**Project Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Grantee Organization: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Prepared by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

## *General Instructions*

Use this template to prepare the following grant deliverables: A**. Monitoring Plan** and B. **Long Term Management Plan**. A separate **Data Management Plan** must also be submitted. *If this information was previously submitted with the project application, in full or summary format, update it in coordination with the CDFW Grant Manager.*

Remove italicized text before submission.

# Monitoring Plan

## *Instructions*

*Acquisition and Implementation Projects: Provide a complete Monitoring Plan. For conservation easements see* [*Minimum Standards for Monitoring Protocol*](https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=122672&inline)*.*

*Planning Projects: A monitoring plan is required only if the project includes monitoring. Projects producing implementation-ready designs should develop a monitoring plan and conduct baseline monitoring. Submission of project data to EcoAtlas* [*Project Tracker*](https://ptrack.ecoatlas.org/) *is required.*

*All Projects: Describe the plan for monitoring and evaluating project effectiveness and performance consistent with the grant agreement objectives. Address the following:*

* **Table A1. Performance Measures table** (below) to include project objectives, performance measures text, and monitoring metrics.
* **Project monitoring objectives**. This is not the same as the project objectives. What do you intend to accomplish? Describe how monitoring will contribute to evaluating project implementation success and ecosystem effectiveness.
* **Spatial scope** (include a map of monitoring locations), timeframe, and frequency of monitoring, including baseline and post-project monitoring.
* **Specific metrics** (what you will monitor) **and methods/protocols** (how you will do it). Indicate whether standardized monitoring approaches will be used, and if not, provide justification.
  + Indicate whether each metric is:
    - required for permit compliance
    - implementation monitoring to document project completion
    - effectiveness monitoring to document whether the action had the intended effect on fish, wildlife, or plant populations and/or on ecological processes
  + The following components are **required or recommended** based on the [Wetland and Riparian Area Monitoring Plan (WRAMP)](https://mywaterquality.ca.gov/monitoring_council/wetland_workgroup/wramp/index.html) framework. For more information, see [WRAMP FAQ and Guidance for CDFW Prop 1 Projects](http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=161883).
    - *Level 1 – Mapping and landscape level data:*
    - **Required:** Submit project information to Eco Atlas [Project Tracker](https://ptrack.ecoatlas.org/). Required for all implementation, planning, and acquisition projects. Watershed scale planning projects should include sites identified for restoration, not watershed assessment areas.
    - *Level 2 – Rapid Assessment:*
    - **Required:** Photo Point monitoring including the establishment of permanent points – see [Photographic Monitoring of Salmonid Habitat Restoration Projects](https://ucanr.edu/sites/cff/files/255192.pdf) and [USFS Photo Point Monitoring Handbook](https://www.fs.fed.us/pnw/pubs/pnw_gtr526.pdf); pre- and post-implementation photos are required for implementation projects.
    - **Recommended:** For stream projects use [CRAM – Riverine module](https://www.cramwetlands.org/documents#field+books+and+sops)[[1]](#footnote-2); or [Proper Functioning Condition](https://www.blm.gov/documents/national-office/blm-library/technical-reference/riparian-area-management) assessment. For other projects use the appropriate CRAM module.
    - *Level 3 – Relevant project-specific ecosystem monitoring:*
    - **Recommended:** Standardized methods to conduct baseline and post-project monitoring at the project site and control site. Include a description of permit compliance monitoring and effectiveness monitoring. Metrics should be applicable to project objectives and project type. For example:
      * Water quality including temperature; see [Surface Water Ambient Monitoring Program](http://www.waterboards.ca.gov/water_issues/programs/swamp/monitoring/);
      * [California Stream Condition Index – macroinvertebrate sampling](https://www.waterboards.ca.gov/water_issues/programs/swamp/bioassessment/data_tools.html)
      * Fish abundance and distribution; see [California Coastal Monitoring Program](http://www.calfish.org/ProgramsData/ConservationandManagement/CaliforniaCoastalMonitoring.aspx);
      * Vegetation survivorship.
      * Other relevant metrics. See:
* [Monitoring the Implementation and Effectiveness of Fisheries Habitat Restoration Projects](https://ucanr.edu/sites/cff/files/255193.pdf)
* [Qualitative Monitoring of Fisheries Habitat Restoration](https://ucanr.edu/sites/cff/files/255201.pdf)
* Opportunities to extend the monitoring activities, e.g., by using standardized monitoring methods, leveraging on-going monitoring programs, and building partnerships capable of attracting funding
* Description of long-term monitoring proposed beyond the term of the grant
* Quality assurance/quality control procedures
* Methods of analyzing, interpreting, and reporting resulting data

## Table A.1. Performance Measures

*Develop project-specific performance measures linked to project objectives with quantitative targets. Performance measures should be concise and SMART (specific, measurable, achievable, relevant, realistic, and time-bound). Include at least one performance measure that can be achieved during the term of the grant. If this information was submitted with the application, update it in coordination with the CDFW Grant Manager.*

*For each objective, include at least one* ***Output / Implementation performance measure*** *to track project implementation (e.g., acres of habitat restored or enhanced; number of trees planted; number of barriers to fish migration removed; stream miles opened for fish passage; acre-feet per year of water protected by fish screens).*

*For each project, identify at least one* ***Ecological Outcome performance measure*** *to track ecological outcomes of implementing the project (e.g., responses by target fish and wildlife populations; responses in ecosystem function).*

*Do not add performance measures for required administrative tasks (e.g., submission of quarterly reports and invoices).*

| **Project Objective** | **Performance Measure** | **Monitoring Metrics** |
| --- | --- | --- |
| **Instructions:**  What do you specifically intend to accomplish? | **Instructions:**  Concise statement(s) of what, exactly how much, when, where, and how.  Identify at least one performance measure for each objective. Identify the targets or benchmarks against which project success will be measured and a timeframe within which the outcome is expected to be achieved. | **Instructions:**  How do you propose to document that the objective has been achieved? How will you evaluate effectiveness? List Monitoring metrics (what will be monitored) and methods (how).  Include detailed description of methods in the Monitoring Plan. |
| *Example: Stream restoration project to benefit anadromous salmonids* |  |  |
| ***Objective 1.*** *Improve juvenile salmonid habitat by adding a series of large wood structures to increase channel complexity* | ***Output / implementation***  ***PM 1a.*** *A series of 5 large, stable wood structures will be placed in the project area by 2023 and will remain stable for at least 5 years.* | * structure position and stability * pool formation * cover complexity |
|  | ***Ecological outcome***  ***PM 1b.*** *Juvenile salmon habitat use in the project area will increase from baseline by 2024.* | * presence and abundance of juvenile salmonids |
|  |  |  |
|  |  |  |
|  |  |  |

# Long-Term Management Plan

## *Instructions*

*Required for all Acquisition & Implementation Projects. Address the following elements:*

* Summarize how the project area will be managed to deliver sustainable outcomes in the long-term. The management strategy should consider a period of at least 25 years, or the life of the Project, whichever is longer.
* Description of the proposed adaptive management process, including factors that will trigger a responsive action. These triggers may be added to the Performance Measures table, above. In instances where a proposed restoration project is located, either in whole or in part, within the Delta or Suisun Marsh and is likely to be deemed a [covered action](https://coveredactions.deltacouncil.ca.gov/) pursuant to CWC Section 85057.5, the applicant shall ensure consistency with Delta Plan adaptive management requirements ([Delta Plan General Policy 1](http://deltacouncil.ca.gov/delta-plan/)).
* *Implementation of the long-term management strategy, including:*
  + *responsible party*
  + *assisting organizations and/or partnerships*
  + *funding mechanisms*
  + *management and maintenance activities*
  + *attributes monitored (e.g., natural resources, infrastructure)*
* Legal protections for the site (e.g., conservation easement or State ownership) that protect the site in perpetuity; Describe any monitoring and management required in perpetuity by the conservation easement conditions or the managing organization.
* How anticipated management activities ensure or will not jeopardize the long-term persistence of project objectives. Example:
  + *If livestock grazing is anticipated to occur post-project, describe how grazing will be implemented in a manner that ensures or does not jeopardize the long-term persistence of project objectives. A grazing management plan may be required.*
* If there is a reasonable expectation that the project could be affected by external events (e.g., sea level rise, changing climate, extreme weather events, floods, fire, or other disturbances), discuss how the project design ensures sustainability of the project objectives.
* Methods of protecting the project from vandalism and deterioration; and for detecting, stopping, and remediating illegal activities.

1. For stream projects. For other project types, see <https://www.cramwetlands.org/> [↑](#footnote-ref-2)