7 Plan Implementation

The adoption of the GSP will be the official start of the Plan Implementation. The NKGSA will continue its efforts to engage the public and secure the necessary funding to successfully monitor and manage groundwater resources within the Plan Area in a sustainable manner. While the GSP is being reviewed by DWR, the NKGSA will coordinate with various stakeholders and beneficial users to improve the monitoring network and begin the implementation of projects and management actions.

This section discusses various components of the Plan Implementation including: GSP implementation costs, funding alternatives, implementation schedule, data management system, annual reporting and period evaluations.

7.1 Estimate of GSP Implementation Costs

Regulation Requirements**:**

§ 354.6. Agency Information
When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:
(e) An estimate of the cost of implementing the Plan and a general description of how the Agency plans to meet those costs.

There are two main types of expenses required to be funded to implement the GSP; Ongoing Administrative Expenses and Project Costs.

Ongoing Administrative Expenses
These include the cost of annually operating the NKGSA including the executive officer's salary, fiscal agent and staff expenses, audit, annual data collection and reporting, outreach, legal, and other administrative costs. This does not include agency specific project implementation costs, but may include NKGSA wide efforts such as identification of construction information for wells in the monitoring network. Costs are estimated to be in the range of $750,000 to $1,000,000 annually. The Administrative/Fiscal Committee will review and develop the anticipated budget each year and present to the Board for consideration and approval.

Project Costs
Projects which may include infrastructure or management programs will be required to achieve groundwater sustainability. Project costs may include planning, capital, financing and operations and maintenance of infrastructure. Each agency within the NKGSA will be responsible for implementing its own projects to reach sustainability. Costs will vary from agency to agency depending on the type and size of projects required to reach sustainability for each service area within the NKGSA. Total costs for the NKGSA are identified in Section 6. The total estimated cost for all the projects described in Section 6 is $800,000,000. Several of these projects have already been constructed and implemented by the agencies within the NKGSA and are included in the GSP as the project benefits are just starting to be realized. Each agency will identify the funding source and plan for their respective projects as discussed in Section 7.2.

7.2 Identify Funding Alternatives

Regulation Requirements**:**

> **§ 354.6. Agency Information**
> When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information:
> (**e)** An estimate of the cost of implementing the Plan and a general description of how the Agency plans to meet those costs.

The funding of the GSP implementation costs are described below as adopted by the Board of Directors at the June 27, 2019 Board meeting.

Ongoing Administrative Expenses

These annual expenses will be spread to the NKGSA member agencies based on an equal assessment per acre of current service area within the NKGSA. The administrative expenses are determined for each agency and the NKGSA invoices each agency but does not assess or bill landowners directly. Agency boundaries will be based on community water system service areas (sub-area as determined by the NKGSA). Parcels not included in a city or community water system or irrigation or water district will be included in the Fresno County Area. Water systems or districts that are not NKGSA Members, Contracting Entities with Participation Agreements or Interested Parties with MOUs allowing participation, will be invoiced a suggested voluntary cost share on the same basis. Other Interested Parties will also be invoiced a suggested minimum voluntary cost share to be determined by the Board. Any voluntary cost shares received will be credited to the participant that covered the Interested Parties cost share.

The cost of conducting any necessary Proposition 218 elections will be handled by individual agencies. If necessary, upon mutual agreement of the NKGSA and the individual agency, the NKGSA could perform the assessment election for the agency, but the agency will pay all associated costs.

Project Costs

Allocation of project costs to the NKGSA member agency's landowners will be determined by each agency. Costs could be based upon pumpage if metering is available, estimated pumping if metering is not available, land area, or other method as determined by the agency. The projects could also be paid for with existing funding sources, such as capital improvement budgets. Each agency will be required to develop and secure the funding needed to ensure their sustainability by 2040.

Penalties

Penalties for not meeting milestones or exceeding allocation limits set by the NKGSA may be charged to agencies, areas or individual pumpers based on metered usage or estimates of the NKGSA. Penalty revenue could be utilized to fund projects. A determination for penalties has not yet been determined and will be evaluated by the appropriate committee and presented to the Board in the future.

Grant Funding

The NKGSA, through the Kings Coordinated Group, is applying for Proposition 1 Technical Support Services grant funding to offset some of the capital improvement costs associated with the development of new monitoring wells to fill existing data gaps in the monitoring network. The

NKGSA and its member agencies and entities will be exploring other federal and state grant funding opportunities to help finance the initial steps of plan implementation.

7.3 Schedule for Implementation

The schedule for implementation of the projects is based on the agency project specific information provided in Section 6. **Table 6-1** includes an anticipated start and completion date for each project and is sorted by which interim milestone the project will be completed. As noted, the NKGSA would be sustainable if not for increased groundwater pumping from neighboring basins, so reaching the anticipated milestones is largely dependent on neighboring GSAs reducing the groundwater outflow from NKGSA.

7.4 Data Management System

§ 352.6 Data Management System
Each Agency shall develop and maintain a data management system that is capable of storing and reporting information relevant to the development or implementation of the Plan and monitoring of the basin.

The NKGSA, in coordination with the other GSAs in the Subbasin, have developed a Data Management System (DMS) to share data and store the necessary information for annual reporting. The GSAs have hired a consultant to build a user-friendly accessible database that standardizes the basin-wide data and allows GSA representatives to input their data and use basic tools for viewing, exporting or printing information for their GSA or the Subbasin. The DMS is a web-based software hosted on a cloud server. The DMS is the single repository for data aggregation and analysis for the subbasin and generates the required annual reporting to DWR. GSA representatives have access to all data in the DMS. The DMS currently includes the necessary elements required by the regulations, including:

- Well location and construction information (where available)
- Water level readings and hydrographs including water year type
- Seasonal groundwater elevation contours
- Estimated groundwater extraction by category
- Total water use by source
- Estimate of groundwater storage change, including map and tables of estimation
- Graph with Water Year type, Groundwater Use, Annual Cumulative Storage Change

The DMS also includes basic data layers for refences including GSA boundaries, topographic information, landuse, streets, aerial imagery, geologic information, specific yield information. Additional items may be added to the DMS in the future as required. A screen shot of the DMS is shown in **Figure 7-1**.

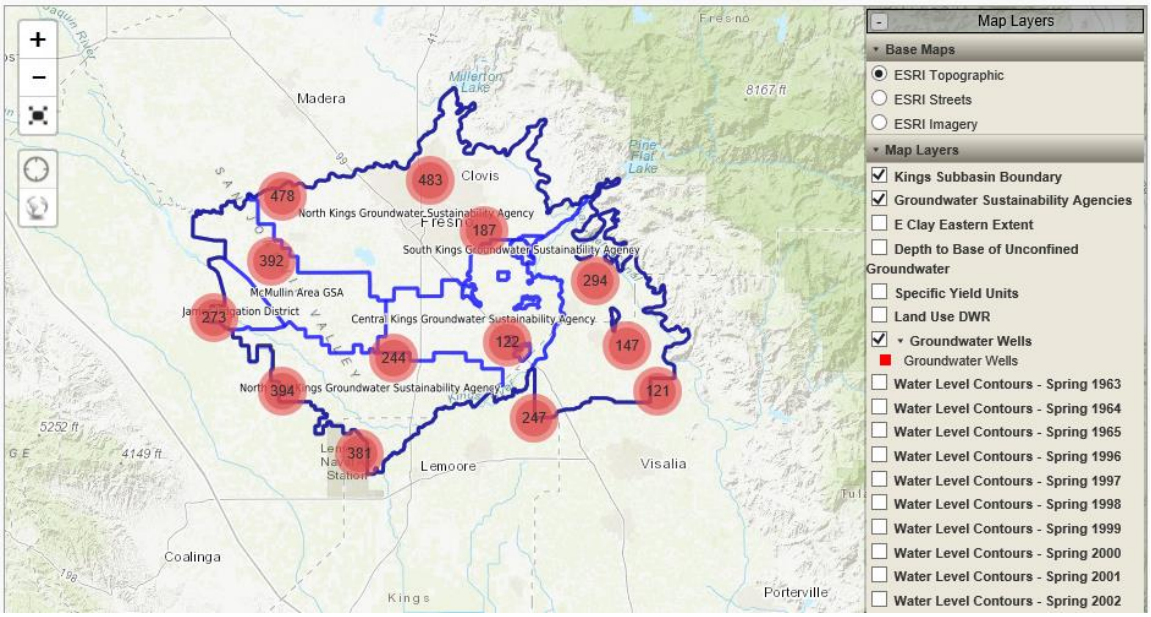

Figure 7-1 Kings Subbasin Data Management System Screenshot

Data is entered into the DMS by each GSA. Much of the data is then aggregated and summarized for reporting to DWR. Groundwater contours are prepared outside of the DMS because of the need to evaluate the integrity of the data collected and generate a static contour set that has been reviewed and will not change once approved. Groundwater storage calculations are performed in accordance with the method described in Section 3.2.3, outside of the DMS, then the results of those calculations uploaded to the DMS for annual reporting and trend monitoring. Since most of the pumping in the NKGSA (and the Subbasin) is not currently measured, the groundwater pumping estimates are also calculated outside of the DMS using the agreed basin-wide water budget approach then uploaded to the DMS for annual reporting and trend analysis. Surface water deliveries are maintained by the surface water agencies in separate systems already, and that data is collected by each GSA and provided to the DMS as an aggregate total by GSA. Table 7.1 provides a summary of how the DMS addresses each required element of the DMS and annual reporting requirements. NKGSA and the other GSAs may choose to have their own separate system for additional analysis.

Table 7-1 DMS Annual Reporting Requirements

Regulation	Requirement	Input to DMS
356.2(b)(1)(B)	Hydrographs incl water year type from Jan 2015	Generated in DMS from water level data input by GSAs
356.2(b)(1)(A)	GW Elevation Contours (spring & fall)	Generated outside DMS using data from DMS then contour lines uploaded into DMS
356.2(b)(2)	GW extraction by water use sector incl method of determination and map	Determined outside DMS. Total use by sector input by each GSA then summarized for basin in DMS
356.2(b)(3)	Surface Water use by source	Total by GSA input to DMS and summarized for basin in DMS
356.2(b)(4)	Total Water use by sector	DMS summary table of water supplies by sector per GSA

Regulation	Requirement	Input to DMS
356.2(b)(5)(A)	Change in GW Storage map	Calculated outside DMS from contour data using basin-wide method then total per GSA input into DMS
356.2(b)(5)(B)	Graph with Water Year type, GW use, annual & cumulative GW Storage change	DMS generated basin total graph using data in DMS

7.5 Annual Reporting

Regulatory Requirements:

§ 356.2. Annual Reports
Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:
(a) General information, including an executive summary and a location map depicting the basin covered by the report.
(b) A detailed description and graphical representation of the following conditions of the basin managed in the Plan:
(1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:
(A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.
(B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.
(2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.
(3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.
(4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.
(5) Change in groundwater in storage shall include the following:
(A) Change in groundwater in storage maps for each principal aquifer in the basin. (B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.
(c) A description of progress towards implementing the Plan, including achieving interim milestones, and implementation of projects or management actions since the previous annual report.

The NKGSA will provide the Basin Coordinator the required information of groundwater levels, estimated extraction volume, surface water use, total water use, groundwater storage change and progress of GSP implementation for the Basin Annual Report in accordance with the timelines required to meet the April 1 deadline each year. The anticipated schedule for completion of the annual report each year will be:

- Dec 31st - Deadline for GSAs to provide GSA specific information
- Feb 28th – completion of draft annual report
- March – review by GSA and Board approval
- April 1 – submittal to DWR by Basin Coordinator

The Kings Subbasin annual report will have the following outline:

Chapter 1 - Introduction
Chapter 2 - Landuse and Surface Water Supplies
Chapter 3 - Groundwater Pumping
Chapter 4 - Sustainable Management Criteria
4.1 – Sustainable Goal
4.2 - Groundwater Levels
4.3 - Groundwater Storage
4.4 - Groundwater Quality
4.5 - Land Subsidence
4.6 - Surface to Groundwater Interconnection
Chapter 5 - Monitoring Network Changes
Chapter 6 - Groundwater Projects and Management Actions Status

In addition to the required Basin wide reporting to DWR, the NKGSA will generate an annual report that will include the elements reported with other GSAs to DWR, as well as NKGSA specific information which may include, but is not limited to:

- Member and Participating agency project/program specific progress and status updates
- Newly identify projects and programs added to the project list
- Updates on changes in membership or organizational changes
- Policy changes or modifications
- New information collected in data gaps
- Area specific investigations or improvements
- Stakeholder engagement and outreach efforts
- GSA funding status

7.6 Periodic Evaluations

Regulation Requirements:

§ 356.4. Periodic Evaluation by Agency
Each Agency shall evaluate its Plan at least every five years and whenever the Plan is amended, and provide a written assessment to the Department. The assessment shall describe whether the Plan implementation, including implementation of projects and management actions, are meeting the sustainability goal in the basin, and shall include the following:

(a) A description of current groundwater conditions for each applicable sustainability indicator relative to measurable objectives, interim milestones and minimum thresholds.

(b) A description of the implementation of any projects or management actions, and the effect on groundwater conditions resulting from those projects or management actions.

(c) Elements of the Plan, including the basin setting, management areas, or the identification of undesirable results and the setting of minimum thresholds and measurable objectives, shall be reconsidered and revisions proposed, if necessary.

(d) An evaluation of the basin setting in light of significant new information or changes in water use, and an explanation of any significant changes. If the Agency's evaluation shows that the basin is experiencing overdraft conditions, the Agency shall include an assessment of measures to mitigate that overdraft.

(e) A description of the monitoring network within the basin, including whether data gaps exist, or any areas within the basin are represented by data that does not satisfy the requirements of Sections 352.4 and 354.34(c). The description shall include the following:

(1) An assessment of monitoring network function with an analysis of data collected to date, identification of data gaps, and the actions necessary to improve the monitoring network, consistent with the requirements of Section 354.38.

(2) If the Agency identifies data gaps, the Plan shall describe a program for the acquisition of additional data sources, including an estimate of the timing of that acquisition, and for incorporation of newly obtained information into the Plan.

(3) The Plan shall prioritize the installation of new data collection facilities and analysis of new data based on the needs of the basin.

(f) A description of significant new information that has been made available since Plan adoption or amendment, or the last five-year assessment. The description shall also include whether new information warrants changes to any aspect of the Plan, including the evaluation of the basin setting, measurable objectives, minimum thresholds, or the criteria defining undesirable results.

(g) A description of relevant actions taken by the Agency, including a summary of regulations or ordinances related to the Plan.

(h) Information describing any enforcement or legal actions taken by the Agency in furtherance of the sustainability goal for the basin.

(i) A description of completed or proposed Plan amendments.

(j) Where appropriate, a summary of coordination that occurred between multiple Agencies in a single basin, Agencies in hydrologically connected basins, and land use agencies.

(k) Other information the Agency deems appropriate, along with any information required by the Department to conduct a periodic review as required by Water Code Section 10733.

The NKGSA will include updates of changes to the GSP or policy changes in its annual report, and submit that report to DWR. Certain components of the GSP may be re-evaluated more frequently than every five years, if deemed necessary. This may occur, for example, if sustainability goals are not being met, additional data is acquired, or priorities change. Those results will be incorporated into the GSP when it is resubmitted to DWR every five years.

In addition, the NKGSA will provide an assessment to DWR in accordance with the regulatory requirements, which are currently set to be at least every five years. The assessment will include an update on progress in achieving sustainability including current groundwater conditions, status of projects or management actions, evaluation of undesirable results relating to measurable objectives and minimum thresholds, changes in monitoring network, summary of enforcement or legal actions and agency coordination efforts in accordance with SGMA law §356.4. and Periodic Evaluation by Agency.