# **INTRODUCTION**

The California State Water Resources Control Board (State Water Board) is identifying alternatives for a future information management system that will automate business processes, collect data, and support evaluation of critical operations through reporting applications and analysis tools. The intent of this Request for Information (RFI) is to obtain input from the vendor community, to help prepare for a procurement in accordance with the State’s Project Approval Lifecycle (PAL).

# **OBJECTIVE**

The objective of the RFI is to better understand solution alternatives, estimate costs, and gather vendor feedback on the draft system requirements provided in Attachment 3.

# **KEY ACTION DATES**

The table below provides timeframes for key actions related to this RFI.

Table 1: Key Action Dates

|  |  |
| --- | --- |
| **Key Action** | **Date** |
| Release of RFI | February 1, 2016 |
| Vendor responses due by | February 15, 2016 (responses will accepted through February 16 in observance of President’s Day) |

# **RFI CONTACT**

Please direct correspondence and questions related to this RFI to:

Lhoi Clingman  
IT Project Manager  
State Water Resources Control Board  
1001 I Street, 8/F  
Sacramento, CA 95814  
Office: (916) 341-5770  
lhoi.clingman@waterboards.ca.gov

# **BACKGROUND**

The State Water Board is responsible for protecting water quality, maximizing the beneficial uses of water resources, and protecting public trust uses. The State Water Board guides nine Regional Water Quality Control Boards (Regional Water Boards) that, in turn, serve as the frontline for state and federal water pollution control efforts. Figure 1 presents a map of the nine Regional Water Boards.

The State Water Board and Regional Water Boards (collectively, “the Water Boards”) seek to implement a new system for six of their water quality programs, which are administered by staff in offices across the state, to support the programs’ data management and reporting needs.

Figure 1: Regional Water Boards’ Geographic Boundaries

The six programs are:

* **Irrigated Lands Regulatory Program (ILRP):** This program regulates discharges to waterbodies from irrigated agriculture and dry land farming operations.
* **Forest Activities Program:** This program regulates discharges from logging, timber harvesting, grazing/rangeland management, recreation, and catastrophic fires on California’s forest lands.
* **Confined Animal Feeding Operations (CAFO) Program:** This program regulates discharges from dairies, feedlots, poultry operations, and other animal feeding operations.
* **Grazing Program:** This program regulates discharges from livestock grazing.
* **401 Certification Program:** This program regulates any proposed federally-permitted activity that may affect water quality, the most common of which involve dredging or filling waters.
* **Total Maximum Daily Load (TMDL) Program:** This program analyzes and designates impaired water bodies in California and develops implementation actions for other programs to carry out in their permits.

Each program is responsible for developing, implementing and overseeing measures aimed to restore and/or protect water quality. In general, the programs listed above define requirements to preserve water quality through one of two mechanisms, a ***TMDL*** or a ***Permit***. Dischargers – the landowners, business operators, and other entities responsible for waste discharges to water – then implement those requirements, and program staff monitor their compliance, through ***Projects***.

For example, in the Forest Activities Program a typical project is a timber harvest operation that must comply with requirements to avoid excessive vegetation alteration, soil erosion, and sediment delivery which can impact the beneficial uses of water. For the 401 Certification Program, dredging projects typically deepen waterways for navigation by removing bottom sediments; projects resulting in filling water bodies usually involve land clearing activities for transportation, land development, or agriculture. In the ILRP Program, projects refer to everything from large agribusiness to small boutique farming operations, where dischargers must implement recommended practices and monitor pesticide application, among other activities.

Figure 2 depicts a common relationship between TMDLs, permits, and projects, where water quality standards established by a TMDL become requirements of a permit that a discharger must adhere to while executing their project. However, there are instances where projects, permits, and/or TMDLs do not relate to each other (i.e., it is possible to initiate a project without an existing TMDL or permit; it is also possible to create a permit without a TMDL).

Figure 2: Relationship between TMDLs, Permits, and Projects

Currently, each program uses its own databases, spreadsheets, custom applications or existing Water Boards systems – or combination thereof – to collect water quality and programmatic data, track project activities, and manage multiple workloads. Without a single system containing both programmatic and water quality data, reporting and data entry processes are cumbersome, duplicative, inconsistent, and time consuming.

The Water Boards seek a new system to streamline data collection and reporting processes, and to manage project activities through the lifecycle depicted in Figure 3. It is important to note that each program, while utilizing a similar process, has different data collection needs.

Figure 3: Project Lifecycle

* **Project Creation:** Projects may be manually created by program staff (for example, while reviewing a proposed project plan) or external entities using a public interface (for example, by a construction project manager for a 401 Certification project, or a representative from a coalition of farmers, for an ILRP project), or may be automatically created as a result of an interface with a partner agency system. Once a project is created, program staff may begin uploading documentation (such as correspondence or an inspection report) and tracking activities related to that project even if the discharger has not yet officially enrolled and commenced operations.
* **Enrollment:** Depending on the project type, a discharger may be required to submit an online application and fee before proceeding with their project, or they may be automatically enrolled, requiring no application or fee. (Billing and payment collection is managed by an existing Water Boards system, and will require a two-way interface of billing and payment information to and from the new system; more information about system interface requirements is below.) In some programs, third-party groups manage the enrollment and implementation activities on behalf of multiple dischargers. Some programs categorize projects by their perceived risk (threat to water quality), which may be manually assigned by a user or automatically determined by the new system based on business rules. Some programs have federally and state-mandated timeframes around reviewing and approving applications, and will require the new system to drive that workflow. Additionally, some programs currently reconcile their data against external sources to identify dischargers who should (but have not) enrolled.
* **Implementation:** Once a project is enrolled and project operations commence, dischargers implement the requirements established by the permit. Dischargers (or a third-party representative) electronically submit qualitative, quantitative, and visual monitoring data that are used to determine compliance with applicable water quality standards/requirements. Data will be submitted to either existing systems or the new system, which will require system interfaces (inbound, for data submitted to other systems, or outbound, for data submitted to the new system). Program staff monitor compliance and take enforcement actions on dischargers not in compliance. As part of their compliance monitoring, staff conduct site inspections, and may use a handheld device to enter data and findings in real-time while conducting the inspection. It is important to note that inspections can occur in remote locations with no Internet or WiFi connection. Examples of enforcement actions include issuing (and documenting) notices of violations or conducting (and documenting) additional inspections.
* **Adaptive Management:** An optional process where program staff work with dischargers to determine adaptive strategies to achieve water quality standards. Changes to practices and new strategies (such as additional inspections or special demonstration projects) are documented and tracked, with that information used to help assess the effectiveness of revised approaches, and their impact to water quality.
* **Project Closure:** When project operations are complete dischargers electronically notify program staff, who conduct a final inspection and issue a notice of completion.

In addition to supporting the project workflow described above, the new system will:

* Manage the relationship between projects, TMDLs, and permits, including linking the requirements of a TMDL and/or permit to a project;
* Support reporting across TMDL, permit, and project data;
* Compile programmatic and water quality data from multiple Water Boards systems to support analysis during the development of new TMDLs and permits; and
* Display data in tabular and geospatial (point, line, and polygon) formats.
* Note: While there is no current requirement for billing or time tracking functionality, there may be a future requirement for this functionality.

# **INTERFACE REQUIREMENTS AND WORKLOAD VOLUME ESTIMATES**

This section provides additional information about interface needs and workload volumes, to be used by vendors when estimating costs.

As described above, the Water Boards currently rely on multiple databases and custom web systems and the new solution will require interfacing with those systems as well as with external business partners. Table 2 provides a description of the existing systems that will remain in use by other Water Boards programs, and summarizes interface needs with these systems. Attachment 4 shows how these systems support key processes across the Water Boards.

Table 2: Existing Systems and Interface Requirements

| **System** | **Description** | **Interface Requirements** |
| --- | --- | --- |
| California Environmental Data Exchange Network (CEDEN) | Custom web online system with a SQL Server database of surface water data for use by program staff and the public. | Inbound and outbound interface containing surface water data |
| California Integrated Water Quality System (CIWQS) | Custom web online system with an Oracle relational database of core regulatory data (including billing and enforcement activity) for use by program staff and the public. | Inbound and outbound interface containing billing, payment, enforcement, and water quality data |
| California Water Quality Assessment (CalWQA) | Custom web GIS capable online system with an Oracle database of water quality information, developed by Tetra Tech, used by the United States Environmental Protection Agency, Water Boards’ program staff, and public. System is externally hosted by Tetra Tech. | Inbound interface of water quality data |
| Electronic Content Management (ECM) | Repository of archived documents, accessible by program staff. The public may access some documents using public workstations at Regional Water Board offices. | Hyperlink to open ECM content |
| Electronic Water Rights Information Management System (eWRIMS) | Custom web GIS capable online system with an Oracle database for tracking water rights information, used by program staff and the public. Contains information on water right permits and licenses issued the by Water Board. | Inbound interface containing water rights information |
| GeoTracker | EcoInteractive SAAS database of ground water data for use by program staff and the public. | Inbound and outbound interface containing ground water data |
| Storm Water Multiple Application and Report Tracking System (SMARTS) | Custom web online system with an Oracle database of storm water data and documentation, used by program staff and the public. | Inbound and outbound interface containing ground water data |

In addition, as described above, aspects of the project workflow require interfacing with external agencies and data sources, such as:

* California Natural Resources Agency, Department of Forestry and Fire Prevention (CAL FIRE)
* County Assessor Parcel lists
* Farmland Mapping and Monitoring Program
* Third-party membership (Coalition) lists

Tables 3 and 4 provide estimated workload and system user volumes by program. The data reflected in Table 3 will need to be converted into the new system.

Table 3: Current Workload Volumes (Est.)

| **Workload** | **Current Volume** |
| --- | --- |
| TMDLs | In total, 194 TMDLs to date; 12 of which were approved and implemented in FY 14-15. |
| Permits | Across the participating programs there are currently 36 active permits. |
| Projects | Across the participating programs there are roughly 40,000 active projects, distributed as follows:   * **ILRP:** 36,901 *(enrolled as of FY 14-15; est. 27,000 remaining to be enrolled)* * **Forest Activities Program:** 251 * **401 Certification Program:** 3,000; approximately 1,000 new enrollees per year * **CAFO:** 1,602 * **Grazing:** 136 |

Table 4: Personnel Year (PY) Counts by Program

|  |  |
| --- | --- |
| **Program** | **Approx. PY (Statewide)** |
| TMDL | 74.7 |
| ILRP | 47.0 |
| Forest Activities Program | 27.1 |
| 401 Certification Program | 16.0 |
| CAFO | 15.7 |
| Grazing | 4.0 |
| **Total:** | **184.5** |

# **PROJECT REQUIREMENTS**

See Attachment 3.

# **RFI RESPONSE FORMAT AND CONTENT**

Please provide your response using Attachments 1, 2, and 3. One (1) electronic version is to be submitted by the date listed in the Key Action Dates (Table 1).

The State Water Board will also consider suggestions and/or recommendations. If you have recommendations concerning this effort which have not been addressed by questions in the Attachments, or which you believe are relevant to this project effort, please provide them in your letter of transmittal.

Interested parties are not required to submit a response to this RFI in order to participate in the anticipated Request for Proposals (RFP) to follow, but are highly encouraged to submit a response to the RFI.

# **DISCLAIMER**

This RFI is issued for information and planning purposes only and does not constitute a solicitation. A response to this RFI is not an offer and cannot be accepted by the State to form a binding contract.

Respondents are solely responsible for all expenses associated with responding to this RFI.

Upon opening of the responses, all documents submitted in response to this RFI will become the property of the State of California, and will be regarded as public records under the California Public Records Act (Government Code Section 6250 et seq.) and subject to review by the public. The State cannot prevent the disclosure of public documents.

The State is not requesting a solution; rather the intent of the RFI is to validate the project objectives and requirements to better utilize bidder and State resources when responding to the project RFP. Please do not include any proprietary information in your response to this RFI.

# **ATTACHMENT 1. VENDOR INFORMATION**

The State Water Board welcomes responses from vendors that offer existing products or development and implementation services that could meet the Water Boards’ needs.

|  |  |
| --- | --- |
| **Name:** |  |
| **Address:** |  |
| **City, State, Zip:** |  |
| **Number of Employees:** |  |
| **Years in Business:** |  |
| **California Government Clients?** | \_\_Yes \_\_No |

Is your firm certified with the Department of General Services, Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS) as:

|  |  |
| --- | --- |
| 1. A certified small business   \_\_Yes \_\_No | 1. Disabled Veteran Business Enterprise   \_\_Yes \_\_No |

Is your firm prequalified by the State on any Leveraged Procurement Agreements (LPAs)?

|  |  |
| --- | --- |
| 1. IT Master Service Agreement (MSA)   \_\_Yes \_\_No | 1. California Multiple Award Schedule (CMAS)   \_\_Yes \_\_No |

|  |  |
| --- | --- |
| **Primary Contact Name:** |  |
| **Title:** |  |
| **Address:** |  |
| **City, State, Zip:** |  |
| **Phone:** |  |
| **Email:** |  |

# **ATTACHMENT 2. VENDOR QUESTIONS**

|  |
| --- |
| 1. **Product/Solution Overview.** Please describe the system solution/product your organization offers that would satisfy the business needs and requirements described in this RFI. (Check all that apply and complete the description) |
| Solution type: \_\_\_\_COTS \_\_\_\_ MOTS \_\_\_\_Custom  Hosting Options: \_\_\_\_SAAS \_\_\_\_ Vendor-hosted Solution \_\_\_\_State-hosted Solution  Solution Description:  Government clients in production (department/program purpose): |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. **Software Needs.** What software licenses does the State Water Board need to implement the described solution? Please indicate if the software is available for procurement from the California Software Licensing Program (SLP). | | | | |
| *Software* | | | *SLP (Y/N)* | *Est. Lic. #* |
| *Name* | *Version* | *Description* |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

|  |
| --- |
| 1. **Hardware Needs.** What hardware is required to run the described solution? |
|  |

|  |  |
| --- | --- |
| 1. **Estimated Solution Costs**. What are the estimated costs to implement the described solution?   Note: This is NOT a BID or OFFER. This information is for the sole purpose of assisting State Water Board in developing a project budget. No estimates are binding if this project goes to final procurement. Rough estimates based on your experience with similar projects are welcome. | |
| 1. Hardware – Servers and other hardware required to host the solution. | |
| Cost: | $ |
| Description: |  |
| 1. Hosting Software – Any software licenses required to host the solution. | |
| Cost: | $ |
| Description: |  |
| 1. Customization – Estimate of any cost to customize the solution for California. | |
| Cost: | $ |
| Description: |  |
| 1. Annual Subscription/License fees – Any annual licensing fees. What are they during the development/implementation cycle? Do they differ during maintenance years? When do annual license fees begin? (After configuration? At project initiation? Other?) | |
| Cost: | $ |
| Description: |  |
| 1. Project Staff Hourly Rate – Hourly rates for customization. | |
| Blended Hourly Rate: | $ |
| 1. Training and Organizational Change Management Costs. | |
| Cost: | $ |
| Description: |  |
| 1. Data Conversion – The State Water Board wants to understand how data conversion will impact project costs. | |
| Cost: | $ |
| Description: |  |
| 1. Project Management Costs – The State Water Board requires projects to be appropriately managed and documented (e.g., Project Schedule, Project Management Plan, Change Management Plan, Risk and Issue Management Plan, etc.). | |
| Cost: | $ |
| Description: |  |
| 1. Other Implementation Costs – Any other implementation costs not included in the above estimates. | |
| Cost: | $ |
| Description: |  |
| 1. Other Annual Costs – Any annual additional annual costs which could be incurred, such as maintenance fees. | |
| Cost: | $ |
| Description: |  |
| 1. Other Costs Not Listed – Please list any additional costs not included in the above estimates. | |
| Cost: | $ |
| Description: |  |

|  |
| --- |
| 1. **Cost Assumptions**. Briefly describe any assumptions you applied in estimating the costs contained in this RFI response. |
|  |

|  |
| --- |
| 1. **Estimated Implementation Schedule**. Assuming a January 1, 2017 start date, please provide an estimated schedule to implement the solution described. Would you propose a phased approach, e.g., configuring and deploying multiple programs simultaneously or one program at a time? Or all programs, one region at a time? Do you see an opportunity for a pilot implementation? |
|  |

|  |
| --- |
| 1. **Additional Information**. Please provide any additional information about your company, products, and/or services that you believe will help the State Water Board better understand your capabilities (e.g., additional current services, future plans to improve products and services, etc.). |
|  |

# **ATTACHMENT 3: SYSTEM REQUIREMENTS**

The following draft system requirements are provided to help vendors better understand the Water Boards’ system needs, and for vendors to share feedback.

Use the comment field to provide feedback about specific requirements (e.g., for requirements that need clarification or that significantly increase the risk or complexity of the system).

| **Functional Requirement** | **Vendor Feedback** |
| --- | --- |
| **Data Management and Reporting** | |
| 1. Ability to import/export data to/from multiple State Water Board and external systems, as described in RFI Section F |  |
| 1. Ability to view data in tabular and geospatial (including points, lines, and polygons) format |  |
| 1. Create and update TMDLs and permits and link them to projects or each other |  |
| 1. Ability to create projects manually or as a result of interfacing with external agency systems |  |
| 1. Ability to link to ECM content (see Table 2 for additional information) |  |
| 1. Ability to upload, index, and archive deliverables such as documents, videos, and photos |  |
| 1. Ability to capture results of an inspection or random audit, including comments, narrative, or desired follow-up items |  |
| 1. Ability for dischargers to submit and update reporting forms annually or as needed, without overwriting previous information |  |
| 1. Ability to view, enter and update data into handheld devices (e.g., smart phones or tablets), online or offline |  |
| 1. Ability to make data available to the public |  |
| 1. Ability to manage and limit access to proprietary information |  |
| 1. Ability to provide both standard reports and the ability to run ad hoc queries (approximately 100 reports) |  |
| 1. Ability to spatially track historical practices in a geographic area |  |
| 1. Ability to search for projects by various identifiers or criteria |  |
| 1. Provide business intelligence and reporting that allows Water Boards to:  * Manage workflow and work queues * Manage resources * Plan, including long term resource needs * Ascertain trends * Track water quality and programmatic impacts * Make projections based on past trends * Create random samples |  |
| **Project Workflow** | |
| 1. Ability to automatically assign new project or enrollee to a Regional Water Board staff member |  |
| 1. Create and update projects and manage them through the Project Life Cycle (Figure 3) |  |
| 1. Ability to track key milestones and activities, including dates, staff, and comments |  |
| 1. Ability to auto-populate tasks and due dates (e.g., reporting deadlines), as specified by the discharger’s permit and project type |  |
| 1. Ability to automatically alert dischargers/third parties when tasks/deliverables are due via email or text message |  |
| 1. Ability to track and monitor compliance enforcement: inspections, owner contacts, correspondence, or notices |  |
| 1. Ability for staff to terminate discharger or third-party enrollment |  |
| 1. Ability to automatically notify third-party group if a member’s Notice of Termination is approved by the Regional Water Board |  |
| 1. Capture requests from dischargers to exit the program and Regional Water Board’s approval using a Notice of Termination |  |
| 1. Ability to automatically or manually identify and assign risk category |  |
| 1. Ability to develop, monitor progress, and capture results of adaptive management activities, including special demonstration projects |  |
| **Enrollment** | |
| 1. Ability to manage the third-party group application process |  |
| 1. Ability for dischargers to submit a permit enrollment request and upload supporting documentation |  |
| 1. Ability for dischargers to submit a permit exemption request and upload supporting documentation |  |
| 1. Ability for dischargers to update enrollment form annually or as needed, without overwriting previous information |  |
| 1. Ability to track relationship of third-party groups to individual dischargers |  |
| 1. Ability to match enrollees with potentially non-enrolled parcels, analyze geospatially, in order to identify non-enrollees |  |
| **Correspondence and Notices** | |
| 1. Ability to send notices and maintain record of notices sent |  |
| 1. Provide system access to defined user roles, such as Water Boards staff, third-party groups, dischargers, public, and key stakeholders |  |
| 1. Allow approved third-parties to manage enrollment or upload reports on behalf of group members |  |

| **Technical Requirement** | **Vendor Feedback** |
| --- | --- |
| 1. The system shall support secure Internet access |  |
| 1. The system shall comply with Code of Federal Regulations Section 508 and California Government Code Section 11135 guidelines for accessibility |  |
| 1. The system shall provide, where appropriate, a listing of valid values at data entry (e.g., drop-down lists, pop-up windows, look-up tables) |  |
| 1. The system shall validate all user-entered values based on business rules (e.g., mandatory fields, valid entries) |  |
| 1. The system shall allow for completion of multiple system activities from a single action, where possible (e.g., by clicking a button, the system will add date, activity type, and other information as defined by State Water Board) |  |
| 1. The system can be hosted on the State of California CalCloud |  |
| 1. The system shall archive and purge data based on business rules and industry best practices; archive process and database must comply with enterprise data architecture, internal audit, and security standards for State Water Board and the State of California |  |
| 1. The system shall utilize a table-driven, rules-based architecture to maximize system flexibility and minimize the need for code-level modifications to business logic, and to comply with changes in applicable federal and State law and regulations |  |
| 1. The system shall provide the ability for configuration and customization of field labels on forms and menus, so that they are consistent with State Water Board terminology |  |
| 1. The system shall comply with the State Water Board’s IT architecture standards |  |
| 1. The system shall allow authorized user to modify business rules to accommodate legislative, policy, and procedural changes |  |
| 1. The system shall provide a minimum capacity for handling 30,000 new records per year |  |
| 1. The system shall comply with State Water Board information security standards for web-based applications |  |
| 1. The system shall provide multiple levels of security to accommodate role-based security administration, according to State Water Board-defined user roles |  |
| 1. The system shall provide the ability to create and assign user IDs and passwords for stakeholders, both internal and external |  |
| 1. The system shall provide lock-out capability after a pre-defined number of unsuccessful user sign-on attempts |  |
| 1. The system shall provide automatic logout of users when there has been no activity for a pre-defined period, maintaining transaction integrity |  |
| 1. The system shall provide online help documentation that is indexed and searchable (i.e., alphabetical, topical, etc.) |  |
| 1. The system shall generate an audit record for all records and transactions, including but not limited to the following values: operator ID, workstation ID, IP address, date, and time |  |
| 1. The system shall prevent audit records from being physically deleted or altered, except as part of a system administration archival process |  |
| 1. The system shall provide audit-tracking reports for user access, usage logs, and key data structures |  |
| 1. The system shall provide online, web browser access 24X7, except during required maintenance and backups, or during unavailability due to off-hour batch processing |  |
| 1. The system shall adhere to Cal EPA and State Water Board disaster recovery requirements |  |
| 1. The system shall provide transaction processing control for 500 hundred concurrent authorized users without affecting system performance |  |
| 1. The system shall provide maximum 0.75 second transaction-level response time during normal State Water Board business hours |  |
| 1. The system shall provide backup and recovery plans and procedures to comply with California State Administrative Manual, Section 5355 and State Water Board standards for operational recovery |  |

| **Other Vendor-proposed Requirement** | **Vendor Comment** |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

# **ATTACHMENT 4: PROCESS AND TECHNOLOGY MAP**

