigated agricultural discharges, maximum benefit to the people of the State must be shown.
- The requirements implementing the Long-term ILRP must result in use of Best Practicable Treatment or Control (BPTC) where irrigated agricultural waste discharges may cause water degradation of high quality waters; where waters are already degraded, the requirements must result in pollution controls that reflect the “best efforts” approach.

The term BPTC is found in Resolution 68-16 and is not defined in the Resolution; nor is it defined in the California Water Code. Promulgated federal technology standards may inform BPTC, but BPTC is not derived from these standards. The State Water Board has evaluated what level of treatment or control is technically achievable using "best efforts” and this approach has informed the BPTC analysis. See State Water Board Order Nos. WQ 81-5, WQ 82-5, WQ 90-6, and WQ 2000-07. The State Water Board has stated: “one factor to be considered in determining BPTC would be the water quality achieved by other similarly situated dischargers, and the methods used to achieve that water quality.” (See Order WQ 2000-07, at pp. 10-11). A “Questions and Answers” document for Resolution 68-16 (February 16, 1995), states that, to evaluate the BPTC method, the discharger should compare the proposed method to existing proven technology; evaluate performance data (e.g., through treatability studies); compare alternative methods of treatment or control; and/ or consider the method currently used by the discharger or similarly situated dischargers.

As clarified in revisions to Section IV.E in response to comments received on the BPTC standard, even where a water body can be shown not to be of high quality, imposition of a standard comparable to BPTC is within the authority of the Central Valley Water Board. See Chapter 4, Revisions to the Draft Program Environmental Impact Report, page 4-20 in this Final PEIR. In precedential State Water Board decisions, the Board is directed to set limitations more stringent than the Basin Plan objectives if it can be shown that those limitations can be met using ”best efforts”, a standard that has not been distinguished from BPTC (State Water Board Order No. WQ 81-5; *see also* State Water Board Orders Nos. WQ 79-14, WQ 82-5, WQ 2000-07).

The Draft PEIR, Appendix A lays out a maximum benefit analysis that concludes that continued waste discharge associated with irrigated agricultural operations that may cause degradation of high quality waters is, at a programmatic level, consistent with the maximum benefit to the people of the State. Nevertheless, it is acknowledged that, at the programmatic level, it is not feasible to conduct a conventional analysis of waste loadings, assimilative capacities, and socioeconomic concerns to determine consistency with maximum public benefit for every Central Valley irrigated agricultural waste discharge. Instead, the following programmatic approach has been developed for practically applying antidegradation provisions for a Central Valley ILRP:

> Implementation of the program must work to achieve site-specific antidegradation and antidegradation-related requirements through iterative implementation of BPTC/ "best efforts" and representative monitoring (i.e., where monitoring indicates degradation, BPTC would evolve to prevent such degradation).

This iterative process is shown graphically in Figure 21 of the Draft PEIR, Appendix A. (Refer to revisions to Figure 21 in Chapter 4, Revisions to the Draft Program Environmental Impact Report, page 4-24 of this Final PEIR) and is intended, over time, to bring all water bodies accepting agricultural wastes into compliance with water quality objectives (where agriculture causes or contributes to the exceedance) and evaluate and prevent degradation from occurring. In Sections IX.A.4 and XI.A.4 of the Draft PEIR, Appendix A, each of the alternatives is evaluated against the above approach for implementing antidegradation requirements. In this evaluation, Alternatives 4–6 were found to be fully consistent with antidegradation provisions. Alternatives 2 and 3 were found to be partially consistent with antidegradation requirements, and Alternative 1 is not consistent.

2.2.6 #6: Feasibility, Legality, and Adequacy of Identified Mitigation Measures

2.2.6.1 Comment Summary

Comments reflected concern that the mitigation measures contained in the Draft PEIR are not feasible because of a belief the Central Valley Water Board lacks the means and authority to insure the measures are implemented. Further comments opined that the mitigation measures improperly create obligations for growers to comply with legal mandates (such as CEQA compliance and conducting delineations for waters of the United States) and mitigation when the change in management practice that may stimulate the need for mitigation is ministerial (non-discretionary).

2.2.6.2 Response

State CEQA Guidelines Section 15126.4 directs lead agencies to describe feasible mitigation measures that could minimize significant adverse impacts. Section 15126.4(a)(2) specifically states that mitigation measures for impacts resulting from a plan or policy, such as the Long-term ILRP, can be incorporated into the plan or policy. In order to be considered feasible, a mitigation measure must be fully enforceable through permit conditions, agreements, or other legally binding instruments.

Draft PEIR Chapter 5, Section 5.1.2, Significance Determinations and Mitigations, discusses the ILRP approach to mitigation, stating that the Central Valley Water Board will enforce the identified mitigation through inclusion of measures in the ILRP enforcing mechanism, which will be a legally

binding instrument. These measures are likely to be included in prohibitions, discharge specifications or provisions in the enforcing mechanism (WDRs, waivers). This is consistent with the direction of State CEQA Guidelines Section 15126.4(a)(2).

The Central Valley Water Board is tasked with overseeing discharges to waters of the state from irrigated agricultural operations. Growers who choose to participate in the ILRP as a method of receiving regulatory authority for those discharges are bound by the terms of its implementing mechanism (i.e., WDRs or waivers), including mitigation measures in the form of prohibitions, discharge specifications or provisions described therein. In this way, the mitigation measures proposed for the ILRP are feasible and binding on program participants. However, growers who believe they cannot comply with the program's mitigation requirements may opt out of the ILRP and seek individual regulatory coverage from the Central Valley Water Board, perhaps in the form of individual WDRs. The issuance of individual WDRs is a discretionary action for the Central Valley Water Board, providing for the CEQA review. In these cases, the individual grower may work with the Central Valley Water Board to develop alternative mitigation or consider undertaking individual CEQA review to deal with potentially significant effects of changes in management practices. Thus, the mitigation measures required under the program do not go beyond the powers of the Central Valley Water Board and are not legally infeasible.

Specifically, public comment focused on the feasibility of the mitigation identified by the Central Valley Water Board to address potential impacts to sensitive biological resources. Under all six ILRP alternatives, growers would not be mandated by the ILRP to implement particular water quality management practices. The ILRP alternatives assume that the choice of management practices needed to reach water quality goals will be left to the growers. However, when a management practice selected by a grower to achieve compliance with the terms of the ILRP enforcing mechanism has the potential to create significant impacts, mitigation will be required to maintain coverage under the implementing mechanism.

First and foremost, Chapter 5.7, Vegetation and Wildlife, Section 5.7.6, Mitigation, directs growers that desire coverage under the ILRP to mitigate potential management practice impacts through avoidance of management practices that interfere with or harm identified sensitive resources. However, in the unlikely instance that avoidance is not possible, and a grower and the Board agree that an impactful management practice must be implemented to meet the terms of the ILRP implementing mechanism, such impacts are indirect effects of the ILRP that must be mitigated. It is unknown where or if a significant impact may occur as a result of implementing the Long-term ILRP because of the programmatic level of analysis contained in the Draft PEIR, so it is not possible to draft project-level mitigation for this possibility. If the Central Valley Water Board determines those specific impacts have not been disclosed to the public through the CEQA process, further CEQA compliance may be required.

Public comment also challenged the Draft PEIR's recognition of growers' responsibility to comply with other environmental statutes in carrying out mitigation measures, such as the federal Endangered Species Act (ESA) and California Endangered Species Act (CESA), and the federal Clean Water Act (CWA). Specifically, the need for grower cooperation with the federal resource agencies and the U.S. Army Corps of Engineers (USACE) when complying with the mitigation requirements of the ILRP was challenged as exceeding the Central Valley Water Board's legal authority.

Throughout the Draft PEIR, mention is made of a grower's need to comply with these and other statutory schemes in his or her compliance with the ILRP. This is not a duty placed upon growers by

virtue of their participation in the ILRP. Regardless of a grower's participation, compliance with environmental regulations such as ESA and CWA is the obligation of all growers where relevant. The ILRP neither creates nor relieves such an obligation.

2.2.7 #7: Differences in the Level of Detail Required in the Impact Analyses of Program and Project-Level EIRs

2.2.7.1 Comment Summary

Widely varied comments expressed concern that several areas of the program-level environmental analysis did not provide quantitative discussions of specific, on-the-ground impacts.

2.2.7.2 Response

The State CEQA Guidelines recognize the varying roles that program and project-level EIRs play in CEQA compliance at Section 15168. A Program EIR is appropriate, where, as with the ILRP, a series of actions can be characterized as one large project and are related "as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effect which can be mitigated in similar ways" (State CEQA Guidelines Section 15168[a][4]).

Program EIRs can be detailed enough to support all future program actions. State CEQA Guidelines Section 15168(c)(2) and (c)(5) state:

> If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required. . . . With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

However, Program EIRs may alternatively act to simplify future CEQA compliance by narrowing the range of issues that must be analyzed at a future date, "If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration" (State CEQA Guidelines, Section 15168[c][1]). Specifically, a program EIR can support a subsequent initial study, or "be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole" (State CEQA Guidelines, Section 15168[d]).

The State CEQA Guidelines at Section 15146 also recognize that the level of specificity contained in an EIR should correspond to the level of detail provided for the project or program that is being analyzed in the EIR.

A reduced level of detail is accordingly appropriate at the beginning of the analysis of a program if limited details are available. The California Supreme Court makes this issue clear in its discussion in *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings*, 184 P.3d 709, 715 (Cal. 2008):

> In addressing the appropriate amount of detail required at different stages in the tiering process, the CEQA Guidelines state that "[w]here a lead agency is using the tiering process in connection with an EIR for a large-scale planning approval, such as a general plan or component thereof . . . , the development of detailed, site-specific information may not be feasible but can be deferred, in many

> instances, until such time as the lead agency prepares a future environmental document in connection with a project of a more limited geographic scale, as long as deferral does not prevent adequate identification of significant effects of the planning approval at hand." (Cal. Code Regs., tit. 14, § 15152, subd. (c)). This court has explained that "[t]iering is properly used to defer analysis of environmental impacts and mitigation measures to later phases when the impacts or mitigation measures are not determined by the first-tier approval decision but are specific to the later phases." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova*, [citation removed].)

Due to the broad, general nature of the ILRP alternatives, and the early stage of development of the implementing mechanisms, a programmatic level of environmental analysis is necessary and appropriate. If future actions undertaken to implement the ILRP (e.g. issuing WDRs or waivers) have the potential for new significant impacts, the Central Valley Water Board will undertake the appropriate CEQA compliance.

2.2.8 #8: Rationale for Excluding Detailed Discussions of Environmental Benefits and for Assuming the Alternatives would Produce Similar Environmental Benefits

2.2.8.1 Comment Summary

Comments focused on the Draft PEIR's failure to discuss which alternative presents the most environmental gain over present conditions. Comments also disputed the Draft PEIR's assumption that the six alternatives would result in substantially similar environmental impacts for the purpose of the analysis.

2.2.8.2 Response

The overarching focus and intent of the ILRP is to maintain and improve water quality. The program alternatives are expected to have largely beneficial effects to the physical environment. Commenters are reminded that the project analyzed in the Draft PEIR is not agricultural operations in the Central Valley; rather, existing agricultural operations are part of the baseline of the analysis (see discussion of baseline in Master Response 1). The ILRP alternatives include a number of management and eventual regulatory actions that are designed to identify and reduce the adverse effects of runoff or percolation of water from irrigated agriculture. The anticipated effects of all alternatives are beneficial to water quality, including groundwater, in that none of the six alternatives will worsen water quality. CEQA directs government agencies to disclose to the public the adverse effects of their discretionary actions. Although some EIRs do discuss the relative merits of alternatives, the focus required by CEQA is on potential negative or adverse effects. The Draft PEIR does not discuss in depth the relative degree of likely beneficial impacts of the ILRP alternatives.

From a programmatic level, the ILRP alternatives are founded on the reasonable presumption that growers will enact management practices to meet the Program objectives and the types of practices anticipated to be implemented do not vary across alternatives (except Alternative 1, which does not address discharge to groundwater). Thus, the alternatives have similar adverse and beneficial physical impacts. While it may be argued that the alternatives beneficial effects could vary based on comprehensiveness of monitoring and other factors, CEQA does not demand the Draft PEIR focus on this distinction. The purpose of the CEQA analysis is to assist the Central Valley Water Board in selecting a method to achieve the Program's goals with fewer significant adverse environmental

impacts. The primary distinctions in the alternatives lie in their implementing mechanisms, costs, and consistency with Central Valley Water Board policy and legal obligations, elements that the Board will consider in its decisionmaking. Thus, where alternatives result in different adverse impacts to resources, as in Agriculture Resources, such impacts are described. See Draft PEIR Chapter 5, Section 5.10, Agriculture Resources.

2.2.9 #9: Explanation of Adequacy of the Cumulative Impacts Analysis

2.2.9.1 Comment Summary

Several comments identified the discussion of cumulative impacts as inadequate, stating it does not provide a list of similarly situated projects with which the ILRP may have cumulatively considerable impacts.

2.2.9.2 Response

As described in the Draft PEIR Chapter 6, Cumulative and Growth-Inducing Impacts, the State CEQA Guidelines (Section 15130) dictate that an adequate discussion of significant cumulative impacts should contain the following elements:

- An analysis of related future projects or planned development that would affect resources in the project area similar to those affected by the proposed project; or a summary of projections contained in an adopted local, regional or statewide plan that describes or evaluates conditions contributing to the cumulative effect.
- A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available.
- A reasonable analysis of the cumulative impacts of the relevant projects. An EIR must examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

The State CEQA Guidelines (Section 15130[b]) also direct a lead agency to ensure its analysis of cumulative impacts be guided by "standards of practicality and reasonableness." Conducting this analysis in a feasible, meaningful way for the ILRP required that Central Valley Water Board move away from either a traditional list- or plan-based approach while taking the steps necessary to provide the public with valuable information concerning foreseeable cumulative impacts. This decision was due to the limitations of the Draft PEIR's programmatic approach and its primarily beneficial effects, as described in Master Response 8.

Typically, a program or project's impacts are identifiable or quantifiable by location, nature, and severity. In this instance, the ILRP's alternatives foreseeable impacts would result from the indirect effects caused by the actions and choices of growers concerning employment of management practices as growers seek regulatory coverage for discharges to waters of the state under the ILRP. These management choices may lead to impacts, the location, nature, and severity of which could vary widely across the Central Valley Water Board's jurisdiction. The same management practices would likely also lead to broad beneficial impacts. The Draft PEIR attempts to identify the possible nature of these impacts, but the lack of information concerning the impacts' locations does not allow the Board to make any practical or reasonable conclusions of the cumulative severity of those

impacts in light of other projects on a site-specific basis. Furthermore, this same challenge makes identification of related future projects or planned development speculative.

In order to provide practical information, the Board determined the likelihood of cumulative impacts by comparing foreseeable ILRP effects with known existing conditions, as well as with widely acknowledged issues of continuing environmental damage within the area of program influence. For example, as discussed in Subsection 6.2.2.5, if a management practice resulted directly or indirectly in the reduction in quality habitat and the take of individual listed plants or wildlife species, that impact could combine with other extensive human impacts from land conversion, water development, population growth, and recreation in the Central Valley to result in a potentially cumulatively considerable impact.

2.2.10 #10: Consistency of the Range of Alternatives in the EIR with the CEQA Guidelines

2.2.10.1 Comment Summary

Several comments indicated that the range of alternatives considered in the Draft PEIR should have been expanded. It was noted by one comment that a "reasonable range" of alternatives must meet two requirements: (1) it must include alternatives that could feasibly attain most of the program's objectives, and (2) it must provide for a substantial environmental advantage over the project proposal. The commenter contended that the impacts of the various alternatives were not sufficiently different to allow identification of an environmentally superior alternative by decision-makers. One commenter also suggested that the alternatives should have included an option that had lower costs than those contained in the Draft PEIR.

2.2.10.2 Response

The State CEQA Guidelines provide direction on selection of project alternatives at Section 15126.6. Section 15126.6(a) states "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decisionmaking and public participation." The section further states that "There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason." The rule of reason is described at Section 15126.6(f) as follows: "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." The State CEQA Guidelines clearly designate the Lead Agency as the responsible party for selecting a range of alternatives and must publicly disclose its reasoning for selecting those alternatives.

With this guidance in hand, the Central Valley Water Board embarked on a broad and lengthy stakeholder participation process to develop, consider, and describe alternatives to be included in the Draft PEIR. The development of the Long-Term ILRP Stakeholder Advisory Workgroup (Workgroup) and its process of developing program goals, objectives, and alternatives are described in Draft PEIR, Appendix A, beginning on page 5. This Workgroup included a broad range of interests, including local government, industry, agriculture, and environmental/environmental justice from

throughout the Central Valley. The stakeholder participation process started in the fall of 2008 and concluded in August 2009 with an approved set of goals, objectives, and range of alternatives. The information developed by this Workgroup is included in the December 2009 *Proposed Long-Term Irrigated Lands Regulatory Program Alternatives* document, which is included as Appendix A of the Draft PEIR. The program alternatives presented in the 2009 report were subsequently used as the basis of the alternatives analysis in the Draft PEIR. The Central Valley Water Board believes this process thoroughly considered and developed a range of reasonable alternatives as required by the State CEQA Guidelines.

It is important to note that, while some comments suggest that the range of alternatives was not broad enough to select an environmentally preferred alternative, none suggested a specific additional alternative (that could not be constructed from the range of alternatives in the Draft PEIR), which would be less environmentally damaging. Consistent with its desire to provide the Board with a broad range of policy and implementation mechanism choices, the Central Valley Water Board and the Workgroup did not limit the selection of alternatives to just those that might reduce the adverse effects of the proposed regulatory program. In fact, the description of the program alternatives in Chapter 3, Program Description, of the Draft PEIR does not include a proposed or preferred program as a basis for comparing alternatives. Instead, the Draft PEIR describes alternatives in an equal level of detail; the impact analyses in Chapter 5, Environmental Impacts and Mitigation Measures, and Chapter 6, Cumulative and Growth-Inducing Impacts, also provide an equal level of detail for the alternatives. Because what is being considered is a broad program, the alternatives also include policy and implementation authority differences that are important for the Board to consider, not just environmental impact differences.

Chapters 5 and 6 of the Draft PEIR describe the differences in the type and degree of potential environmental effects that would occur under the different program alternatives selected by the Central Valley Water Board and the Workgroup. Because the goal of the Long-term ILRP is to reduce the effects of agricultural discharges to surface and groundwater, many of these differences are in the degree of beneficial effect rather than adverse effect. CEQA does not require a detailed comparison of the beneficial effects of project alternatives. The principal differences in adverse effect are related to the potential for loss of agricultural production (see Chapter 5, Section 5.10, Tables 5.10-2 through 5.10-6 on pages 5.10-9 through 5.10-13 in the Draft PEIR).

The Central Valley Water Board, as the CEQA Lead Agency for this PEIR, believes it has provided decisionmakers and the public with a range of reasonable alternatives that are capable of meeting most of the objectives of the program and enables a reasoned choice based on differences in environmental effect.

2.2.11 #11: Consistency of the ILRP with Habitat Conservation Plans or General Plans

2.2.11.1 Comment Summary

Several comments indicated that the Draft PEIR did not address the issue of program consistency with general, regional, and habitat conservation plans. The majority of these commenters felt that the program-induced conversion of irrigated agricultural land would be in conflict with the agricultural preservation policies of county general plans and habitat protection and mitigation requirements of existing habitat conservation plans within the project area.

2.2.11.2 Response

State CEQA Guidelines Section 15125(d) states:

> The EIR shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans. Such regional plans include, but are not limited to, the applicable air-quality attainment or maintenance plan (or State Implementation Plan), area-wide waste treatment and water quality control plans, regional transportation plans, regional housing allocation plans, habitat conservation plans (HCP's), natural community conservation plans, land use plans for the protection of coastal zone, Lake Tahoe Basin, San Francisco Bay, and Santa Monica Mountains.

The ILRP would not create inconsistencies with local, regional, and state plans; any existing zoning for agricultural use or Williamson Act contracts; nor would it conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Program (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. As discussed in the Draft PEIR, the nature of specific changes in land use are influenced by myriad factors, making it speculative to assume what land use changes, if any, may result from the program. This is discussed in greater detail below.

Page 5.10-6 of the Draft PEIR states:

> It is important to note that that the terminology "lost from production" or "removed from production," as used in this draft PEIR and the Draft ILRP Economics Report, does not necessarily mean that the land no longer would be used to produce crops, only that it would not be used to produce the particular crop type in question. It is reasonable and logical to assume that, while some portion of the affected farmland would be converted to nonagricultural use, a majority of the lost acreage would not be converted to a nonagricultural use but instead would be used to produce a crop that would require lower compliance costs and generate sufficient revenue to stay in agricultural production.

Page 5.11-1 of the Draft PEIR goes on to explain that neither the location of potential land conversions nor the specific nature of said conversions can be identified, thus any analysis of such impacts would be unreasonably speculative. Most general plans contain objectives that discourage the conversion of agricultural lands to other uses and zoning is typically the primary tool used to reach such objectives. The Program does not call for land use change as an element of its implementation, and thus would not seek any zoning variances for implementation. Likewise, it does nothing to absolve a landowner of his or her obligation to comply with local regulations set forth in applicable local, regional, and state planning documents.

For the reasons stated above, inconsistencies with HCPs, general plans, or similar planning documents are not a significant concern and are not further addressed in the Draft PEIR.

For informational purposes, it is noted there are approved HCPs within the jurisdiction of the Central Valley Water Board that are large enough to be potentially affected by possible changes in agricultural land uses indirectly resulting from implementation of the ILRP:

- East Contra Costa County HCP/NCCP, a portion of which is in the project area.
- San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), all of which is in the project area.
- Natomas Basin HCP (Sacramento and Sutter Counties), all of which is in the project area.
- Metro Bakersfield HCP (Kern County), all of which is in the project area.

The Metro Bakersfield HCP does not cover species that are dependent on agricultural lands so this plan would not be affected by any changes in crop types or conversion of agricultural lands to other land uses associated with the ILRP.

The East Contra Costa County HCP/NCCP covers Swainson's hawk (*Buteo swainsoni*), which is dependent on agricultural lands for foraging habitat, particularly hay and other pasture crops. While some loss of crop types important to Swainson's hawk may occur in eastern Contra Costa County as growers respond to the proposed project, the HCP/NCCP does not depend on the availability of these crop types to maintain Swainson's hawk in the plan area. In that plan, Swainson's hawk populations are thought to be limited more by availability of breeding sites (riparian woodland and forest) rather than the availability of foraging habitat.

Swainson's hawk is also one of the primary covered species of the San Joaquin County HCP and the Natomas Basin HCP. Both plans also cover the giant garter snake (*Thamnophis gigas*), which is dependent in those areas on active rice farms.

The conservation strategy for the Natomas Basin HCP calls for the protection of several thousand acres of cropland and the restoration of additional lands to provide habitat for giant garter snake and Swainson's hawk. The plan also relies on the continued availability of rice and field crops for these species, respectively, outside of the preserve areas and within the Natomas Basin. However, as the location and extent of land use change in the Natomas Basin that may indirectly result from the ILRP is unknown, and depends on choices made by growers, the impact of such unknown change within this HCP is speculative and no impact can be assigned at the programmatic level.

The conservation strategy for the San Joaquin County HCP calls for the protection of thousands of acres of cropland, in addition to conservation of natural lands (grasslands, riparian habitats, and vernal pool habitats) to provide habitat for Swainson's hawk, giant garter snake, sandhill crane (*Grus canadensis*), burrowing owl (*Speotyto cunicularia*), loggerhead shrike (*Lanius ludovicianus*), and numerous other species partly or wholly dependent on agricultural lands. The program area covers almost the entire county. As mentioned above, however, as the location and extent of land use change within San Joaquin County that may indirectly result from the ILRP is unknown, the impact of such unknown change within this plan is speculative and no impact can be assigned at the programmatic level.

2.2.12 #12: Justification for the Draft PEIR, Appendix A (Staff Report) Position that All Irrigated Agriculture Potentially Creates a Discharge of Waste that Could Affect the Quality of Groundwater

2.2.12.1 Comment Summary

Several comments sought an explanation for the Draft PEIR's position that all irrigated agriculture potentially creates a discharge of waste that could affect the quality of groundwater. Comments included failure of the document to identify the source of discharge, as well as assertions that surface water irrigation runoff is not a discharge if it improves the water quality of the receiving water.

2.2.12.2 Response

California Water Code Section 13260(a)(1) requires that a ROWD be filed by, "Any person discharging waste, or proposing to discharge waste, within the region that could affect the quality of waters of the state, other than into a community sewer system." Page 143 of the Draft PEIR, Appendix A) includes the following discussion with respect to regulating potential waste discharges from irrigated agricultural operations to groundwater:

> Operations associated with irrigated agriculture involving the application of materials and constituents directly or indirectly to land may leach waste into groundwater, potentially causing degradation, or causing or contributing to exceedances of water quality objectives. Because all irrigated agricultural operations could affect groundwater quality, they have been considered in the scope of the Long-term ILRP. There may be cases where leaching of waste could not affect groundwater quality; however, this would be difficult to determine without intensive site-specific information. In implementing the Long-term ILRP, the Central Valley Water Board would consider such site-specific information, as provided by irrigated agricultural operations, to reevaluate whether a particular waste discharge could affect groundwater quality.

The basis for the position that most, if not all, irrigated agricultural operations discharge or propose to discharge waste that could affect groundwater quality to some degree and over some period of time is based upon review of groundwater quality data, the physical properties of water, the principles of irrigation, and the gravitational process. As described in Section III.C.2 of the Draft PEIR, Appendix A, a considerable number of wells in the Central Valley have high levels of nitrate. The use of chemical nitrogen-based fertilizers has been found to be a potential cause of nitrate contamination of groundwater in agricultural areas (see pages 99–100 of the Draft PEIR, Appendix A). Also, DPR's Groundwater Protection Program has found pesticides in groundwater from irrigated agricultural use. Water is a natural solvent that dissolves a variety of compounds contained within the soil (e.g., salts, minerals, certain polar organics). The resulting solute may include nutrients, pesticides, salts, or other naturally occurring or applied chemicals. During irrigation, water/solutes infiltrate the soil and pass downward under the force of gravity to the root zone of the crop where a portion of this subsurface water is taken up by the plant's root system. The remaining water passes below the root zone and can no longer be utilized by the crop. This process is acknowledged by state and local agencies to provide necessary groundwater recharge in areas within the Central Valley.

Also, as described in Section III.C.1 of the Draft PEIR, Appendix A, there are a considerable number of surface water management plans required under the current ILRP. These plans are required to address exceedances of water quality objectives (e.g., high levels of pesticides used by irrigated agriculture). Also see Table 3 of the Draft PEIR, Appendix A, page 26. Accordingly, waste discharge from irrigated agricultural operations to surface waters has the potential to affect surface water quality.

Because the Long-term ILRP will be implemented through general WDRs or a general waiver of WDRs, applicable to a variety of irrigated agricultural operations, it must programmatically include all potential irrigated agricultural waste discharges that could affect the quality of state waters (surface and groundwater). If an operation does not wish to enroll in the ILRP, it may submit a ROWD describing the waste discharge (e.g., whether there is a potential to affect groundwater quality). Upon review of the report, the Board may choose to waive the requirement to obtain WDRs, issue individual WDRs specific to the operation, or seek to enroll the operation in the ILRP.

Because the informational requirements for determination of whether there is a waste discharge that could affect groundwater quality are intensive and may often carry a greater expense than enrollment in the ILRP, Alternatives 2, 4, and 6 include tier systems, where low priority waste discharges would be subject to reduced monitoring and management requirements (e.g., areas or operation types where there is little possibility for waste discharges to degrade groundwater quality). Higher priority waste discharges would have additional monitoring and management requirements intended to address and monitor progress toward solving water quality concerns. Also where local groundwater protection programs are in place, Alternatives 2 and 6 allow for coordination of the existing programs with the ILRP (see page 154 of the Draft PEIR, Appendix A and page 12 of Appendix A of the report). This coordination will work to minimize duplication of efforts and multiple overlapping regulatory requirements.

2.2.13 #13: Justification and Legal Basis for the Alternative 6 Proposal for Time Schedules for Compliance with Water Quality Objectives

2.2.13.1 Comment Summary

Comments that led to the creation of this response centered on Alternative 6's call for time schedules for compliance with Program water quality objectives. Comments included concerns that the Central Valley Water Board lacks the legal authority to enforce time schedules for compliance; several comments noted that the time schedules were too abbreviated or not rationally related to the Program's goals.

2.2.13.2 Response

If the Central Valley Water Board determines that it is necessary to allow time to achieve water quality requirements, the Board has authority to utilize time schedules in implementation of the Long-term ILRP. Should implementation take the form of WDRs, California Water Code Section 13263(c) explicitly clarifies that the requirements "may contain a time schedule, subject to revision in the discretion of the board." The NPS Policy also lists conditional waivers as an "administrative tool" to control NPS pollution. The NPS Policy's section on time schedules, which applies to all of the administrative tools described in the NPS Policy, specifies that time schedules be included in waivers where the Central Valley Water Board determines it necessary to allow time to achieve the water quality requirements of the NPS control program. *Also see Master Response 5, NPS Policy, Key Element 3 discussion.*

2.2.14 #14: Adequacy of the Indirect Effects Analysis, Including the Effects of Agricultural Land Going out of Production and Other Uses Being Implemented

2.2.14.1 Comment Summary

A number of comments stated that the Draft PEIR did not include an adequate discussion of the indirect effects of implementing a Long-term ILRP. Several of the comments referred to the CEQA guidance on analysis of direct and indirect effects and then made specific reference to effects that would occur indirectly as a result of changing management practices and causing agricultural land

to go out of production. The range of indirect effects that were mentioned include: (1) reduced groundwater recharge as a result of less surface irrigation, (2) increased pumping of groundwater as a result of converting to more valuable crops, (3) reductions in stream flow associated with reduced surface irrigation, (4) loss of wildlife habitat due to reduced agricultural runoff, (5) reduced wildlife habitat due to conversion of certain grain crops, (6) increased valley temperatures and global climate change associated with reduced surface irrigation, (7) increased air emissions and energy demand associated with broader use of pressure irrigation and groundwater pumping, and (8) conflicts with land use planning due to agricultural land conversion.

2.2.14.2 Response

The Central Valley Water Board included discussions of indirect program effects in its Draft PEIR wherever it could be determined that the effects were not speculative in nature. As indicated in Chapter 5, Section 5.1, Approach to Impacts (Draft PEIR page 5-1), the management practices that may be undertaken by farmers to comply with the requirements of a new Long-term ILRP are not mandatory and are likely to vary greatly across the varied landscape of the Central Valley. Nonetheless, these management changes are what would create the physical effects on the environment. Management decisions to remove lands from agricultural use or change agricultural use as a result of economic pressures are also a possible effect of the program. Most of the likely effects of changing agricultural practices or eliminating agricultural operations would be indirect effects and could possibly be avoided by implementing alternate management practices. Therefore, the indirect effects of the program are discussed throughout Chapter 5, but in a programmatic way and without undue speculation.

As indicated by the comments, the State CEQA Guidelines, Section 15064(d) require that an EIR analyze both direct physical changes in the environment and reasonably foreseeable indirect physical changes in the environment which may be caused by the project. It is also important to note, however, that the State CEQA Guidelines ask the lead agency to use its judgment in describing indirect effects. Section 15064(d)(3) states that "An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project. A change which is speculative or unlikely to occur is not reasonably foreseeable." The Central Valley Water Board has used this direction in discussing the effects of adopting a new Long-term ILRP.

The specific areas of concern in the indirect effects analysis identified by comments are addressed in the following paragraphs.

1. Improvements in irrigation water management, which would reduce the demand for both surface and groundwater diversions, is not expected to significantly affect groundwater, other than reducing the potential for agricultural chemicals to be transported to groundwater bodies. In areas where current irrigation practices provide for some groundwater recharge, reduced irrigation may reduce groundwater levels. However, improvements in water use efficiency may also result in less pumping of groundwater in some areas. In areas where irrigation water comes exclusively from surface water diversions and there is no likelihood of reductions in groundwater pumping, small changes in groundwater levels may occur. Without specific information on locations and amounts of reduced surface irrigation that would result from the program, it would be speculative to discuss any changes in groundwater levels that might result. This issue can be reconsidered, provided information or data to support further analysis are provided when specific implementation mechanisms (WDRs, waivers) with smaller geographic limits are brought forward for Central Valley Water Board consideration.

2. The Central Valley Water Board has not attempted to speculate on the potential for program-related effects on groundwater due to changes in cropping patterns. It is certainly possible that, at some locations, low value crop land that currently uses large amounts of irrigation water (e.g., irrigated pasture) could be converted to higher value cropland with lower water requirements (e.g., vineyards) as a result of the economic pressures of the program. It is also possible that higher value crops could have higher water demands (e.g., orchards or rice). However, there is no way to accurately predict the location and extent of management practice changes at this programmatic level. This situation was made clear on page 5.11-1 of the Draft PEIR in the discussion of land use. The document states that land use changes associated with implementation of the program alternatives are unknown. Some lands may be converted from the current agricultural use to other uses (including higher value crops), but the location and nature of those changes is unknown at this time. Given the lack of information or clear rationale for concluding that groundwater pumping would increase, the Central Valley Water Board has chosen not to speculate on changes in groundwater levels that could occur as a result of changing from low value to higher value crops.

3. The potential for an adverse effect on surface water hydrology from reduced irrigation return flows has been evaluated in Chapter 5, Section 5.9, Hydrology and Water Quality, on pages 5.9-15 and 5.9-16 of the Draft PEIR for Alternative 1, and on subsequent pages for other alternatives. The surface water hydrology effects of concern under CEQA include altering runoff or drainage patterns in a manner that would degrade water quality, increase erosion, or increase the risk of flooding. Increase in use of tailwater recovery systems would not create any such impacts. Due to the programmatic nature of the alternatives and the impact analysis, quantification of changes has not been conducted. Where land goes out of production, there is the potential for less water being diverted from surface water and groundwater bodies. As indicated in the comments, there is the potential that there would be less agricultural return flow in some seasons and some locations. The combined effects of reduced tailwater return flows and less diversion from natural waterways will vary with a whole range of factors that cannot be predicted at the programmatic level of analysis.

4. The potentially significant effects of the Long-term Program alternatives on fish are discussed in Chapter 5, Section 5.8, Fisheries in the Draft PEIR. The potential effects from a reduction in agricultural return flows are included on page 5.8-51. Wildlife and vegetation effects are addressed in Chapter 5, Section 5.7, Vegetation and Wildlife. The specific effects of reduced agricultural return flows on these resources are described on pages 5.7-45 and 5.7-46.

5. Certain types of grain crops (e.g., rice) do provide seasonal habitat for a wide range of wildlife species, including birds. However, the large scale, programmatic nature of the analysis that is needed to make decisions on the Long-term ILRP does not allow for the detailed work needed to determine specific crop type losses or specific geographic areas likely affected by land conversion. It is also speculative to identify the degree to which specific types of land uses might follow the fallowing of agricultural fields. Therefore, the net effect of changes in crop type or land use on wildlife habitat is not discussed in the Draft PEIR. This issue can be reconsidered when specific implementation mechanisms (WDRs, waivers) with smaller geographic limits are brought forward for Central Valley Water Board consideration.

6. The effect of agricultural land conversion on global warming and emission of greenhouse gases (GHGs) depends on what land use changes would occur following the cessation of agriculture. As stated in Chapter 5, Section 5.11, Minimally Impacted Resources, on page 5.11-1 of the Draft PEIR, the land use changes that may occur are unknown. Therefore, the subsequent

contributions to GHGs are unknown. Commenters are also referred to text changes that have been made to the GHG analysis. These changes are included in Chapter 4, Revisions to the Draft Program Environmental Impact Report, pages 4-5–4-8 in this Final PEIR.

7. Regarding air quality and energy effects of installing more pressurized irrigation systems, Chapter 5, Section 5.5, Air Quality, Table 5.5-8 in the Draft PEIR indicates that the installation of pressurized systems could result in "minor amounts of exhaust emissions…if construction activities are required." Improved irrigation practices may reduce the amount of time that existing pressurized pumping systems are used, which may offset emissions and energy use generated by "new" devices (see Draft PEIR, page 5.6-12). The use of improved water management techniques, including pressurized systems, may also reduce the pumping of groundwater or pumping of water from existing waterways or canals, thereby reducing the energy used and the emissions related to these existing practices. The extent to which this may occur is speculative at this juncture and is not analyzed further as the location and extent of the changes in irrigation practices are unknown.

   The text of the air quality analysis, beginning on page 5.5-26 (Operational Emissions) will be modified to specifically mention the potential increase in groundwater well operation in support of sprinkler and drip systems (see Chapter 4, Revisions to the Draft Program Environmental Impact Report, pages 4-3–4-5 in this Final PEIR). The potential for increased well operation was considered in this analysis, as indicated on page 5.5-26 and subsequent impact discussions, but the switch from flood and furrow irrigation to pressurized irrigation was not mentioned. This modification will not result in a new significant adverse impact not discussed in the Draft PEIR. As indicated on page 5.5-28 (Impact AQ-2) and subsequent pages, it is not possible to quantify these emissions due to the lack of information on the extent of this water management change. There are also likely to be offsetting reductions in energy use related to agricultural management changes (reduced pumping of both surface and groundwater as water use is reduced through improved water management).

8. Regarding land use issues, the Draft PEIR, on page 5.11-1, states that land use changes associated with implementation of the ILRP alternatives are unknown. Some lands may be converted from active agriculture to other uses, but the location and nature of those changes is unknown at this time. It is reasonable to assume that if lower-value cropland is fallowed as a result of economic forces associated with the program, a change in use will occur; however, the effect of the change will vary with specific location, the type of new land use and other factors. Any changes in use that would require development would be subject to local government review, including consideration of consistency with land use plans, policies, and regulations. It would be speculative to address potential inconsistencies at this programmatic level. Agricultural lands are taken in and out of production routinely in the Central Valley and the issues associated with changing use are addressed at the local level.

2.2.15 #15: Consideration of Carbon Sequestration from Irrigated Agriculture

2.2.15.1 Comment Summary

A number of comments noted that the Draft PEIR failed to consider carbon sequestration in the climate change and GHG impact analysis. The majority of comments stated that because cropland sequesters atmospheric carbon dioxide, potential GHG reductions from agricultural activities should

be considered. Others noted that the loss of irrigated lands (Impact AG-1), and thus carbon sequestration potential, should be discussed as a source of GHG emissions.

2.2.15.2 Response

Agricultural activities represent both an emissions sink (i.e., they reduce emissions) and source (i.e., they produce emissions). The net effect of agriculture on climate change is dependent on several factors, including crop type and size, crop acreage, sequestration rate, soil moisture, and precipitation rates. Because specific information related to the subsequent land use type that would replace low value crops following implementation of the Long-term ILRP is not available, estimating the program's effects on carbon sequestration and GHG emissions is far more uncertain and speculative than for other classes of emissions (e.g., construction and operations). Consequently, emissions resulting from land use change were not included in the analysis. However, in response to public comments, a discussion of carbon sequestration and the analysis limitations has been added to the Draft PEIR, pages 5.6-12 and 5.6-13 (see Chapter 4, Revisions to the Draft Program Environmental Impact Report, pages 4-5–4-8 in this Final PEIR).

2.2.16 #16: Adequacy of the Greenhouse Gas Emissions and Global Warming Analysis

2.2.16.1 Comment Summary

A number of comments indicated that the Draft PEIR conclusions regarding global warming are not supported by substantial evidence. The comments assert that the conclusions drawn in the document are based on speculation, rather than best available science. A study published in 2007, which argues irrigated agriculture has a net cooling effect in the Sacramento Valley, is cited as "best available science." This evidence, as stated by the comments, "suggests that that any program, such as the ILRP…, will cause increased climate change impacts in the Central Valley."

2.2.16.2 Response

The Draft PEIR fully evaluates climate change impacts related to the ILRP to the extent that information is available. State CEQA Guidelines, Section 15064.4, states that "A lead agency should make a good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project" and that a lead agency shall have the discretion to "rely on a qualitative analysis or performance based standards." Information required to conduct a rigorous quantitative analysis of GHG emissions is not available for the evaluation of the proposed IRLP alternatives. Thus, the Lead Agency conducted a qualitative assessment of direct and indirect GHG emissions associated with construction and operation of the ILRP.

Consistent with the State CEQA Guidelines and scientific consensus regarding the cumulative nature of GHGs, the Draft PEIR concludes that project-level impacts relating to climate change would be less than significant. Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors), which are primarily pollutants of regional and local concern. Given their long atmospheric lifetimes (see Draft PEIR, Chapter 5, Section 5.6, Climate Change, Table 5.6-1), GHGs emitted by countless sources worldwide accumulate in the atmosphere. No single emitter of GHGs is large enough to trigger global climate change on its own. Rather, climate change is the result of the individual contributions of countless sources—past, present, and future.

Therefore, GHG impacts are inherently cumulative. Thus, the Draft PEIR's project-level conclusion is supported by the best available science and is consistent with current CEQA analysis practice.

Chapter 6, Cumulative and Growth-Inducing Impacts, of the Draft PEIR evaluates the ILRP's contribution to climate change on a cumulative level and concludes that emissions would be significant. This conclusion is based on the qualitative analysis of direct and indirect GHG emissions presented in Chapter 5, Section 5.6. Direct emissions sources associated with the ILRP include fuel combustion by heavy-duty construction equipment and on-road vehicles. Indirect sources include reductions in fertilizer application and increases in energy use from electric powered pumps. While the exact emissions associated with these sources are not quantified, the Draft PEIR discusses the potential for the ILRP to increase the use of equipment and on-road vehicles, as well as install new electric powered pumps. The relationship between increased equipment use and GHG emissions is well documented in established literature and is not speculative.

As discussed in the Final PEIR, emissions associated with land use change are too speculative to qualitatively or quantitatively consider in the GHG analysis (please refer to *Master Response 15*). The 2007 study referenced by the comment indicates that agricultural activities help mediate global warming and have a net cooling effect on surrounding communities, as well as actively sequester carbon dioxide. However, agriculture also produces carbon emissions through natural decomposition and decay. Thus, the extent that reducing irrigated land would result in increased climate change impacts cannot be definitively concluded without location-specific information. Thus, to avoid a conclusion based on speculation, the Final EIR does not include an analysis of the degree to which land use changes would affect emissions.

Within the constraints of available information and the current regulatory setting, the Draft PEIR makes a good-faith effort to characterize potential GHG emissions and climate change impacts associated with the ILRP. However, to ensure emissions and potential impacts are not under-represented, the Lead Agency has chosen to make a conservative conclusion of cumulatively significant and unavoidable.

2.2.17 #17: Explanation Concerning the Disposition of Comments on the Economic Analysis Technical Memorandum

2.2.17.1 Comment Summary

A large number of comments were received from the public regarding the content and conclusions contained in the Draft ILRP Economics Report. This report was developed, in part, to support the Central Valley Water Board's obligation under the California Water Code to estimate total costs prior to taking action on an agricultural water quality control program such as the Long-term ILRP. The economic analysis was not a requirement of CEQA.

The comments received on the economic report can be placed in a number of categories, including: (1) the analysis underestimates the actual costs of implementing the Long-term ILRP; (2) the analysis over-estimates the actual costs of implementing the Long-term ILRP; (3) the analysis is flawed by the data used and the assumptions made to develop costs; (4) the analysis does not include forward-linked costs; and (5) the analysis does not provide a specific cost for implementing the staff recommended program alternative (Alternative 6). A summary list of individual comments

for each of these general categories is presented below. Many of the reviewers of the Draft ILRP Economic Report and the Draft PEIR also voiced a general concern that the program was too expensive and would place undue burdens on many farmers in the Central Valley. This concern is addressed at the end of the Response section below.

Regarding underestimates of actual costs, the following general concerns were expressed:

- The analysis does not consider the costs of groundwater remediation;
- The analysis does not include the added costs of labor as farm management practices change;
- The analysis does not include the costs of implementing a groundwater monitoring program;
- The costs associated with the change or modification of management practices are not adequately included;
- Monitoring costs are underestimated; and
- Costs of drilling wells in mountain regions are underestimated.

Regarding over-estimates of actual costs, the following general concerns were expressed:

- The analysis does not consider the future positive economic effects of cleaning up groundwater now rather than in the future;
- The analysis does not adequately capture the positive economic effects of improved farming practices, water quality improvement, reduced use of fertilizers and reduced demand for agricultural water supplies;
- The analysis considered higher-cost management practices; farmers are likely to implement lower-cost practices to meet program requirements;
- The analysis over-estimates the costs of management practices that have already been implemented; and
- The costs of many practices are over-estimated because they are implemented for multiple reasons, not just to improve the quality of discharges.

Regarding the use of old or flawed data and inappropriate assumptions, the following general concerns were expressed;

- The assumption of baseline used in the analysis is incorrect, so results are flawed;
- The assumptions regarding how many farmers must implement new practices are over-estimated; many improved practices have already been implemented;
- An insufficient number of agricultural practices was used in the analysis;
- Costs in higher-elevation agricultural areas were inappropriately assumed to be similar to those in valley areas;
- The analysis should have included a range of costs for monitoring pesticides, as they will vary significantly by region and type of pesticide;
- The IMPLAN model assumptions are flawed;
- The variation in costs by region were not adequately reflected in the analysis;
- The assumptions regarding the number of enrolled farmers are not accurate; and

- The assumption that growers will find less expensive management practices is not documented.

Regarding forward-linked costs, the following general concerns were expressed:

- The forward-linked effects analysis is not accurate, is understated and is not comprehensive.

Regarding the lack of analysis of the recommended program alternative, the following general concerns were addressed:

- The analysis does not specifically address the impacts of the recommended program alternative; this needs to be corrected; and
- The lack of an analysis of the recommended program alternative makes the economic analysis inadequate and creates regulatory notice problems.

2.2.17.2 Response

As indicated in the Comment Summary above, the economic analysis prepared for the Long-term ILRP alternatives is a requirement of the California Water Code to be utilized at the point of adoption of WDRs or waivers and is not directly a part of the CEQA analysis. Therefore, the Central Valley Water Board is not obligated and does not intend to develop detailed responses to all comments on the *Draft Technical Memorandum Concerning the Economic Analysis of the Irrigated Lands Regulatory Program.* The Central Valley Water Board has reviewed all comments on this document and is aware of the issues the public has raised. However, the Central Valley Water Board believes that the economic analysis is adequate for its consideration of a range of programmatic alternatives to the existing ILRP. Because of the programmatic nature of the alternatives, their various components, and the anticipated reactions of the regulated community to this Long-term Program, it has been necessary and appropriate to make general assumptions on changes in management practices and subsequent changes in the costs of maintaining agricultural operations in the Central Valley. The Central Valley Water Board has the authority to modify and re-consider the cost implications of its actions on the Long-term Program as the specific implementation mechanisms are developed. This additional review can include a revision to the *Draft Technical Memorandum Concerning the Economic Analysis of the Irrigated Lands Regulatory Program,* or an updated analysis that addresses the various components of the Revised Staff Recommended Long-term Irrigated Lands Regulatory Program, as a specific action.

The Central Valley Water Board is keenly aware that the implementation of a new Long-term ILRP may place a considerable economic burden on the regulated community. The staff has taken economic considerations into account in the development of its Revised Staff Recommended Irrigated Lands Regulatory Program. Nonetheless, the Central Valley Water Board has a legal obligation to regulate discharges to waters of the state from agriculture. It is the intent of the Central Valley Water Board to develop implementing mechanisms based on this programmatic evaluation of alternatives, consistent with the goals of meeting applicable water quality objectives and maintaining the economic viability of all sizes of irrigated agricultural operations in the Central Valley.

2.2.18 #18: Explanation of Requirement to Monitor First Encountered Groundwater

2.2.18.1 Comment Summary

Commenters expressed concern over the Central Valley Water Board's use of first encountered groundwater in assessing the affects of irrigated agricultural operations. Comments included:

- First encountered groundwater is an improper standard to use when evaluating water quality impacts due to agricultural operations.
- Although not specifically discussed in the PEIR or Alternative 6, most beneficial uses of groundwater do not actually occur in the first encountered groundwater.
- A determination of program compliance using first encountered groundwater fails to take into account the assimilative capacity of soil in irrigated lands governed by the Long-term ILRP.

2.2.18.2 Response

The Water Quality Control Plans for the Sacramento River Basin and the San Joaquin River Basin specify, "Unless otherwise designated by the Regional Water Board, all ground waters in the Region are considered as suitable or potentially suitable, at a minimum, for municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO)." Likewise, the Tulare Lake Basin Plan stipulates that, "For ground water, the following beneficial uses have been identified and occur throughout the Basin: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PRO), Water Contact Recreation (REC-l), and Wildlife Habitat (WILD)."

Both Basin Plans define groundwater as "…subsurface water that occurs beneath the ground surface in fully saturated zones within soils and other geologic formations." First encountered groundwater is a water of the state (as defined by California Water Code Section 13050 (e)) which has been ascribed a MUN beneficial use by the Water Quality Control Plans that have been developed for the Central Valley Region. Monitoring first encountered groundwater provides the earliest indication of groundwater impact due to irrigated agricultural operations and is a direct evaluation of the effectiveness of agricultural management practices and any changes in such practices made to address a water quality concern. Direct measurement of assimilative capacity is obtained by sampling at the point of impact; in this case, after transport through the vadose zone and into first encountered groundwater. It is at this point that impact to the beneficial use may occur. The two Basin Plans include criteria that the Regional Board will use in applying exceptions to the beneficial use designations. Any such exceptions must be part of an amendment to the Basin Plan.

2.2.19 #19: Explanation of Groundwater Quality Management Plan Flexibility in Selecting Management Practices

2.2.19.1 Comment Summary

Several comments received on Appendix A of the Draft PEIR indicate that an appendix footnote (page 154 of Draft PEIR, Appendix A) represents that the groundwater quality management plans that would be required under Alternative 6 would require nutrient budgeting and efficient irrigation in all cases and on all farms where the constituent of concern is nitrate. The comments indicate that:

- Such a requirement would violate California Water Code Section 13360.
- The Board does not have the authority to require specific nutrient management and irrigation water management practices.
- Environmental effects of nutrient and irrigation water management were not considered.
- Economic effects of nutrient and irrigation water management were not considered.
- Economic effects associated with limiting a grower's yield on a crop due to nutrient budgeting limitations or irrigation efficiency restrictions were ignored.

2.2.19.2 Response

In response to the concern that specifying nutrient budgeting and efficient irrigation requirements would violate California Water Code Section 13360 and concerns that the Board does not have the authority to require specific practices, note that the footnote in Appendix A of the Draft PEIR (Footnote 60 on page 154) was intended to provide an example of a class of management practices that would likely satisfy performance standards under Tier 2. Appendix A (page 67) clarifies that management practices would be selected at the local or farm level; however, the Central Valley Water Board will ensure that the management practices implemented under the program meet performance expectations. It must also be noted that, if adopted, Alternative 6 would provide the general framework for subsequently issuing WDRs and waivers of WDRs (orders). The waivers and WDRs will not specify the design, location, type of construction, or particular manner in which compliance is achieved and will not violate Section 13360 of the California Water Code.

The Draft PEIR analyzes the environmental impacts of a representative group of foreseeable management practices that could be implemented under Alternative 6. Nutrient management and irrigation practices are among the practices examined in the Draft PEIR and analyzed in the *Draft Technical Memorandum Concerning the Economic Analysis of the Irrigated Lands Regulatory Program* (ICF International 2010). However, none of the alternatives would set a ceiling or standard for nutrient or irrigation water application. Instead, nutrient management plans could be required, depending on the alternative chosen by the Central Valley Water Board. Nutrient management and irrigation water management are described in the Draft PEIR and Draft ILRP Economics Report as two of many practices that could potentially be implemented by operators under the ILRP. It is expected that operations would strive to agronomically apply nutrients and irrigation water under any of the ILRP alternatives to meet ILRP Goal 2. Because the ILRP is not setting a standard or ceiling for nutrient or irrigation water use or specifying practices that operators would need to employ to carry out nutrient and irrigation water management, there should not be costs associated with reduced crop yields. The costs of these representative management practices are estimated in the Draft ILRP Economics Report (i.e., irrigation management, pressurized systems, nutrient management plans).