Project Charter (Version ___1___) Date: __1/05/2011_____

Project Name: *Write out the entire, specific name.*

Sustainability Indicators for California Water Plan Update 2013.

Sponsor/Program Manager	Paul Massera
Project Manager	Abdul Khan

Project Objective Statement: *What must the project do? By When? Keep this statement to 25 words or less. Make it SMART (Specific, Measurable, Achievable, Relevant, and Time-based).*

Develop an analysis framework and identify, compute, and evaluate sustainability indicators that would help monitor the progress towards reaching the goals and objectives of California Water Plan Update.

Triple Constraint Trade-off

Resources	S	*Select a different flexibility letter for each constraint* *N= Not Flexible* *S= Somewhat Flexible* *M= Most Flexible*
Schedule	N	
Scope	M	

Estimated Start Date:	1/1/2011	Estimated End Date:	9/30/2013

Project Deliverables: *What is the project going to produce? Create a list of tangible products that will result from project.*

1. Goals and objectives for sustainability indicator analysis based on the goals and objectives of California Water Plan Update 2009 and on-going activities of Water Plan Update 2013 including evaluation of the appropriate geographic scale to be considered.
2. Identification of a set of indicators and indexes (to be calculated based on one or more measureable quantities) to evaluate the sustainability analysis objectives selected.
3. Identification of target/desired future conditions (DFCs) and distance to target (D2T) analysis methods for the objectives/indicators/indexes selected.
4. A stakeholder driven vision and vision alignment on sustainability indicator analysis for California Water Plan.
5. A sustainability indicator analysis framework (document) that includes, as appropriate, description, schematics, and definitions of: i) water resources sustainability, ii) goals for sustainability, iii) objectives for the sustainability goals, iv) indicator/ performance measure, v) sustainability indicators and indexes, vi) DFCs, and vii) D2T analysis methods, viii) a strategy for compiling and analyzing data, ix) reporting methods for indicator condition/status and trends, and x) references.
6. Quantitative analysis illustrating: i) condition/status and trends of the selected sustainability indicators, ii) reporting of indicators/indexes including D2Ts relative to DFCs, and iii) evaluation of the indicators.
7. Identification of issues and data gaps for quantifying water resources sustainability indicators for California Water Plan.

Strategic Fit: *What is the Strategic Initiative Identifier for this project?*

- Develops and supports recommendations of the Water Plan Update.
- Provides linkages to regional reports of the Water Plan Update.
- Provides linkages to implementation of resource management strategies at the regional level.
- Delta Stewardship Council's effort on sustainability indicators for the Delta.
- California Watershed Assessment Framework's California Whole System Report Card.
- The Sustainable Water Resources Roundtable's (SWRR's) on-going dialogues.
- U.S. EPA's effort on Ecological Footprint as Indicator of Sustainability.

Customer: *Who are you doing the project for?*

Primary Customers:

- State Agencies:
  - DWR.
  - State Water Resources Control Board (State Board).

- California Governor's Office.
- Delta Stewardship Council.
- Local agencies and regional water planning & management entities/groups.
- Environmental groups working on water resources sustainability issues in the state.
- Association of California Water Users (ACWA).
- California Legislature.
- American Indian Tribes of California.

Other Stakeholders:

- Water Plan Public Advisory Committee (PAC).
- State Water Analysis Network (SWAN).
- Water Plan State Agency Steering Committee.
- Federal Agencies.
  - U. S. EPA.
  - U.S. Bureau of Reclamation (Reclamation).
- The Sustainable Water Resources Roundtable (SWRR).
- General public.

Customer Benefits: *What customer requirements does this project address? Relate these to: increase revenue, avoid costs, improve service, and/ or comply with a mandate? Create a short list of customer benefits.*

- Access to a transparent and documented framework for sustainability indicator analysis embodying a clear and consistent stakeholder driven vision, a step by step methodology, a suite of indicator reporting methods, and a set of consistent terminologies and references on water resources sustainability and indicators.
- Provides a tool for monitoring progress of California Water Plan goals and objectives through a set of quantifiable indicators.
- Helps improve regional and statewide water resources sustainability through an evaluation of condition/status and trends of relevant indicators, as well as DFCs and D2T for the indicators.
- Helps identify issues and data gaps to inform future data monitoring needs to enable better quantification of sustainability indicators for California Water Plan.
- Provides useful templates for sustainability indicator analysis for local and regional water management by providing a framework and a set of illustrative examples.
- Highlights policy needs for ensuring the state's water resources sustainability.

Successful Completion Criteria: *How will the success of the project be determined from the customer's perspective? Make criteria measurable so there is no doubt as to the project's success. Create a short list.*

- Development of a stakeholder driven vision on sustainability indicator analysis for California Water Plan.
- Development of goals and objectives for sustainability indicator analysis based on the goals and objectives of California Water Plan Update 2009 and on-going activities of Water Plan Update 2013.
- Development of a sustainability indicator analysis framework (document) including identification of relevant indicators; identification of DFCs and D2T for the indicators; and reporting methods for indicator condition/status and trends.
- Percentage of regions and planning areas for which quantification of sustainability indicators is completed.
- Number of water managers outside the Water Plan working with the Water Plan to help develop the indicator framework and participating in reviewing the indicator quantitative analysis.
- Number of comments received on the sustainability indicator analysis framework and the quantitative analysis.
- Positive survey results from members of the Water Plan Advisory Committee, Regional Forums, and other stakeholders.
- Number of entities outside the Water Plan using the sustainability indicator analysis framework and information generated by the Water Plan.
- Number of citations of the Water Plan sustainability indicator analysis made in other studies within and outside DWR.

Project Background: *What is the primary motivation for this project? Include a brief high level description of the business area, the current situation, the desired situation, and the gaps that exist. This summary builds on your description in the Project Initiation form.*

Indicators represent a way to measure progress. They can provide a metric for understanding the extent to which water resources are managed to meet the long term needs of our social, economic and environmental systems. Indicators are a way of describing the current state of environmental and water conditions in a specific way that will allow us to track progress over time. In essence, sustainability indicators can help us understand whether or not California is on a sustainable course in its management of water and related resources.

It is increasingly being recognized that we need to address the long-term sustainability of water resources of the state from both a quantity and a quality perspective. However, there are major impediments for undertaking the relevant analysis to address the state's water resources sustainability. These include: inconsistent terminologies and definitions used; absence of a systematic analytic framework and methodologies for quantification of sustainability indicators; and a lack of data to undertake the appropriate analysis to assess sustainability of water resources through the development and on-going tracking of a set of sustainability indicators. Against this backdrop, as part of Water Plan Update 2013, DWR is initiating a process to develop a framework and a set of preliminary sustainability indicators to accompany the various management actions selected for implementation in the Water Plan Update.

Project Scope:

In Scope: *List areas and functionality included in project.*	Out of Scope: *List areas and functionality not included in project.*
• Vision statement as well as sustainability goals, objectives, indicators, and indexes will be developed on the basis of the Water Plan goals and objectives. • A stake holder driven transparent and comprehensive framework for conceptualizing and quantifying water resources sustainability indicators. • Based on data availability, quantification of indictors will be on a statewide, regional, and planning area basis. • Identification of data gaps for quantification of sustainability indicators.	• Additional investigation or data collection. • Detailed and comprehensive analysis of sustainability indicators for all planning areas, regions, or other spatial demarcations. • Detailed and comprehensive analysis of sustainability indicators through integration of information across multiple resources. • Detailed and comprehensive analysis of sustainability indicators over extended time horizons.

Dependent Projects: *What projects must be underway or completed before this project can be successful?*

Dependent Projects:

- Water Plan Update 2013 component, "California Water Management Progress Report."
- Delta Stewardship Council's "Delta Plan."
- California Watershed Assessment Framework's "California Whole System Report Card."
- The Sustainable Water Resources Roundtable (SWRR's).
- U.S. EPA's "Ecological Footprint as Indicator of Sustainability."
- Statewide Integrated Flood Planning.
- State Board's Groundwater Ambient Monitoring & Assessment (GAMA) Program.
- Central Valley Regional Water Quality Control Board (CVRWQCB) Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).

Related Projects:

- Regional partnership program through IRWM (Prop 84, Prop 50).
- FloodSAFE Flood Management Initiative
- Bay Delta Conservation Plan (BDCP).
- Sacramento Valley Water Management Program (SVWMP).
- Water Transfers Program.
- Drought Program.

Risks: *What characteristics or situations could cause this project to fail? Identify those items which are outside the jurisdiction of project and could result in a "show-stopper" to the project success. Create a short list.*

- Absence of a systematic framework for sustainability indicator analysis.
- Absence of consistent terminologies and definitions on water resources sustainability and indicators.
- Limited data to quantify indicators at various spatial scales.
- Difficulty of aggregating indicators to indexes across spatial and temporal scales, and across resources.
- Difficulty of developing, understanding, and communciating indicators across multiple resources.
- Delays associated with data identification, acquisition, evaluation, analysis, and synthesis.
- The continued, focused coordination necessary to facilitate the work done in a stakeholder driven process.
- Departure of key staff.
- Limitations in Water Plan funding that may prevent full project implementation.

Assumptions and Constraints: *What assumptions were made in defining project? Are there constraints to the execution of project? List assumptions and constraints.*

Assumptions:

- Water Plan Program Manager views this project as a high priority.
- $125 K in contract spending per year for 2.5 years.
- Contracts in place.
- Water Plan funding is available to dedicate staff in the Headquarter to work on the project.
- Staff in the Headquarter is available to work on the project on a priority basis for duration of Water Plan Update 2013.
- No turnover in key staff or contractors.

Constraints:

- Concurrent demands on the times of key staff or contractors by other projects.

This Project Should Have:

Project Management Plan ☐	PMP will include: *check all that apply*	Work Breakdown Structure ☐	Communications Plan ☐	Procurement Plan ☐	Human Resources Plan ☐
Quality Management Plan ☐	Stakeholder Register ☐	Risk Register ☐	Project Budget ☐	Project Schedule ☐	DWR Form 1498 ☐

Major High-Level Milestone Targets: *What events measure progress? E.g. Initiation Approved, Analysis Complete.*

Milestone	Target Date
Phase 1 Sustainability Analysis Framework Development project scope with task breakdown, resources needs, and schedule.	02/2011
Water Plan Sustainability Indicator Workshop 1: Goals and objectives for sustainability indicator analysis.	03/2011
Water Plan Sustainability Indicator Workshop 2: Identification of target/desired future conditions (DFCs) and distance to target (D2T) analysis methods for the objectives/indicators/indexes selected.	04/2011
Water Plan Sustainability Indicator Workshop 3: Development of vision and vision alignment on sustainability indicator analysis for California Water Plan.	05/2011
Water Plan Sustainability Indicator Workshop 4: Draft sustainability indicator analysis framework (document).	07/2011
Final sustainability indicator analysis framework (document).	08/2011
Phase 2 Quantitative analysis project scope with task breakdown, resources needs, and schedule.	10/2011
Water Plan Sustainability Indicator Workshop 5: Proposal on a Pilot quantitative analysis illustrating: i) condition/status and trends of the selected sustainability indicators, ii) reporting of indicators/indexes including D2Ts relative to DFCs,	12/2011

and iii) evaluation of the indicators.	
Water Plan Sustainability Indicator Workshop 6: Results from Pilot quantitative analysis.	06/2012
Water Plan Sustainability Indicator Workshop 7: Proposal for full set of quantitative analysis for California Water Plan Update 2013.	08/2012
Water Plan Sustainability Indicator Workshop 8: Results from the full set of quantitative analysis.	06/2013
Documentation of issues and data gaps for quantifying water resources sustainability indicators for California Water Plan.	08/2013
Final documentation of sustainability indicator analysis for Water Plan Update 2013.	09/2013

Project Core Team Members

Team Member	Phone/E-mail	Role
Abdul Khan		Project manager
UC Davis PI - Fraser Shilling		Technical support
UC Davis Grad Student Researcher		Technical support
UC Davis Analyst		Technical support
UC Davis Post Doc Researcher		Technical support
DWR Headquarter staff		Technical support
DWR Headquarter Regional Office staff		Technical support
Other State Agencies' staff		Coordination

Charter Version Number: 2	
Updated By:	Date:
Approved By:	Date: