

Ecosystem Priorities Application Worksheet (August 2016)

General Info: Ecosystem Priorities and Relative Environmental Value Criteria	
Ecosystem Priorities	
P 1	Provide cold water at times and locations to increase the survival of salmonid eggs and fry.
P 2	Provide flows to improve habitat conditions for in-river rearing and downstream migration of juvenile salmonids.
P 3	Maintain flows and appropriate ramping rates at times and locations that will minimize dewatering of salmonid redds and prevent stranding of juvenile salmonids in side channel habitat
P 4	Improve ecosystem water quality
P 5	Provide flows that increase dissolved oxygen and lower water temperatures to support anadromous fish passage
P 6	Increase attraction flows during upstream migration to reduce straying of anadromous species into non-natal tributaries
P 7	Increase Delta outflow to provide low salinity habitat for Delta smelt, longfin smelt, and other estuarine fishes in the Delta, Suisun Bay, and Suisun Marsh
P 8	Maintain or restore groundwater and surface water interconnection to support instream benefits and groundwater dependent ecosystems.
P 9	Enhance flow regimes or groundwater conditions to improve the quantity and quality of riparian and floodplain habitats for aquatic and terrestrial species.
P 10	Enhance the frequency, magnitude, and duration of floodplain inundation to enhance primary and secondary productivity and the growth and survival of fish
P 11	Enhance the temporal and spatial distribution and diversity of habitats to support all life stages of fish and wildlife species
P 12	Enhance access to fish spawning, rearing, and holding habitat by eliminating barriers to migration
P 13	Remediate unscreened or poorly screened diversions to reduce entrainment of fish
P 14	Provide water to enhance seasonal wetlands, permanent wetlands, and riparian habitat for aquatic and terrestrial species on State and Federal wildlife refuges and on other public and private lands
P 15	Develop and implement invasive species management plans utilizing techniques that are supported by best available science to enhance habitat and increase the survival of native species
P 16	Enhance habitat for native species that have commercial, recreational, scientific, or educational uses
Relative Environmental Value Criteria (REVs)	
REV 1	Number of different ecosystem priorities, for which corresponding public benefits are, provided by the project.
REV 2	Magnitude of ecosystem improvements.
REV 3	Spatial and temporal scale of ecosystem improvements.
REV 4	Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers for managing ecosystem benefits.
REV 5	Immediacy of ecosystem improvement actions and realization of benefits
REV 6	Duration of ecosystem improvements.
REV 7	Consistency with species recovery plans and strategies, initiatives, and conservation plans
REV 8	Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
REV 9	Efficient use of water to achieve multiple ecosystem benefits
REV 10	Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Project Information	
Project Name	
Enter name	
Project Description (Summary)	
Enter summary	
Identify the current conditions date (i.e., year) that will be used within the application.	
Enter year	

Ecosystem Priorities Application Worksheet (August 2016)

Ecosystem improvement application instructions:	
To complete the ecosystem improvement section of the Water Storage Investment Program application review the 16 ecosystem priorities listed above, determine which priorities will be addressed by your project's ecosystem improvements, and answer all questions for each priority you will address. In addition to answering the priority-specific questions, answer the general questions listed on this worksheet which apply to all priorities addressed by your project. The final relative environmental value of each project will be based on a technical review of each ecosystem priority using relative environmental criteria (REV) 2-10 and the total number of priorities claimed by a project (REV 1).	
For the purpose of this application the Current Conditions date will be based on the existing conditions of an applicant's CEQA document. If specific data requested in this application is not available in the CEQA document, the applicant will use the demarcation date of the existing conditions in the CEQA document. An applicant must use the demarcation date of the existing conditions from their CEQA document consistently within the application when identifying current conditions.	
REV 1: Number of ecosystem priorities targeted by the project	
Briefly explain which ecosystem priorities will be met by this project.	
Enter a narrative answer	
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.	
Describe the process through which an adaptive management and monitoring program will be developed for approval by the responsible agency.	
Enter a narrative answer	
Describe the framework you will use to develop measurable objectives, performance measures, thresholds, and triggers for your adaptive management and monitoring program.	
Enter a narrative answer	
How will operational decisions be made if physical parameters and biological responses fall outside the range of anticipated benefits?	
Enter a narrative answer	
What funding sources and financial commitments do you intend to utilize for the formation and implementation of an adaptive management and monitoring program over the duration of the claimed benefits?	
Enter a narrative answer	
Explain what environmental uncertainties are relevant to your claimed benefit(s) and will be included in your adaptive management and monitoring program (i.e. climate change, sea level rise, earthquakes, variation in snow pack, forest fires, landslides/erosion etc.).	
Enter a narrative answer	
REV 9: Efficient use of water to achieve multiple ecosystem benefits	
Will the same unit of water benefit multiple priorities? If so, explain which priorities will benefit, and the anticipated differences in project water availability between priorities.	
Enter a narrative answer	
How will hydrologic connections among priorities be measured and guaranteed?	
Enter a narrative answer	

Priority 1: Provide cold water at times and locations to increase the survival of salmonid eggs and fry.
Species Information
What salmonid species are you targeting?
Enter species name(s)
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the temperature needs of each species are described.
Enter location(s)
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value? If the ecosystem improvement will benefit multiple salmonid species or runs, provide the magnitude of the ecosystem improvement for each species or run separately.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will the project provide cold water for salmonid eggs and fry? How is the amount of cold water provided to salmonid eggs and fry likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project? If the ecosystem improvement will benefit multiple salmonid species or runs, provide the timing of ecosystem improvements for each species or run separately.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of ecosystem improvements that address this priority are described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will be address by this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).

Ecosystem Priorities Application Worksheet (August 2016)

Explain why this location was selected. How is the location beneficial to the targeted species in the context of local environmental conditions and the target species' needs?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the spatial extent of the ecosystem improvement, the proximity of the ecosystem improvement to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between the ecosystem improvement and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
How will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 2: Provide flows to improve habitat conditions for in-river rearing and downstream migration of juvenile salmonids.
Species Information
What salmonid species are you targeting?
Enter species name(s)
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the flow related habitat needs of each species are described.
Enter location(s)
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value? If the ecosystem improvement will benefit multiple salmonid species or runs, provide the magnitude of the ecosystem improvement for each species or run separately.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will the project provide flows to improve habitat conditions for in-river rearing and downstream migration of juvenile salmonids? How are flows likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project? If the ecosystem improvement will benefit multiple salmonid species or runs, provide the timing of ecosystem improvements for each species or run separately.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of ecosystem improvements that address this priority are described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.

Ecosystem Priorities Application Worksheet (August 2016)

Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why this location was selected. How is the location beneficial to the targeted species in the context of local environmental conditions and the target species' needs?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer
Are the flows provided physically accessible by the targeted species in all year types? If not, explain barriers that may exist between the targeted species and ecosystem improvements.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the spatial extent of the ecosystem improvement, the proximity of the ecosystem improvement to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between the ecosystem improvement and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
How will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

<p>Priority 3: Maintain flows and appropriate ramping rates at times and locations that will minimize dewatering of salmonid redds and prevent stranding of juvenile salmonids in side channel habitat</p>
<p>Species Information</p>
<p>What salmonid species are you targeting?</p>
<p>Enter species name(s)</p>
<p>Exact location (document name, page number, table number, other) where the flow and ramping rates needed for this species are described.</p>
<p>Enter location(s)</p>
<p>REV 2: Magnitude of ecosystem improvements</p>
<p>What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value? If the ecosystem improvement will benefit multiple salmonid species or runs, provide the magnitude of the ecosystem improvement for each species or run separately.</p>
<p>Enter a narrative answer</p>
<p>Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.</p>
<p>Enter location(s)</p>
<p>REV 3: Spatial and temporal scale of ecosystem improvements.</p>
<p>What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?</p>
<p>Enter value</p>
<p>Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.</p>
<p>Enter location(s)</p>
<p>When during the year will the project maintain flows and appropriate ramping rates to minimize dewatering of salmonid redds and prevent stranding of juvenile salmonids in side channel habitat? How are flows and ramping rates likely to vary with hydrological conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project? If the ecosystem improvement will benefit multiple salmonid species or runs, provide the timing of ecosystem improvements for each species or run separately.</p>
<p>Enter a narrative answer</p>
<p>Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of ecosystem improvements that address this priority are described and quantified.</p>
<p>Enter location(s)</p>
<p>REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.</p>
<p>Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.</p>
<p>Enter a narrative answer</p>

Ecosystem Priorities Application Worksheet (August 2016)

REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit

Ecosystem Priorities Application Worksheet (August 2016)

supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why this location was selected. How is the location beneficial to the targeted species in the context of local environmental conditions and the target species' needs?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer
Are the flows provided physically accessible by the targeted species in all year types? If not, explain barriers that may exist between the targeted species and ecosystem improvements.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the spatial extent of the ecosystem improvement, the proximity of the ecosystem improvement to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between the ecosystem improvement and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
How will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Ecosystem Priorities Application Worksheet (August 2016)

Priority 4: Improve ecosystem water quality
Constituent Information
What ecosystem water quality constituent(s) are you targeting?
Enter constituent
Summarize how the proposed actions will improve the ecosystem water quality in relation to the target constituent.
Enter a narrative answer
Does the proposed ecosystem water quality improvement benefit habitats or species life stages? How?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the chemistry, toxicity, and negative effects constituents are described (i.e. Material Safety Data Sheets).
Enter location(s)
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value? If the project intends to benefit multiple constituents, the magnitude of the change in each constituent needs to be provided.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will ecosystem water quality improvements be provided? How is ecosystem water quality likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project? If the project intends to benefit multiple constituents, provide the timing of water quality improvements for each constituent separately.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of ecosystem water quality improvements are documented.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance

Ecosystem Priorities Application Worksheet (August 2016)

measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer
REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)

Ecosystem Priorities Application Worksheet (August 2016)

REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why this location was selected in the context of local environmental conditions and the target constituent(s). Why was this location selected over other potential locations?
Enter a narrative answer
Is the ecosystem water quality improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem water quality improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer
Additional locations in the application (document name, page number, figure name or number, other) that describe the extent of the ecosystem water quality improvements, the proximity of claimed improvements to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between claimed improvements and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
If applicable, how will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 5: Provide flows that increase dissolved oxygen and lower water temperatures to support anadromous fish passage
Species Information
What anadromous fish species are you targeting?
Enter species name(s)
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the flow and dissolved oxygen needs of this species are described.
Enter location(s)
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value? If the project will benefit multiple anadromous fish species, the magnitude of the ecosystem improvement for each species needs to be provided.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will flows that increase dissolved oxygen and lower water temperatures to support anadromous fish passage be provided? How are dissolved oxygen and water temperature likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project? If the ecosystem improvement will benefit multiple anadromous species, provide the timing of ecosystem improvements for each species separately.
Enter a narrative answer
Additional locations in the application (document name, page number, table number, other) where the timing of flow releases associated with this benefit are documented.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.

Ecosystem Priorities Application Worksheet (August 2016)

Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why this location was selected. How is the location beneficial to the targeted species in the context of local environmental conditions and the target species' needs?
Enter a narrative answer
Does the improvement location occur adjacent to or near any other areas already being protected or managed for conservation values? Explain the proximity of improvements to other areas already being protected or managed for conservation values and the distance between them and your claimed improvements. Explain any hydrologic connectivity that may occur between these locations (if any).
Enter a narrative answer
Will flows provided allow full passage to the targeted species in all year types?
Enter a narrative answer
Additional locations in the application (document name, page number, figure name or number, other) that describe the extent of the flow benefits, the proximity of claimed improvements to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between claimed improvements and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
How will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 6: Increase attraction flows during upstream migration to reduce straying of anadromous species into non-natal tributaries
Species Information
What anadromous fish species are you targeting?
Enter species name(s)
Exact location (document name, page number, table number, other) where the attraction flow needs of this species are described.
Enter location(s)
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value? If the project will benefit multiple anadromous fish species, the magnitude of the ecosystem improvement for each species needs to be provided.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will the project increase attraction flows during upstream migration to reduce straying of anadromous species into non-natal tributaries? How are attraction flows during upstream migration likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project?
Enter a narrative answer
Additional locations in the application (document name, page number, table number, other) where the timing of flow releases associated with this benefit are documented.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).

Ecosystem Priorities Application Worksheet (August 2016)

Explain why this location was selected. How is the location beneficial to the targeted species in the context of local environmental conditions and the target species' needs?
Enter a narrative answer
Does the improvement location occur adjacent to or near any other areas already being protected or managed for conservation values? Explain the proximity of improvements to other areas already being protected or managed for conservation values and the distance between them and your claimed improvements. Explain any hydrologic connectivity that may occur between these locations (if any).
Enter a narrative answer
Are the flows provided physically accessible by the targeted species in all year types? If not, explain barriers that may exist between the targeted species and ecosystem improvements.
Enter a narrative answer
Additional locations in the application (document name, page number, figure name or number, other) that describe the extent of the flow benefits, the proximity of claimed improvements to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between claimed improvements and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
How will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 7: Increase Delta outflow to provide low salinity habitat for Delta smelt, longfin smelt, and other estuarine fishes in the Delta, Suisun Bay, and Suisun Marsh
Species Information
What fish species are you targeting?
Enter species name(s)
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the outflow rates needed for this species are described.
Enter location(s)
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value? If the project intends to benefit multiple species, the magnitude of the ecosystem improvement for each species needs to be provided.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will the project increase Delta outflow to provide low salinity habitat for Delta smelt, longfin smelt, and other estuarine fishes in the Delta, Suisun Bay and Suisun Marsh? How is increased Delta outflow likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of increased flow releases associated with this benefit are documented and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).

Ecosystem Priorities Application Worksheet (August 2016)

How is the ecosystem improvement beneficial to the targeted species in the context of local environmental conditions and the target species' needs?
Enter a narrative answer
Is the ecosystem improvement adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer
Additional locations in the application (document name, page number, figure name or number, other) that describe the extent of the outflow benefits, the proximity of claimed improvements to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between claimed improvements and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
How will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 8: Maintain or restore groundwater and surface water interconnection to support instream benefits and groundwater dependent ecosystems.
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will the project maintain or restore groundwater and surface water interconnection to support instream benefits and groundwater dependent ecosystems? How are groundwater and surface water interconnections likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of groundwater and surface water interconnections that address this priority are described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer
REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)

Ecosystem Priorities Application Worksheet (August 2016)

Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why this location was selected. How is the location(s) beneficial to instream and groundwater dependent ecosystems in the context of local environmental conditions?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

Additional locations in the application (document name, page number, figure name or number, other) that describe the extent of the groundwater and surface water interconnection improvements, the proximity of claimed improvements to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between claimed improvements and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
How will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 9: Enhance flow regimes or groundwater conditions to improve the quantity and quality of riparian and floodplain habitats for aquatic and terrestrial species.
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will flow regimes or groundwater conditions be enhanced to improve the quantity and quality of riparian and floodplain habitats for aquatic and terrestrial species? How are flow regimes or groundwater connections likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of enhanced flow regimes or groundwater conditions are described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer
REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e.

Ecosystem Priorities Application Worksheet (August 2016)

project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why the location of enhanced flow regimes or groundwater conditions were selected. How is this location beneficial to the quantity and quality of riparian and floodplain habitat in the context of local environmental conditions?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

Additional locations in the application (document name, page number, figure name or number, other) that describe the extent of the enhanced flow regimes or groundwater improvements, the proximity of claimed improvements to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between claimed improvements and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
How will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 10: Enhance the frequency, magnitude, and duration of floodplain inundation to enhance primary and secondary productivity and the growth and survival of fish
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will the frequency, magnitude and duration of floodplain inundation be enhanced for primary and secondary productivity and the growth and survival of fish? How is floodplain inundation likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of floodplain enhancements are described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer
REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e.

Ecosystem Priorities Application Worksheet (August 2016)

project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why the floodplain inundation location was selected. How is this location beneficial to secondary productivity and the growth and survival of fish in the context of local environmental conditions?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

Additional locations in the application (document name, page number, figure name or number, other) that describe the extent of the floodplain inundation benefits, the proximity of claimed improvements to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between claimed improvements and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
How will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 11: Enhance the temporal and spatial distribution and diversity of habitats to support all life stages of fish and wildlife species
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will the spatial distribution and diversity of habitats be enhanced to support life stages of fish and wildlife species? How is the temporal and spatial distribution and diversity of habitats likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of habitat enhancements are described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer
REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e.

Ecosystem Priorities Application Worksheet (August 2016)

project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why this location was selected. How is this location beneficial to life stages of fish and wildlife species in the context of local environmental conditions?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) that describe and quantify the extent of habitat benefits, the proximity of claimed improvements to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between claimed improvements and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
If applicable, how will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 12: Enhance access to fish spawning, rearing, and holding habitat by eliminating barriers to migration
Species Information
What species are you targeting?
Enter species name(s)
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the spawning, rearing, and holding habitat needs of this species are described and quantified.
Enter location(s)
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value? If the project intends to benefit multiple species, the magnitude of the ecosystem improvement for each species needs to be provided.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will barriers to migration be eliminated? How is access to spawning, rearing, and holding habitats likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of enhanced access to spawning, rearing and holding habitat are described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer
REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).

Ecosystem Priorities Application Worksheet (August 2016)

Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why the barrier proposed for elimination was selected. How is the location of the barrier proposed for elimination

Ecosystem Priorities Application Worksheet (August 2016)

beneficial to the targeted species in the context of local environmental conditions and the target species' needs?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the spatial extent of the ecosystem improvement, the proximity of the ecosystem improvement to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between the ecosystem improvement and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
If applicable, how will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 13: Remediate unscreened or poorly screened diversions to reduce entrainment of fish
Species Information
What species are you targeting?
Enter species name(s)
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the entrainment risks to this species are described and quantified.
Enter location(s)
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value? If the project intends to benefit multiple species, the magnitude of the ecosystem improvement for each species needs to be provided.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will entrainment of fish be reduced? How is entrainment likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project? If the ecosystem improvement will benefit multiple species, provide the timing of ecosystem improvements for each species separately.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of reduced entrainment is described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer
REV 5: Immediacy of ecosystem improvement actions and realization of benefits

Ecosystem Priorities Application Worksheet (August 2016)

<p>Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).</p> <p>Enter number of months</p>
<p>Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.</p> <p>Enter location(s)</p>
<p>Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)</p> <p>Enter number of months</p>
<p>Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.</p> <p>Enter location(s)</p>
<p>REV 6: Duration of ecosystem improvements</p> <p>How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.</p> <p>Enter a number of years (0-100) and a narrative explanation</p>
<p>Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.</p> <p>Enter location(s)</p>
<p>REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans</p> <p>Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?</p> <p>Enter a narrative answer</p>
<p>Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.</p> <p>Enter location(s)</p>
<p>REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values</p> <p>Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.</p> <p>Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).</p>

Ecosystem Priorities Application Worksheet (August 2016)

<p>Explain why this location was selected. How is the location beneficial to the targeted species in the context of local environmental conditions and the target species' needs?</p>
<p>Enter a narrative answer</p>
<p>Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.</p>
<p>Enter a narrative answer</p>
<p>Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the spatial extent of the ecosystem improvement, the proximity of the ecosystem improvement to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between the ecosystem improvement and areas already being protected or managed for conservation value.</p>
<p>Enter location(s)</p>
<p>REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.</p>
<p>Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.</p>
<p>Enter a narrative answer</p>
<p>Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.</p>
<p>Enter location(s)</p>

Priority 14: Provide water to enhance seasonal wetlands, permanent wetlands, and riparian habitat for aquatic and terrestrial species on State and Federal wildlife refuges and on other public and private lands
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will water be provided for seasonal wetlands, permanent wetlands, and riparian habitat? How are seasonal wetlands, permanent wetlands, and riparian habitat likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of water releases for seasonal wetlands, permanent wetlands, or riparian habitat improvements are described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer
REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e.

Ecosystem Priorities Application Worksheet (August 2016)

project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why this location was selected. How does this location enhance seasonal wetlands, permanent wetlands, and riparian habitat for aquatic and terrestrial species in the context of local environmental conditions?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, within, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the spatial extent of the ecosystem improvement, the proximity of the ecosystem improvement to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between the ecosystem improvement and areas already being protected or managed for conservation value.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
How will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 15: Develop and implement invasive species management plans utilizing techniques that are supported by best available science to enhance habitat and increase the survival of native species
Species Information
What invasive species are you targeting?
Enter species name(s)
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the biology of the invasive species and their impacts on native fish and wildlife are described and quantified.
Enter location(s)
REV 2: Magnitude of ecosystem improvements
When implemented what is the expected magnitude of habitat enhancement and increased survival of native species? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value? If the project intends to target multiple invasive species, the magnitude of the ecosystem improvement for each species needs to be provided.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will the project manage invasive species for the benefit of native species? How is the distribution of invasive species likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project? If the project intends to target multiple invasive species, provide the timing of management actions for each invasive species separately.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of ecosystem improvements that address this priority are described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer

Ecosystem Priorities Application Worksheet (August 2016)

REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit

Ecosystem Priorities Application Worksheet (August 2016)

supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why the location of invasive species management was selected. How is the location beneficial to the survival of native species in the context of local environmental conditions and species' needs?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the timing of ecosystem improvements that address this priority are described and quantified.
Enter location(s)
REV 9: Efficient use of water to achieve multiple ecosystem benefits
If applicable, how will water be efficiently managed to implement invasive species management?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.
Enter location(s)
REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.
Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.
Enter location(s)

Priority 16: Enhance habitat for native species that have commercial, recreational, scientific, or educational uses
REV 2: Magnitude of ecosystem improvements
What is the expected magnitude of the ecosystem improvement that will address this priority? Magnitude should be expressed as: a) the change from current conditions without the project to current conditions with the project, and b) the change from 2030 conditions without the project to 2030 conditions with the project. How did you estimate this value?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 3: Spatial and temporal scale of ecosystem improvements.
What is the geographical extent (e.g. river miles, acres) of the ecosystem improvement that will address this priority?
Enter value
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) where the geographical extent of the ecosystem improvement is documented or mapped.
Enter location(s)
When during the year will the project enhance habitat for native species that have commercial, recreational, scientific or educational uses? How is habitat for native species likely to vary with hydrologic conditions (i.e. among water year types) a) under current conditions with and without the project, and b) in 2030 with and without the project?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the magnitude of the ecosystem improvement is described and quantified.
Enter location(s)
REV 4: Inclusion of an adaptive management and monitoring program that includes measurable objectives, performance measures, thresholds, and triggers to achieve ecosystem benefits.
Provide additional information on how this ecosystem improvement will be incorporated into the adaptive management and monitoring program. If available, provide examples of objectives, performance measures, thresholds, or triggers that could be used to manage benefits associated with this priority.
Enter a narrative answer
REV 5: Immediacy of ecosystem improvement actions and realization of benefits
Immediacy of ecosystem improvement: Number of months from grant encumbrance until the proposed ecosystem improvement is completed (i.e. the expected timeframe until the improvement is implemented or construction is completed).
Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the immediacy timeframe is described and quantified.
Enter location(s)
Realization of ecosystem improvement: Number of months from the time the ecosystem improvement is completed (i.e. project is implemented or construction is complete), until the benefit associated with this priority can be observed (i.e. when measurable improvements can be observed and quantified)

Ecosystem Priorities Application Worksheet (August 2016)

Enter number of months
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the realization timeframe is described and quantified.
Enter location(s)
REV 6: Duration of ecosystem improvements
How long (number of years) after realization (as calculated under REV 5 above) is the ecosystem improvement expected to address this priority? Maximum is 100 years. Explain how this value was determined and whether the magnitude of the ecosystem improvement is anticipated to change over time.
Enter a number of years (0-100) and a narrative explanation
Additional locations in the application, supporting documentation or attachments (document name, page number, table number, other) where the duration of the ecosystem improvement is described and quantified.
Enter location(s)
REV 7: Consistency with species recovery plans and strategies, initiatives, and conservation plans
Does the ecosystem improvement meet any goals or objectives established in existing species recovery plans, initiatives, or conservation plans including but not limited to the NOAA Fisheries Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead; State Wildlife Action Plan; Central Valley Joint Venture Implementation Plan, San Joaquin County Multi-Species Habitat Conservation Plan and Open Space Plan, Draft Solano Multi-Species Habitat Conservation Plan, East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan, Draft Recovery Plan for the Giant Garter Snake, and California Water Action Plan? If so which goals, objectives, or actions will be met? Why?
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (page number, table number, other) where the consistency with goals, objectives, or actions from recovery plans, initiative, or conservation plans are discussed.
Enter location(s)
REV 8: Location of ecosystem improvements and connectivity to areas already being protected or managed for conservation values
Provide a map that shows the extent of the ecosystem improvement that will address this priority (e.g. river miles that meet the temperature benefits). Provide additional instructions or clarification to reviewers who will be viewing this map (i.e. describe the color and/or label that identifies the spatial extent of the ecosystem improvement). If available, also submit supporting electronic files such as a .kmz file or ArcGIS layer associated with the maps provided.
Enter the name of the map(s), additional instructions for reviewers, and any associated electronic files (if available).
Explain why this location was selected. How is the location of enhanced habitat beneficial in the context of local environmental conditions?
Enter a narrative answer
Is the ecosystem improvement location adjacent to, or near, other areas already being protected or managed for conservation values? Explain the proximity of the ecosystem improvement to other areas already being protected or managed for conservation values and any hydrologic connectivity that may occur between these locations.
Enter a narrative answer
Additional locations in the application, supporting documentation or attachments (document name, page number, figure name

Ecosystem Priorities Application Worksheet (August 2016)

<p>or number, other) that describe and quantify the spatial extent of the ecosystem improvement, the proximity of the ecosystem improvement to other areas already being protected or managed for conservation value, and the degree to which hydrologic connections (if any) occur between the ecosystem improvement and areas already being protected or managed for conservation value.</p>
<p>Enter location(s)</p>
<p>REV 9: Efficient use of water to achieve multiple ecosystem benefits</p>
<p>If applicable, how will water provided to address this priority be managed? Explain design efficiencies and operational strategies intended to maximize the efficiency of water allocated to ecosystem improvements that address this priority.</p>
<p>Enter a narrative answer</p>
<p>Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe the design efficiencies and operational strategies used to maximize water efficiency under this priority.</p>
<p>Enter location(s)</p>
<p>REV 10: Resilience of ecosystem improvements to the effects of changing environmental conditions, including hydrologic variability and climate change.</p>
<p>Which environmental uncertainties associated with this priority were considered in the project siting, design, and operation? How were these uncertainties incorporated into project siting, design, or operation? Examples of environmental uncertainties include, but are not limited to: sea level rise, temperature changes, changes in precipitation, landslides, erosion, earthquakes, wildfires, drought events, and flooding events.</p>
<p>Enter a narrative answer</p>
<p>Additional locations in the application, supporting documentation or attachments (document name, page number, figure name or number, other) that describe and quantify the environmental uncertainties considered in the project siting, design, and operation.</p>
<p>Enter location(s)</p>