

**DELTA SCIENCE PROGRAM  
INDEPENDENT SCIENCE REVIEW  
Delta Protection Commission Economic Sustainability Plan**

**SCOPE AND CHARGE TO REVIEWERS**

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**BACKGROUND**

The Sacramento-San Joaquin River Delta is a unique place of economic, environmental, historic and cultural significance. The land and water resources of the Delta support significant agricultural and recreation economies, and the Delta also has an important role as an infrastructure hub for water, energy and transportation. The region's rich history boasts of bustling, river-based commerce before the automobile age, and its cultural uniqueness includes the only rural town in America built by early Chinese immigrants. As the largest estuary on the west coast of the Americas, the Delta also is a place of striking natural beauty and ecological significance that is struggling with serious environmental degradation problems. Although surrounded by growing cities, the Delta remains a highly-productive agricultural area with rural charms, landscapes, and waterscapes not found elsewhere in California.

In recent years, there has been great concern over increasing environmental degradation in the Delta and over court decisions that reduced the quantity of water delivered to southern California through the state and federal water project intakes in the south Delta to protect endangered fish. These concerns combined with others about the stability of the Delta's levee system led the California legislature to pass the Delta Reform Act of 2009. The Act created the Delta Stewardship Council and charged it with developing a Delta Plan to achieve the coequal goals of "providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem."

Recognizing the potential impact of the Delta Plan on the people and economy of the Delta, the Delta Reform Act stated that the coequal goals of water supply reliability and restoring the Delta ecosystem "shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place." Among the measures to address this goal, the Delta Protection Commission was tasked with developing this Economic Sustainability Plan to inform the Delta Stewardship Council's development of the Delta Plan.

With the passage of the landmark Delta legislative water package in November 2009, (SB X7 1 Section 29759), the Commission was restructured, and among other things, tasked with development of an Economic Sustainability Plan. In accordance with the legislation, the Economic Sustainability Plan shall include information and recommendations that inform the Delta Stewardship Council's policies regarding the socioeconomic sustainability of the Delta region. More specifically, the legislation states that the Plan will include, but not be limited to, the following:

- (1) Public safety recommendations, such as flood protection recommendations.
- (2) The economic goals, policies, and objectives in local general plans and other local economic efforts, including recommendations on continued socioeconomic sustainability of agriculture and its infrastructure and legacy communities in the Delta.

(3) Comments and recommendations to the Department of Water Resources concerning its periodic update of the flood management plan for the Delta.

(4) Identification of ways to encourage recreational investment along the key river corridors, as appropriate.

## **INDEPENDENT SCIENCE REVIEW PANEL**

The Delta Stewardship Council and Delta Protection Commission received several requests to support a science review of the draft Economic Sustainability Plan (Plan). The Executive Officers of those agencies collaborated to ask the Delta Science Program to develop an independent scientific review of the Plan. An Independent Science Review Panel (Panel) will review the Plan to help ensure it is of sufficient robustness and scientific quality to serve its intended purposes.

## **REVIEW MATERIALS**

All materials will be available on the Delta Science Program website:

<http://deltacouncil.ca.gov/science-program>

The Panel will review the October 10, 2011 draft of the [Delta Protection Commission Economic Sustainability Plan](#) and appendices. This third draft report analyzes the impact of policies being considered on the economic sustainability of the Delta. Earlier drafts were released on July 21 and August 9.

- October 10, 2011 Public Draft Economic Sustainability Plan  
*Appendices*
- Appendix A - Review of Economics in Influential Delta Studies (Part One) Overview of the People and Economy of the Delta (Chapter 2)
- Appendix B - Overview of the People and Economy of the Delta (Chapter 2)
- Appendix C - Photographs of Delta Levees (Chapter 5)
- Appendix D - Other Special Levees (Chapter 5) Clarification of Some Basic Issues with Regard to Delta Levees (Chapter 5)
- Appendix E - Clarification of Some Basic Issues with Regard to Delta Levees (Chapter 5)
- Appendix F – Economic Impact Analysis (Part Two)
- Appendix G - Crop and Salinity Data (Chapter 7)
- Appendix H - Recreation and Tourism (Chapter 8)
- Appendix I - Select Delta Recreation Facilities (Chapter 8)
- Appendix J - Infrastructure (Chapter 8)
- Appendix K - Legacy Communities (Chapter 10)
- Appendix L - Local Government Services in the Delta (Part Three)

## **SUPPORTING INFORMATION**

- California Department of Water Resources, FloodSAFE. February 2011. A Framework for Department of Water Resources Investments in Delta Integrated Flood Management [http://www.deltacouncil.ca.gov/sites/default/files/documents/files/Draft\\_FloodSAFE\\_Investment\\_Framework\\_for\\_Delta\\_final.pdf](http://www.deltacouncil.ca.gov/sites/default/files/documents/files/Draft_FloodSAFE_Investment_Framework_for_Delta_final.pdf)
- Suddeth, Robyn J; Mount, Jeff; and Lund, Jay R. 2010. Levee Decisions and Sustainability for the Sacramento-San Joaquin Delta. *San Francisco Estuary and Watershed Science*, 8(2) <http://escholarship.org/uc/item/9wr5j84g>
- Lund, Jay; Hanak, Ellen; Fleenor, William; Howitt, Richard; Mount, Jeffrey; and Moyle, Peter. 2007. Envisioning Futures for the Sacramento–San Joaquin Delta. 324 pp. Public Policy Institute of California. *Chapters 7 and 8, and Appendix E (optional Appendix D)* [http://www.ppic.org/content/pubs/report/R\\_207JLR.pdf](http://www.ppic.org/content/pubs/report/R_207JLR.pdf)
- California Department of Water Resources, Delta Risk Management Strategy (DRMS) Phase 1 (2009) and Phase 2 (2011) *Executive Summaries and Section 18 of DRMS Phase 2* [http://www.water.ca.gov/floodmgmt/dsmo/sab/drmsp/phase1\\_information.cfm](http://www.water.ca.gov/floodmgmt/dsmo/sab/drmsp/phase1_information.cfm) [http://www.water.ca.gov/floodmgmt/dsmo/sab/drmsp/phase2\\_information.cfm](http://www.water.ca.gov/floodmgmt/dsmo/sab/drmsp/phase2_information.cfm)

*Optional Supporting Information*

- Hoffman, Glenn. 2010. Salt Tolerance of Crops in the Southern Sacramento-San Joaquin Delta. Report prepared for the California Environmental Protection Agency, State Water Resources Control Board, Division of Water Rights [http://www.swrcb.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/bay\\_delta\\_plan/water\\_quality\\_control\\_planning/docs/final\\_study\\_report.pdf](http://www.swrcb.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/docs/final_study_report.pdf)
- Delta Stewardship Council. 2010. Delta as a Place: Agriculture White Paper [http://deltacouncil.ca.gov/sites/default/files/documents/files/Agriculture\\_White\\_Paper\\_2011\\_12\\_06.pdf](http://deltacouncil.ca.gov/sites/default/files/documents/files/Agriculture_White_Paper_2011_12_06.pdf)
- Delta Stewardship Council. 2010. Flood Risk White Paper [http://deltacouncil.ca.gov/sites/default/files/documents/files/Flood\\_Risk\\_White\\_Paper\\_2011\\_10\\_18.pdf](http://deltacouncil.ca.gov/sites/default/files/documents/files/Flood_Risk_White_Paper_2011_10_18.pdf)

## **TIMELINE**

### **November 2011**

The Panel convenes in Walnut Grove and Sacramento to discuss the Economic Sustainability Plan and to make initial recommendations.

### **December 2, 2011**

Panel report completed.

**December 8-9, 2011**

Panel Chair Presents Report Summary at Delta Stewardship Council Meeting in Sacramento.

## **REVIEW PANEL CHARGE**

The Panel will be charged with assessing the scientific and technical quality of the Economic Sustainability Plan. The Panel will make recommendations for how the plan might be improved with respect to achieving stated goals. Specific attention will be applied to the following questions:

1. How well are the purpose and scope of the Plan defined and described? Is the plan an objective analysis of economic sustainability in the Delta, consistent with the requirements stated in the Delta Reform Act?
2. Is the Plan internally consistent and scientifically valid?
3. Are the analyses and results well-presented and clear? Is the analytical approach integrated, reasonable and scientifically defensible? Are the key findings and issues supported by adequate research and analysis?
4. Is the best available science and information used in the Plan and is it defined, assembled, summarized and integrated into the analysis? Does the Plan identify gaps in data and research that limit the Plan and/or should be a priority for future research?
5. How well does the Plan integrate analyses at various spatial and temporal scales?
6. How well does the Plan address uncertainty? How could this aspect be improved?
7. Is the identification of key economic sectors in the Delta sound, and the analysis of the baseline and trends for key sectors of the Delta adequate?
8. Is the baseline estimate of Delta agricultural production accurate and reliable?
9. Is the multinomial logit model a methodologically sound approach for estimating the impacts of water policy proposals on Delta agriculture and/or on environmental change, such as salinity, on crop choice and production?
10. Is the interpretation of the model results reasonable and appropriate?
11. Is the economic impact analysis of Delta agriculture and recreation reliable? Are the multipliers reasonable and consistent with standard practice? Is the interpretation and discussion of results reasonable?
12. Are the standards recommended for the various Delta levees in the Plan adequately analyzed and scientifically supported?
13. Are cost estimates for levee improvement reasonable and supported?
14. Did the Plan effectively identify opportunities and strategies to protect and enhance the economic sustainability of the Delta?
15. Did the Plan effectively identify challenges and constraints to protect and enhance the economic sustainability of the Delta?
16. The coequal goals of the Delta Reform Act are “providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place.” Are the recommended strategies consistent with the coequal goals?