APPENDIX F
Project Descriptions and Evaluations

Contents

Black Gulch Storm Drainage Study

Project Lead: City of Patterson

Potential Project Partners:
Stanislaus County

Short Project Description:
There is a permitted spillway into the Delta Mendota Canal (DMC) from Black Gulch, a drainage situated between Salado and Del Puerto creeks, which keeps a local commercial area in Patterson from flooding. A study needs to be performed to determine what alternative solutions might be appropriate if/when the DMC Authority decides to not renew the permit.

Long Project Description:
Black Gulch resides between Salado Creek and Del Puerto Creek and storm drain flows enter the existing Villa Del Lago development in the City via culvert crossings underneath Interstate 5 and the California Aqueduct. There is a permitted spillway into the DMC that keeps the Del Lago Commercial area from flooding. A study needs to be performed to evaluate options to contain flood control water if the DMC Authority elects to not renew an agreement, which allows for the overflow of storm drainage into the DMC during heavy rain events. A drainage study is needed to evaluate options to address storm water flow at this location and to try to renew the permit. The Black Gulch runoff typically works its way through varying sized culverts until it reaches the San Joaquin River.

In the screening- and ranking-level assessments, it is assumed that the items identified in the proposed study would be implemented and, therefore, the anticipated benefits would be realized. The only exception is the cost-effectiveness criterion, RC-9, where only the cost and benefit of the study can be compared because the costs for the action items that would come out of the study can't be estimated until the study is complete.

Unique Project Characteristics:
None specified

Project Status:	Pre-planning
Project Cost:	$28,000
Project Timeframe:	Undetermined
Cost-sharing:	Stanislaus County
Multi-benefit Project:	Potentially
Types of benefits:	The project would improve flood risk management and could potentially improve operations and maintenance, promote ecosystem functions, and/or promote multi-benefit projects.
Source of Project:	City of Patterson, SDMP

Background Information:
None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood risk management and could potentially improve operations and maintenance, promote ecosystem functions, and/or promote multi-benefit projects. Due to the uncertainty as to whether or not action items would be identified or implemented out of the study, the score is "Medium" instead of "High."

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, the City of Patterson.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

Given the relatively low estimated cost of $28,000 and the magnitude of the tax base, it is anticipated that local funding for the project or a local cost share requirement can be met. The financial feasibility of the actions that would be identified in the study cannot be evaluated until the study is complete.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

As the De Lago Commercial Area personnel are expected to be present at the site during floods, reduction of flood risk there is anticipated to potentially reduce the risk of loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.

- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

This project may provide at least locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

Not possible to assess at this time.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

Not possible to assess at this time.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

Not possible to assess at this time.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.

- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

City of Newman/Bureau of Reclamation Flood Levee Rehabilitation

Project Lead: City of Newman

Potential Project Partners:

Bureau of Reclamation

Short Project Description:

Rehabilitate a flood protection levee on Bureau of Reclamation property between the Newman Wasteway and the City of Newman Wastewater Treatment Plant (WWTP).

Long Project Description:

Option 1: Repair erosion and rodent damage by excavating, replacing and compacting levee. Construct uniform 2.5:1 slope and construct 12' access road atop flood levee for maintenance. Place slope protection, rip-rap or cobble, on flood prone side. Provide agreements for continual maintenance, patrolling during flooding and control of weeds and rodents. Option 2: Bureau of Reclamation deed over said flood levee to City of Newman for full repair and maintenance by City of Newman. Option 3: Bureau of Reclamation provide long term lease of said levee property to City of Newman for full repair and maintenance.

Unique Project Characteristics:

The subject flood protection levee is on the Bureau of Reclamation property; however, the levee protects the City of Newman's wastewater treatment plant. This has created the situation that the City of Newman is unable to provide ongoing maintenance to said levee, therefore the levee has not been maintained since 1979 and is now subject to failure.

Project Status:	Pre-planning
Project Cost:	$225,000
Project Timeframe:	45-day construction time
Cost-sharing:	Bureau of Reclamation/City of Newman
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management. As the project would protect water quality in the event of a flood event, it is also considered consistent with the supporting objective of promoting multi-benefit projects.
Source of Project:	City of Newman

Background Information:

In 1979, the City of Newman upgraded its wastewater treatment plant which included the construction of a flood protection levee to protect the WWTP from periodic flooding from the San Joaquin River. At that time, for reasons unknown, approximately 2150 feet of flood protection levee at the south east section of the WWTP sits on Bureau of Reclamation property along the Newman Wasteway. The City of Newman WWTP continually maintains, improves and patrols during flooding, the section(s) of flood protection levees that sit within the City of Newman-WWTP property. However, the City of Newman hasn't the authority to maintain that section of flood protection levee that is on the Bureau of Reclamation property. Over the year's rodents, erosion and neglect has compromised the integrity of the Bureau of Reclamation flood protection levee. During flood years seepage has been observed by City personnel on the Reclamation section of levee.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood risk management. As the project would protect water quality in the event of a flood event, it is also considered consistent with the supporting objective of promoting multi-benefit projects.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, the City of Newman.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

Given the importance of the WWTP facilities to the urban area of Newman and the magnitude of the tax base combined with the modest project cost, it is anticipated that local funding for the project or a local cost share requirement can be met.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Medium

As personnel are expected to be present at the site during floods, reduction of flood risk at the WWTP is anticipated to reduce the risk of loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.

- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

This project is expected to provide at least a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

Not possible to assess at this time.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

Material and at least locally-significant water quality and economic stability benefits would accrue as a result of repairing the levee.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.

- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

Consolidation of O&M

Project Lead: Reclamation District 2092

Potential Project Partners:

One or more Reclamation Districts (RDs), so far interested parties include: RD 2031, 2101, 2092, 2091, 1602; City of Modesto - however, the details of consolidation needs further development; DWR (funding, technical assistance); RCDs, Stanislaus County (potential governance and management partners).

Short Project Description:

Two or more Reclamation Districts form a formal partnership to share technical, financial, and/or operational capacity to perform necessary operations and maintenance (O&M). As an initial step, invest 2 person-years to investigate potential governance options and design and implement a pilot maintenance agreement project.

Long Project Description:

The Mid San Joaquin Region's RDs have ongoing Operations & Maintenance responsibilities as described in O&M Manuals developed for each RD as part of the San Joaquin River & Tributaries Project. Each RD has responsibilities for project facilities, including emergency response, routine monitoring, maintenance, and repair. To the extent that these responsibilities require specialized knowledge, equipment, supplies, and staff, savings may be realized by consolidating some or all of the fulfillment of responsibilities under a single entity. This entity might be a separate joint powers authority, or the consolidation might simply take the form of an RD entering into an agreement to perform selected responsibilities for one or more other RDs. For example, RD 2091, which has a vested interest in the performance of the levees within RD 2063, immediately upstream, might enter into an agreement with RD 2063 to perform maintenance on the levees and other facilities within RD 2063 in exchange for payment.

This project will explore the potential for consolidation of O&M responsibilities, draft a pilot maintenance agreement, and implement such an agreement if two or more RDs choose to participate. Once the maintenance agreement has been entered into, project staff will monitor the implementation effort, advise the participating RDs on implementation options and strategies, and develop a report assessing the effectiveness of the first two years of the pilot project, lessons learned, and recommendations for the future.

Unique Project Characteristics:

Potential to increase the sustainability and effectiveness of flood system O&M activities for participating RDs, as well as providing initial groundwork in the form of a pilot project that may lead to additional similar efforts elsewhere.

Project Status:	Planning
Project Cost:	$200,000
Project Timeframe:	1-5 years
Cost-sharing:	Any participating RDs; possibly DWR
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management; operations and maintenance; and institutional support.
Source of Project:	RD 2092

Background Information:

USACE O&M Manuals, Maintenance Agreement with Central Valley Flood Protection Board.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management; operations and maintenance; and institutional support.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now).
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, Reclamation District 2092.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

While a plausible funding source has not been identified, it is anticipated that local funding for the project or a local cost share requirement can be met, particularly given the number of parties that are interested in pursuing the project. Still, the project was evaluated as "Medium," given that the funders will be private landowners and the local cost share is $20,000 or more.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

If operations and maintenance are materially improved in the relevant portion of the planning area, the project may reduce loss of life in the event of a flood. As sufficient detail regarding the potential consolidation of responsibilities has not been developed at this time, a score of "Low" is assigned.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Medium

This project would provide a regionally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

The project is expected and intended to materially improve operations, maintenance, and repair at least on a local scale, and potentially on a regional scale.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

Not possible to assess at this time.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

The project has the potential to improve institutional support on at least a local scale and possibly on a regional scale.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

Material and at least locally-significant economic stability benefits would accrue as a result of consolidation of O&M responsibilities.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

Given the nature of the project, there is a low potential for dis-benefits.

Dennett Dam Removal

Project Lead: Tuolumne River Trust

Potential Project Partners:

No partners identified at this time

Short Project Description:

Removal of Dennett Dam, an abandoned low-head dam located on the lower Tuolumne River in Modesto, California. The dam has been an instream barrier to anadromous fish passage, controlling local hydraulic and sediment transport conditions, for over 60 years, while also impeding water flow in the river. It is also a significant safety hazard adjacent to a major park, and has been the location of three drowning deaths in the last five years, including two children.

Long Project Description:

The specific short-term goal of the project is to remove Dennett Dam and restore the channel and adjacent riparian vegetation. By removing the dam, we expect to achieve the following specific long-term objectives:

- Improve upstream passage for anadromous fish
- Improve downstream rearing habitat and passage for juvenile anadromous fish
- Reduce non-native predatory fish habitat
- Improve riparian and shaded riverine aquatic habitat at the project site
- Remove an impediment to water flow within the river channel

The project also will achieve two key community objectives:

- Remove a hazardous in-stream structure to reduce the risk of drowning in the river
- Improve recreational boating opportunities through the project reach

With the removal of Dennett Dam and associated channel and riparian restoration, we expect several important ecological features and functions to be rehabilitated at the project site. Most notably, we expect fish passage to improve noticeably providing unimpeded access for anadromous fish to 37 miles of the lower Tuolumne River, including access to the prime spawning grounds for steelhead trout and fall run Chinook salmon. An assessment of fish passage at the dam completed for the Tuolumne River Trust by HDR Engineering, Inc. based on NMFS and CDFW protocols of fish passage, and using hydraulic and survey data analyzed with HEC-RAS v.4.1, determined that Dennett Dam is a partial barrier that does not meet the selected fish passage criteria for a 1-foot hydraulic differential across the dam crest for flows less than 1,800 cfs. The analysis also developed a flow-frequency relationship, which estimates a 1,640 cfs flow has an exceedance probability, during adult salmon migration, of 20%. To be more explicit, approximately 80% of the time, the dam creates a passage barrier to up migrating adult salmon. By removing Dennett Dam, we remove this passage barrier and improve passage in general.

We also anticipate that downstream passage and rearing habitat for juvenile salmon and steelhead will improve. As noted above, there are a number of exotic fishes that inhabit the Tuolumne River, including black bass and striped bass, which are known predators of juvenile salmon. According to a Sediment Management Proposal prepared for the Tuolumne River Trust by NewFields River Basins Services, LLC, Dennett Dam creates a backwater effect extending approximately 4.36 miles upstream. This slow moving water behind the dam creates excellent warm water habitat for these predatory fish. On the downstream side of the dam, two large eddies on either side of the river also create very good habitat for predator

species to lie in wait as juveniles flush over the middle section of the dam. Dam removal will restore sediment transport, create a more natural channel with a defined thalweg and associated pools, thus reducing predator habitat.

In addition, dam removal will reduce solar heating of the river water, thus reducing temperature stressors on the fish, particularly juveniles. By removing the slow, shallow pool in the river, water will have less of a chance to heat in the air. After removal of the dam is completed, we will undertake riparian restoration in the immediate project vicinity, which will in turn, provide more shaded riverine aquatic habitat providing more shading of the river water itself. Simultaneously reducing predator habitat and increasing shaded riverine aquatic habitat will reduce stressors on juvenile salmonids and have the combined effect of improving downstream migratory and rearing conditions for the fish.

Unique Project Characteristics:

This project can be completed in conjunction with other flood damage reduction, parks development, and habitat restoration projects, such as the development of the Tuolumne River Regional Park, the replacement of the 7th Street Bridge, or other projects in the vicinity.

Project Status:	Planning. The Dam Removal Basis of Design Report is complete. Funding is required to complete a sediment toxicology test, plus NEPA/CEQA, and permitting.
Project Cost:	$700,000
Project Timeframe:	2 years
Cost-sharing:	US Fish and Wildlife Service contributed $105,000 and City of Modesto contributed $10,000 towards completing the Basis of Design Report
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management (reduced loss of life), promote ecosystem functions, and improve recreation, making it a multi-benefit project.
Source of Project:	Tuolumne River Trust

Background Information:

None provided

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management (reduced loss of life), promote ecosystem functions, and improve recreation, making it a multi-benefit project.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

Preliminary designs have been developed and the project has support from the City of Modesto and the United States Fish and Wildlife Service.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

The Tuolumne River Trust does not have the resources to supply the local cost share. However, because the City of Modesto contributed to the cost of the Basis of Design Report and there is general local support for the project, it is reasonable to expect that the Tuolumne River Trust would be able to meet the local cost share for this project through partnerships and potentially through fundraising. It is noted that local financial limitations have contributed to this project not being implemented in the past despite local support and studies that were funded and completed. Thus, the project was assessed as "Medium" in terms of financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as “N/A.” If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

High

From a purely flood risk perspective, it is expected that the project would reduce loss of life based on the local flooding issues that Dennett Dam causes and its proximity to developed areas in Modesto, and, therefore, an initial score of ”Medium” is appropriate. However, as there have been three drowning deaths at Dennett Dam in the last five years, even though they were not related to flooding, the score is elevated to ”High.”

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as “N/A.” If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

The project is expected to create a locally-significant reduction in flood risk in the vicinity of Dennett Dam.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

High

The project is consistent with draft BWFS/CS objectives metrics 6a, Shaded Riparian Aquatic, and 6b, Riparian, under metric 6, Habitats, as well as metric 8c, Fish Passage Barriers, under metric 8, Stressors. The project would support the implementation of the Central Valley Joint Venture Implementation Plan and the Riparian Conservation Plan. It is also included in the Tuolumne River Regional Park Master Plan.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project would materially increase recreation and public benefits access on the Tuolumne River at a locally-significant scale.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.

- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The score is "High" because removal of the dam would contribute substantially to the reduction of life risk at relatively modest costs, as well as providing other benefits.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits have been identified.

Dos Rios Ranch Floodplain Expansion and Ecosystem Restoration Project and Hidden Valley Ranch Mitigation Project

Project Lead: River Partners

Potential Project Partners:

Wildlife Conservation Board (WCB); California Department of Water Resources (DWR); United States Bureau of Reclamation (USBR); United States Fish and Wildlife Service (USFWS); Natural Resources Conservation Service (NRCS); San Francisco Public Utilities Commission (SFPUC); California Department of Fish and Wildlife (CDFW) (funding partners, technical assistance); Central Valley Flood Protection Board (CVFPB); National Marine Fisheries Service (NMFS); United States Army Corps of Engineers (USACE); regulatory agencies; environmental non-governmental organizations (NGOs); local municipalities; Reclamation District 2092 (project support and approvals); regional flood management agencies with mitigation needs that may be filled on the property.

Short Project Description:

Project to restore flooding and transient floodwater storage to approximately 1,000 acres of historic floodplain, restore riparian habitats, and promote river physical processes of scour and deposition along 6 river miles. Remove levee maintenance obligations from State Plan of Flood Control (SPFC) and modify USACE O&M manual to allow breaching and other modification to the existing levees. Provide 191 acres of habitat mitigation for future regional SPFC environmental impacts.

Long Project Description:

River Partners owns the fee title for 2,100 acres of flood-prone farmlands at the confluence of the San Joaquin and Tuolumne Rivers in Stanislaus County. The properties will be restored to multi-benefit wildlife habitat and transient floodwater storage areas through the re-establishment of native vegetation, grading, levee breaching, and other local improvements (such as fish screening surface diversions, permanently retiring riparian water rights, weed management, recreational development, and removing bank revetment). Currently, 600 acres are being restored, and planning is underway for the remaining acreage. All flood management activities require regulatory approval from local, state and federal agencies. While the property has been purchased, additional investment is needed to develop mitigation opportunities, address permitting needs, and remove levees from the federal project or otherwise modify the maintenance obligations.

Unique Project Characteristics:

This project is aligned with the goals and objectives of many overlapping conservation, recreation, local and regional planning efforts. The property is immediately adjacent to the San Joaquin River National Wildlife Refuge and sits within the proposed boundary expansion area. The mitigation component has the potential to provide future mitigation to SPFC activities for the entire San Joaquin River watershed. Advanced mitigation planning will require substantial involvement from the regulatory agencies.

Project Status:	Planning, Implementation
Project Cost:	$8,000,000
Project Timeframe:	1-5 years
Cost-sharing:	Varies: Costs for restoration may be eligible for funding from local, state or federal grant programs.
Multi-benefit Project:	Yes

Types of benefits: The project would improve flood risk management, promote ecosystem functions, and promote multi-benefit projects.

Source of Project: River Partners

Background Information:

Various technical reports and memos – please request from River Partners.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management, promote ecosystem functions, and promote multi-benefit projects.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The project has reasonable assurance of being implemented by the lead, River Partners, who is committed to seeing the project through and has cultivated broad agency support.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

The project cost is estimated at $8 million; $38 million have already been obligated or invested in the project. Because of the success of the project in attracting funds so far, it has been evaluated as having "High" financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

It is possible that the transitory storage provided by the project could result in the reduction of loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

The project is anticipated to provide a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

This project is expected to remove up to 3.76 miles of levees from the SPFC.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

High

The project is consistent with draft BWFS/CS objectives metrics 5a, Inundated Floodplain, and 5b, Riverine Geomorphic Processes, under metric 5, Ecosystem Processes - Improve and enhance natural dynamic hydrologic and geomorphic processes; metrics 6a, Shaded Riparian Cover, and 6b, Riparian, under metric 6, Habitats; as well as metric 8b, Levees, under metric 8, Stressors - Reduce stressors related to the development and operation of the flood management system that negatively affect important species. (Are SRA, riparian, and floodplain ag a part of the project?)

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

The project is expected to materially increase water quality and groundwater recharge at a locally-significant scale over the long-term. The project would provide a regionally significant recreation improvement as described in the Central Valley Vision document prepared by California State Parks.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

While the cost for the completion of the project is high at $8 million, the benefits are expected to outweigh the cost, demonstrated both by the fact that project has successfully attracted most of the needed funding and the estimated per acre cost of restoration is below typical values.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No significant dis-benefits are anticipated. A short-term water quality dis-benefit is anticipated because water pollutants such as pesticides and nutrients that are present in site soils would be transported to the channel when flood waters recede. A minor reduction in the tax base is another anticipated dis-benefit.

While the property is currently subject to a lower tax rate through a Williamson Act contract, the property value is expected to descrease after project implementation, which would reduce the property tax collected.

Dry Creek Watershed Detention Reconnaissance Study

Project Lead: Stanislaus County and City of Modesto

Potential Project Partners:

USACE

Short Project Description:

Complete a reconnaissance study of potential options for reducing flood risks by detaining flood flows in the Dry Creek watershed, upstream of the City of Modesto.

Long Project Description:

Conduct a Flood Hazard Assessment in an Integrated Development Planning Study. County will lead the effort, through the collection and review of generally available resource information, including reviewing the 1998 USACE reconnaissance study. The team will review available topographic, hydrologic and vegetation mapping as well as aerial and satellite imagery. This data will then describe the need for a flood hazard assessment.

The flood hazard assessment will involve the preparation of a development strategy with the goal of identifying projects for high priority areas. This will be accomplished by utilizing historical flood data obtained through stream gauges and other flood documentation. Team will identify potential mitigation measures as well as determining acceptable risk within the Planning Study area.

Unique Project Characteristics:

Dry Creek in Stanislaus County has the largest uncontrolled flow in the San Joaquin River basin, which affects both downstream and upstream flood levels within the system.

Project Status:	Pending funding grants
Project Cost:	$250,000
Project Timeframe:	2015-2016 pending funding
Cost-sharing:	Up to 10% pending funding
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management and could potentially improve operations and maintenance, promote ecosystem functions, and/or promote multi-benefit projects.

Source of Project:

Background Information:

None provided

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.

- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood risk management and could potentially improve operations and maintenance, promote ecosystem functions, and/or promote multi-benefit projects. Due to the uncertainty as to project benefits beyond flood risk reduction, the score is "Medium" instead of "High."

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified co-leads, Stanislaus County and the City of Modesto.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.

- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

As the cost is relatively modest and grant funds are pending, the assigned score is "High."

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Medium

The actions that would flow from this study could potentially reduce the risk of flooding in and near Modesto. Considering the potential lives lost in a flood event, the reduction in risk would be regionally significant.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Medium

The actions that would flow from this study could potentially reduce the risk of flooding in and near Modesto. Considering the assets at risk, the reduction in risk would be regionally significant.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.

- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

Emergency Response Plan – Debris Management

Project Lead: Stanislaus County Office of Emergency Services

Potential Project Partners:

Stanislaus County Public Works, cities within Stanislaus County, city public works departments within Stanislaus County, Patterson Irrigation District, West Stanislaus Irrigation District

Short Project Description:

A debris management plan is needed to better prepare to restore public services and ensure public health and safety in the aftermath of a flood or earthquake and to better position the Mid SJR Region for emergency response funding from the State of California, Federal Emergency Management Agency (FEMA), and other participating entities. Stanislaus County Office of Emergency Services proposes the development of a comprehensive, countywide debris management plan.

Long Project Description:

As described by FEMA, "debris removal operations can be time-consuming and costly. Over the last five years, debris removal operations accounted for approximately 27 percent of the disaster recovery costs." For Stanislaus County and its communities to recover from a disaster in a timely manner, a debris management plan is key. The debris management plan developed would consider large-scale debris removal and disposal operations after a flood or earthquake. By developing a debris management plan, Stanislaus County will be better prepared to address disaster-related debris in a time-efficient manner, expediting the recovery process. Components of the plan may include:

- Staff Roles and Responsibilities
- Situation and Assumptions
- Debris Collection Plan
- Debris Management Sites
- Contracted Services
- Private Property Demolition and Debris Removal
- Public Information Plan

Unique Project Characteristics:

Both the Patterson Irrigation District and West Stanislaus Irrigation District divert water from the San Joaquin River for delivery to farms within their districts, resulting in significant contributions to the local and state economies annually. River debris and sediment deposition at their intakes and elsewhere within their infrastructure diminish their ability to provide reliable and safe water supplies, and public safety, during and following flood events. Intense rain-flood events within their watersheds can cause similar challenges within and adjacent to their canal systems.

Project Status:	Pre-planning
Project Cost:	$110,000
Project Timeframe:	1-5 years
Cost-sharing:	In anticipation of future contributions toward operations and maintenance benefits following plan development, the Patterson Irrigation District and West Stanislaus Irrigation District will consider a reasonable cost share for plan development. In-lieu

	contribution of their representatives time and expense to participate in district components of plan development is their preferred cost-share approach.
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management and institutional support.
Source of Project:	The project was an outcome of the emergency response technical memorandum prepared by the Mid SJR RFMP project team. Stakeholders participating in workshops during the fall of 2013 also suggested that this project be considered.

Background Information:
None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood risk management and institutional support.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, the Stanislaus County Office of Emergency Services.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

The Stanislaus County Office of Emergency Services has the resources to supply the majority of the local cost share, and the Patterson Irrigation District and West Stanislaus Irrigation District will consider a reasonable cost share for plan development.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

The focus of the project is to manage debris in the aftermath of a flood. While the focus is not to reduce loss of life, it is possible that implementation of the Debris Management Plan would do so.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Flood damage could be reduced by improving post-flood recovery and debris clearing.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

O&M could be easier to perform with improved post-flood debris management.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

An effective debris management strategy is anticipated to allow businesses to reopen more quickly and reduce the cost of emergency responsse. The project is expected to provide economic benefits at least at a locally-significant level.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

Given the high cost of debris management, the project is anticipated to have material economic benefits on a regionally-significant level.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The cost of the project is very low when compared to the benefits. The project would fall in the upper third of projects considered in terms of the mix of benefits provided for the given project cost, and is considered high among the upper third.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

Emergency Response Plan – Local Planning and Training

Project Lead: Stanislaus County Office of Emergency Services

Potential Project Partners:

Stanislaus County; City of Modesto; City of Patterson; City of Newman; Reclamation Districts 1602, 2063, and 2091; Patterson Irrigation District; West Stanislaus Irrigation District

Short Project Description:

Planning and training are necessary to improve coordination between local agencies so that emergency response can be improved in the planning area. A program would be developed and implemented to address this need.

Long Project Description:

To affirm effective response coordination among agencies during a flood within the Mid San Joaquin River Region, it is important that local agencies plan, prepare, and train for such an incident. Actions that should be addressed include, but are not limited to:

• Response plans for public safety agency functions, including evacuation and debris management planning

• Development and training on the command and communication structure for areas threatened by flood waters. This would include an emphasis on the National Incident Management System (NIMS) and Standardized Emergency Management System (SEMS).

• Coordination of local response plans between county, impacted cities and reclamation districts.

Unique Project Characteristics:

The West Stanislaus Irrigation District and Patterson Irrigation District are non-State Plan of Flood Control entities, yet their Districts comprise significant portions of the west side of the watershed within the Mid-San Joaquin River Region. Their participation with SPFC entities in flood management and organized response activities can help strengthen flood
resilience, public safety, and protect important infrastructure in the Mid-SJR Region. They maintain communications with their farmers and their local communities, have infrastructure and property within the 100 year floodplain, storage facilities, access, equipment, and other assets of potential value before/during/after flood events.

Project Status:	Pre-planning
Project Cost:	$110,000
Project Timeframe:	1-5 years
Cost-sharing:	In anticipation of future benefits to the Patterson Irrigation District and West Stanislaus Irrigation District resulting from a good plan - better communication and training - the districts will consider a reasonable cost share. In-lieu contribution of their representatives' time and expense to participate in district components of the project is their preferred cost-share approach.
Multi-benefit Project:	Potentially
Types of benefits:	The project would improve flood risk management; operations and maintenance; and institutional support.
Source of Project:	The project was an outcome of the emergency response technical memorandum prepared by the Mid SJR RFMP project team. Stakeholders participating in workshops during the fall of 2013 also suggested that this project be considered.

Background Information:
None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management; operations and maintenance; and institutional support.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The project has a capable project lead, support from expected participants and a reasonable assurance of being implemented given the commitment of the project lead.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

The project lead has the ability to carry out the project or supply any needed local cost share; the cost is modest and grant funding is anticipated to be available.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Medium

Given that flood risk management would improve through better agency coordination and emergency response, the project is expected to reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.

- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Medium

Given that flood risk management would improve through better agency coordination and emergency response, the project is expected to also reduce flood damage, and at a regionally-significant level.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

The project is expected to enhance operations at a regionally-significant level.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

The project is expected to improve institutional support at a regionally-significant level.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.

- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The cost of the project is very low when compared to the benefits. The project would fall in the upper third of projects considered in terms of the mix of benefits provided for the given project cost, and is considered high among the upper third.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

Given the nature of the project, there is a low potential for dis-benefits.

Flood Risk Education

Project Lead: River Partners

Potential Project Partners:

DWR and USACE levee maintenance and inspection staff; CVFPB; regional flood management agencies, including San Joaquin River Flood Control Agency (SJRFCA); San Joaquin Area Flood Control Agency (SJAFCA); Lower San Joaquin Levee District (LSJLD); counties; cities; USFWS, CDFW, USACE, NGOs with an interest in river and flood management and education.

Short Project Description:

Develop and implement a regional flood risk management educational program to raise awareness of flood risks and elevate the level of public understanding with respect to flood risk management needs and the value of investments to address them. For the local maintaining agencies (LMAs), include education on their role in flood risk management and provide technical guidance/assistance on levee maintenance activities and permitting requirements.

Long Project Description:

Flood management in the Central Valley has developed into a very complex regulatory endeavor – once simple maintenance activities now require review from multiple resource agencies and complex funding structures. Often the public, policy-makers, and stakeholders are not aware of the importance of flood risk management in land use planning, development, agricultural practices and soil quality management, transportation projects, and environmental and recreation improvement efforts. This lack of awareness leads to conflicts among user groups and flood management interests. This project would develop an education program to raise awareness of flood risks and elevate the level of public understanding of regional flood risk management needs and the value of investments to address them. Example educational products include brochures and brief handouts relevant to regional flood interests, presentations for community groups and LMAs, and possibly a website devoted to flood risk management education. A specific educational effort would be devoted to raising awareness of rural landowners with respect to levee maintenance obligations/opportunities, permitting assistance, and project implementation strategies.

Unique Project Characteristics:

This project would strengthen institutional structures in the area of interest, and may indirectly promote broader support for flood risk management investment at a local level, environmental stewardship, and improved public safety.

Project Status:	Pre-planning
Project Cost:	$30,000
Project Timeframe:	Dependent upon funding – could start immediately and continue indefinitely contingent upon funding.
Cost-sharing:	Opportunities exist to cost-share with other educational outreach programs managed by local agencies and California's resource agencies.
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management and could improve operations and maintenance and institutional support indirectly.
Source of Project:	River Partners

Background Information:

None provided

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management and could improve operations and maintenance and institutional support indirectly.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, River Partners.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

River Partners does not have the resources to supply the local cost share; however, opportunities exist for fundraising for the local cost-share, as well as the potential to have a local cost share provided by other educational outreach programs managed by local agencies and possibly California's resource agencies. Additionally, the cost is relatively modest. Thus, financial feasibility is scored as "high."

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

If the population in the planning area is more educated about flood risk, it could result in greater public support for projects that reduce loss of life, and the project could change the number of lives potentially at risk.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Medium

If the population in the planning area is more educated about flood risk, it could result in greater public support for projects that reduce flood damages and less public support for projects that would increase the assets exposed to flood risk. This pro

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

If the population in the planning area is more educated about flood risk, it could result in outcomes that would improve operations and maintenance, such as collaboration between local landowners and LMAs. Given the level of uncertainty associated with that potential outcome, the score of "Low" is assigned.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.

- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

If the population in the planning area is more educated about flood risk, it could result in outcomes that would improve institutional support, particularly related to response, recovery, and land use and development planning. Given the level of uncertainty associated with that potential outcome, the score of "Low" is assigned.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

If the population in the planning area is more educated about flood risk, it could result in a variety of indirect benefits. Given the level of uncertainty associated with that potential outcome, the score of "Low" is assigned.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The cost of the project is very low when compared to the benefits. The project would fall in the upper third of projects considered in terms of the mix of benefits provided for the given project cost, and is considered high among the upper third.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

Gomes Lake / Harding Drain Improvements

Project Lead: Gomes Lake Joint Powers Authority

Potential Project Partners:

Turlock Irrigation District, City of Turlock, Stanislaus County, Reclamation District 2063, Reclamation District 2091

Short Project Description:

This project includes multiple components to enhance the function, reliability, flexibility and capacity of the Gomes Lake facility, which stores and drains stormwater and return flows, providing flood risk reduction behind the east bank levees of the San Joaquin River.

Long Project Description:

Currently, the pump sump area is always submerged, requiring divers for any maintenance work and to remove fallen debris that could damage the pumps during operation. Construction of a gated weir or berm in the lake upstream of the pumps would isolate the pumps so they could be de-watered. A gravity bypass could be built around the pumping plant to continue the option of gravity flow into the San Joaquin River that currently passes through the below-base pump discharges. Replacement of aging flap gates at the pumping plant discharge is also needed. The aging gates do not open fully, causing additional head loss during pumping. There may be other pumping plant facilities that need to be improved as well.

The two existing slide gates at the terminus of the Harding Drain act in a single seating direction (only closed when San Joaquin River water level is higher than the drain). Gates capable of resisting both seating and unseating head are required for flexibility. With the installation of such gates, drain water could be conveyed to Gomes Lake any time of the year. For example, this would provide the ability to exercise the Gomes Lake pumps during the summer. The existing discharge pipes are corrugated metal and are aging and are in need of repair. Replacement or slip lining the pipes would extend the life of the structure. Other improvements are needed such as installation of trash racks at the culvert inlets.

Currently, there is vulnerability in the event of a pump outage during a flood. Gomes Lake has insufficient storage capacity to accommodate such an outage, and therefore there may be risk of flooding in such an event. It would be beneficial to increase the size of Gomes Lake to create sufficient storage capacity to handle one of the three pumps to be out for a 24-hour period. The original pumps are still used in the original pumping plant. Replacement of the old pumps with more efficient and higher capacity pumps would also provide reduced risk of flooding.

Unique Project Characteristics:

None specified.

Project Status:	Pre-planning
Project Cost:	$1,700,000
Project Timeframe:	1-5 years
Cost-sharing:	No opportunities identified to date.
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management and operations and maintenance.
Source of Project:	Turlock Irrigation District

Background Information:

None provided

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood risk management and operations and maintenance.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, Gomes Lake Joint Powers Authority.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

The cost of the project has not been determined, and cost-share partners have not been identified. However, it is anticipated that the Gomes Lake Joint Powers Authority has the resources to supply the local share on their own or through potential future partnerships. Still, the project was evaluated as "Medium," given that the funders will be local government and the local cost share is $20,000 or more.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

Improved flexibility in the operation of Gomes Lake and the Harding Drain may result in a reduction in the number of lives at risk.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Improvements to these facilities and the resultant increased flood management flexibility is expected to result in a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project would materially improve operations and maintenance at the local level. For example, maintenance at Gomes Lake would become much easier to complete if the pumps could be dewatered as proposed.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.

- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

Hydraulic and Channel Migration Studies

Project Lead: Stanislaus County Office of Emergency Services

Potential Project Partners:

RD 2091, Gomes Lake JPA, City of Modesto, City of Newman, City of Patterson

Short Project Description:

Two regional studies (mainstem San Joaquin River flood hydraulics and channel migration) and three focused hydraulic studies are needed to better inform flood management in the Mid SJR Region.

Long Project Description:

Two regional studies are required to advance flood management planning within the Mid SJR Region's planning area. First, updated baseline hydraulic analyses of flood conditions on the mainstem of the San Joaquin River in the Mid SJR Region's planning area are needed to inform site-specific studies of flood hazards and better identify flood hazard mitigation opportunities. The analyses will include a range of flood events, such as the 2-, 10-, 25-, 100-, and 200-year events and will largely or entirely rely on available models and hydrology as developed for the CVFPP. A report on this study will provide a regional evaluation of the level of performance of the flood management facilities and produce a set of recommendations for improvements and a strategy for pursuing them. Second, as a counterpart to the hydraulic analyses, a channel migration study within the same area will also be conducted to identify under current (baseline) conditions approximately where, and by what degree, channel movement is anticipated to occur, creating challenges and opportunities for flood management. The results of the channel migration study will be used to inform the recommendations in the hydraulic study.

These two regional studies will provide the backdrop for a set of three site-specific studies to address flood risks within the region. While the regional studies will not include all of the relevant information needed for the site-specific studies, they will provide key contextual information. The site-specific studies will include: 1) RDs 2091 and 2063, including the City of Modesto's wastewater treatment plant on Jennings Avenue and the Gomes Lake project; 2) the City of Patterson's wastewater treatment plant; and 3) the City of Newman's wastewater treatment plant. Each of these site-specific studies is described in further detail below.

The RD 2091/RD 2063 area contains considerable critical infrastructure (e.g., the Modesto wastewater treatment plant and Gomes Lake) and is the most highly populated area protected directly by project levees. The characteristics of flood flows that would occur in the event of a breach in either district need to be identified. There is the potential that RD 2091 is dependent on the RD 2063 levees for protection as well as on its own levee system. A breach in RD 2091 could also possibly cause flood waters to back into RD 2063 to some extent. The characteristics of flood flows from RD 2063 into RD 2091, and vice versa, also needs to be thoroughly understood in order to identify practical containment options and an effective flood fight plan for the districts. This study would include obtaining the current topography and bathymetry from new sources as needed to supplement existing datasets. The study report will include specific recommendations to reduce flood risks and inform an effective flood fight plan for the RDs.

Hydraulic studies for the Newman and Patterson Wastewater Treatment Plans (WWTPs) would confirm water elevations at which there is a significant threat to those facilities and the characteristics of flood water movement in the event that 1) water elevations rise above the eastern boundary fence line at the Patterson plant, or 2) either the Newman Wastewater Treatment Plant flood control levee or the Newman Wasteway embankment fails. This detailed information would allow development of better trigger levels for actions to protect infrastructure and better plans for maintaining service if either of these events were to occur.

Current and planned studies completed by DWR under the Central Valley Flood Protection Plan (CVFPP) and other programs should be accessed initially for information relevant to the above issues. Any current relevant information generated by those studies can be used as a starting point for the studies described above.

Unique Project Characteristics:

None specified.

Project Status:	Pre-planning
Project Cost:	$200,000
Project Timeframe:	1-5 years
Cost-sharing:	Undetermined
Multi-benefit Project:	Yes
Types of benefits:	The project would contribute to our understanding of flood risk and, therefore, would help to improve flood risk management.
Source of Project:	The project was an outcome of the emergency response technical memorandum prepared by the Mid SJR RFMP project team. Stakeholders participating in workshops during the fall of 2013 also suggested that this project be considered.

Background Information:

None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would contribute to our understanding of flood risk and, therefore, would help to improve flood risk management.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, Stanislaus County Office of Emergency Services.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

The cost of the project has not been determined, and cost-share partners have not been identified. However, it is anticipated that the Stanislaus County Office of Emergency Services has the resources to supply the local share on their own or through potential future partnerships. Still, the project was evaluated as "Medium," given that the funders will belocal government and the local cost share is $20,000 or more.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

If flood risks are better understood, the proposed study may contribute to reducing the number of lives at risk.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

If flood operations improve as a result of better understanding of flood risks, and/or flood risk reduction actions are identified in the proposed study and subsequently implemented, the value of assets at risk is expected to be reduced at a locally-significant level or better.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

If flood operations can be improved as a result of better understanding of flood risks, this project will enhance their efficiency and effectiveness. This is expected to occur at least at a locally-significant level.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.

- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

Integrated Levee Vegetation Management – Flood Maintenance and Habitat

Project Lead: River Partners

Potential Project Partners:

Funding partners - WCB, DWR, USBR, NRCS; landowners; RDs; environmental NGOs; technical experts - as needed

Short Project Description:

This project includes re-establishing appropriate vegetation on levee slopes to promote terrestrial wildlife survival during floods – either native sod on active levees or native brush vegetation on inactive levees (RDs 2099, 2100, 2102, and 2092 in the future).

Long Project Description:

Since 2002, wildlife researchers at the Endangered Species Recovery Program at CSU Stanislaus have been working with landowners and other stakeholders to identify habitat management and restoration activities that can contribute to the recovery of terrestrial riparian species in the region including riparian brush rabbit and riparian wood rat. Levees in the region provide crucial high-ground refugia for such wildlife during flood events. Vegetation on levees in the region is currently not managed to facilitate levee use during floods for wildlife survival and post-flood recovery. On levees that have been or will be removed from the federal project, brushy vegetation can be re-established on the levees through a three-year restoration project and live trapping has shown that these efforts are successful for wildlife recovery. On levees that must continue to pass state and federal inspections/maintenance requirements, native grass sod has been shown to provide marginal habitat that can act as a movement corridor for terrestrial species during flood events. This project includes re-establishing appropriate vegetation on levee slopes to promote terrestrial wildlife survival during floods – either native sod on active levees, or native brush vegetation on inactive levees (RDs 2099, 2100, 2102, and 2092 in the future).

Unique Project Characteristics:

Once established, the vegetation proposed for levee slopes requires very low maintenance. On inactive levees, the vegetation is left alone after the initial 3-year establishment period. On active levees, maintenance requirements can be reduced to mowing once per year to facilitate spring inspections. Native sod promotes erosion control on levee slopes as well as wildlife usage, thus this is a multi-benefit project. On private lands, this project will require consultation with the wildlife agencies regarding future levee vegetation maintenance.

Project Status:	Planning
Project Cost:	$6,400,000
Project Timeframe:	1-5 years
Cost-sharing:	Varies: Some costs for levee vegetation management may be eligible for funding from local, state or federal grant programs.
Multi-benefit Project:	Yes
Types of benefits:	The project would improve operations and maintenance; promote ecosystem functions; improve institutional support; and promote multi-benefit projects.
Source of Project:	River Partners

Background Information:

Check next CNGA Grasslands Journal; Various technical reports from ESRP – please request from River Partners.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve operations and maintenance; promote ecosystem functions; improve institutional support; and promote multi-benefit projects.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

Over 8 miles of levees on the San Joaquin River National Wildlife Refuge have already been planted in brushy vegetation or native grasses. Funding was provided for that work from multiple sources including the United States Fish and Wildlife Service, Central Valley Regional Water Quality Control Board, CalFed, United States Bureau of Reclamation, and California Department of Water Resources (riparian brush rabbit mitigation). A standing application has been accepted for additional funding from the CVRWQCB as a Supplemental Environmental Project eligible for funding from water quality violations.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

Several funding partners have been identified, and it is anticipated that River Partners would be able to fundraise to meet the local cost share. The project has demonstrated success in fundraising for 8 miles of levee vegetation since 2006, and there is one funding application pending with the Central Valley Regional Water Quality Control Board. Still, the project was evaluated as "Medium," given that the cost of implementing the project throughout the region is relatively high.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

N/A

No benefits identified.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

N/A

No benefits identified.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

Proposed actions may reduce maintenance costs and help to stabilize levees, resulting in less erosion. If implemented on a regional scale, the project could have regionally-significant benefits.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

High

The project is consistent with draft BWFS/CS objectives metric 7a, Threatened and Endanered Target Species, under metric 7, Species - Contribute to the recovery and stability of native species populatons and overall biotic community diversity. It is also consistent with the Recovery Plan for Upland Species of the San Joaquin Valley.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

If implemented on a regional scale, the project could have material and regionally significant aesthetic benefits.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits have been identified.

La Grange Floodplain Restoration and Spawning Gravel Augmentation

Project Lead: Tuolumne River Trust

Potential Project Partners:

Stanislaus County Parks and Recreation

Short Project Description:

Restore 77 acres of degraded floodplain habitat along the Tuolumne River in La Grange while developing a source of spawning gravel to improve and enhance existing spawning beds in the Tuolumne River.

Long Project Description:

The floodplain in the project area was heavily altered by gold dredging operations in the 1930's-1950's and has never recovered. As a result of the gold dredging, the floodplain has become armored and it supports little riparian vegetation. Additionally, the floodplains adjacent to the rivers are artificially elevated and disconnected from the channel. Coupled with the heavily altered flow regime, the gravels are rarely, if ever, activated, thus they provide no benefit to spawning salmonids. Meanwhile, the in-channel spawning beds are heavily degraded because they cannot be replenished through normal geomorphic processes because of the sediment-blocking of Don Pedro and La Grange Dams. Through this project, we will harvest gravels from the floodplain and place them in the spawning riffles, while simultaneously lowering and revegetating the floodplain.

Stanislaus County presently owns approximately 200 acres of Tuolumne River floodplain near the town of La Grange. The land extends from approximately RM 49.2 - 50.6 on the south bank and from RM 49.9 - RM 50.6 on the north bank. This is a proposal to undertake a project on about 77 acres out of the 200 acres of county land. The project is floodplain and riparian restoration to recreate a more natural environment for the benefit of riparian species, San Joaquin fall-run Chinook salmon, and steelhead. The project will improve riparian habitat along the lower Tuolumne River, and improve chinook salmon and steelhead spawning and rearing habitat. The following goals will be met by implementing this project: recovery of at-risk native species (Central Valley steelhead and Central Valley fall-run Chinook salmon), restoration of fish spawning and rearing habitat, rehabilitation of natural channel-floodplain processes, and rehabilitation of native riparian habitat. The goal of this project is to improve the functionality of the Tuolumne River floodplain and channel to provide riparian habitat to support riparian species and San Joaquin fall-run Chinook salmon and steelhead trout. The primary objectives for the restoration project are: a. Restore functional floodplains that allow inundation at a greater frequency and reduce risks of juvenile salmonid stranding. b. Restore native riparian vegetation by preserving existing native vegetation and planting the appropriate species on restored surfaces inundated by the contemporary hydrologic regime. c. Exclude trespassing cattle from the county property by building fences. d. Build a loop trail consistent with the restoration project to improve recreational access and utility.

Unique Project Characteristics:

None specified

Project Status:	Pre-planning
Project Cost:	$1,500,000
Project Timeframe:	1-5 years
Cost-sharing:	No opportunities identified to date
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management, promote ecosystem functions, and promote multi-benefit projects.

Source of Project: East Stanislaus Integrated Regional Water Management Partnership

Background Information:
East Stanislaus Integrated Regional Water Management Partnership website: http://www.eaststanirwm.org/

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management, promote ecosystem functions, and promote multi-benefit projects.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, the Tuolumne River Trust.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

The Tuolumne River Trust does not have the resources to carry out the project or supply the local cost share. No potential funding partners have been identified. The project was evaluated as "Medium," given that the project is being championed by an NGO and the local cost share is $20,000 or more.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

The proposed floodplain rehabilitation is expected to reduce flood risk and may reduce loss of life in adjacent areas.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

The proposed floodplain rehabilitation is expected to create a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

High

The project is consistent with CVFPP metrics 5a, Inundated Floodplain, and 5b, Riverine Geomorphic Processes, under metric 5, Ecosystem Processes - Improve and enhance natural dynamic hydrologic and geomorphic processes; metrics 6a, Shaded Riparian Aquatic (SRA) Cover, 6b, Riparian, under metric 6, Habitats - Increase and improve quantity, diversity, quality, and connectivity of riverine aquatic and floodplain habitats; and metric 7, Species - Contribute to the recovery and stability of native species populations and overall biotic community diversity, for Central Valley steelhead and Central Valley fall-run Chinook salmon.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project would materially increase water quality, recreation and groundwater recharge at a locally-significant scale.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The score is "High" because the provision of this type of ecosystem benefit at this magnitude could occur at a cost that is low relative to similar projects.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No significant dis-benefits are anticipated. A minor reduction in the tax base is an expected dis-benefit. While the property is currently subject to a lower tax rate through a Williamson Act contract, the property value is expected to descrease after project implementation, which would reduce the property tax collected.

Little Salado Creek

Project Lead: Stanislaus County

Potential Project Partners:

USACE

Short Project Description:

Construction of a project to partially divert, retain, and percolate up to 1,030 cubic feet per second (cfs) of flow from Little Salado Creek.

Long Project Description:

The County proposes to place the portion of Salado Creek that traverses the 1,532-acre former Crows Landing Air Facility in an underground conveyance. The existing channel conveyance capacity will need to be upgraded to convey the calculated design storm runoff flows. This can be achieved by upsizing the existing underground channel sections and creating new underground conveyances that will replace and exceed the capacity aboveground conveyances. Three segments of the creek would be placed underground:

• An approximately 4,000 foot segment of the creek that extends northeast from the culvert beneath the Delta Mendota Canal at Davis Road to the culvert on the south side of Runway 11-29;

• An approximately 1,300-foot segment of the creek that extends from the north side of runway 11-29 to the west side of Runway 16-34; and

• An approximately 5,800-foot segment of the creek that extends from the east side of runway 16-34 to the existing 24-inch diameter drain pipe at Marshall Road.

The County has considered options that would allow the creek to remain aboveground within its project boundaries, but open channels would not be considered compatible with its plans to reuse airport pavements for the development of a general aviation facility. Federal Aviation Administration (FAA) guidance at Advisory Circular 150/5200-33B, "Wildlife Hazard Attractants on and Near Airports" warn against the creation of open water or wet areas that support wildlife habitat within 10,000 feet of aircraft movement areas. The 1,532-acre site does not provide sufficient area to accommodate FAA's advised separation. The County does intend to incorporate a groundwater recharge component into the project through the use of perforated pipe in the segments listed above or several other potential methods. The design of the proposed conveyances will be developed following additional hydrological studies.

Unique Project Characteristics:

None specified

Project Status:	Planning
Project Cost:	$5,000,000
Project Timeframe:	1-5 years
Cost-sharing:	Stanislaus County, USACE and State for construction; Stanislaus County for maintenance. County may form a Benefit Assessment District for maintenance,; and a local levee district may be formed to operate and maintain flood control portions of the project.
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management and provide groundwater recharge, making it a multi-benefit project.

Source of Project: Stanislaus County

Background Information:

The Storm Drainage Water Quality Master Plan was prepared in 2007 for the West Park development provides background information on flows from Little Salado Creek in the project area. The existing study area, consists primarily of agricultural lands and the former Crows Landing Naval Air Facility. The following paragraphs are based or were taken from the 2007 storm drainage master plan.

As illustrated in Figure 2.0, bBoth the Delta-Mendota Canal (DMC) and the California Aqueduct (CAQ) traverse the study area, with the DMC acting as a natural drainage boundary because water cannot flow from one side to the other without being intercepted by the canal. The DMC facility has historically been used for both irrigation and for drainage purposes. The DMC splits the study area roughly down the middle, creating westerly and easterly drainage subareas. The only connection for the two drainage areas is at the Little Salado Creek double box culvert crossing beneath the DMC.

Storm runoff from the Little Salado Creek watershed and west of the CAQ enters the pProject area from across both Interstate 5 and the CAQ, via two 78-inch diameter pipes, which then open out into a control structure just east of the CAQ. From that point, runoff then enters a 24-inch diameter pipe, which runs east toward the DMC. Just before reaching the DMC, the 24-inch pipe terminates into an open ditch that drains towards and through the double box culverts crossing beneath the DMC. On the east side of the DMC, the box culverts drain out into an open channel ditch that continues in a northeasterly direction toward the low point at the intersection of State Route 33 and Marshall Road. Along the way to this discharge point, it crosses beneath anthe Aairfield through multiple culverts. On the east side of the DMC, Little Salado Creek serves as a tailwater irrigation drain ditch for the surrounding agricultural fields. At its terminus discharge point from the Project site, wWater drains through a 24-inch diameter drain pipe that flows east along Marshall Road for about 4.5 miles to its final discharge point at the San Joaquin River.

Salado Creek enters the pProject area at the proposed northwest boundary just north of the intersection of Oak Flat Road and Interstate 5, just south of the proposed stormwater quality detention basin. Storm runoff west of the CAQ crosses over the Aqueduct via an open box culvert overchute and then continues north by means of an open channel until it reaches the DMC. At the DMC, it crosses over the canal via another open box culvert overchute which then drains into an open channel that flows toward the City of Patterson. Also, at the upstream side of the DMC are three recently constructed 60-inch diameter overflow pipes that discharge excess storm runoff directly into the DMC (see photographs below of both overchutes at the CAQ and DMC). From the information gathered thus far, it is not known what flood analysis studies were completed for Salado Creek with these spillover pipes. The limits of this study are outside the scope to evaluate in more detail the impacts of the spill over pipes on Salado Creek. More detailed hydraulic and hydrologic analysis will need to be explored in subsequent reports.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.

- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood risk management and groundwater recharge, making it a multi-benefit project.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The project is a priority of Stanislaus County and part of a larger project that is on track for implementation.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been

identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

The project was evaluated as "Medium," given that the champion is Stanislaus County and the local cost share is $20,000 or more.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

The project would improve flood risk management and, therefore, may reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

The project would result in a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.

- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project includes a groundwater recharge component, the details of which are still being defined. The project would result in at least a locally-significant improvement in groundwater recharge, and a score of "Medium" is assigned. Depending on the scale of the groundwater component, there could be a regionally-significant level.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

Modesto WWTP - Reduce Flood Risk

Project Lead: City of Modesto

Potential Project Partners:

No partners identified at this time

Short Project Description:

Develop and evaluate potential solutions to existing flood hazards at the Modesto Sutter and Jennings WWTPs, including completion of two studies (Sutter Plant Relocation Feasibility Study and a Wastewater Treatment Facilities Master Plan) that are currently in process, and implement the preferred alternative.

Long Project Description:

The City of Modesto's wastewater treatment facilities span two locations and both are situated within 100-year floodplains, one on the Tuolumne River and one on the San Joaquin River. The City is currently engaged in reconnaissance studies to identify long-term options for the facilities, potentially including consolidation of both plants at the Jennings Facility site. While a preferred project alternative has not been developed or identified, any scenario for their operations will incorporate components or design considerations to reduce flood risks at the facility or facilities.

This project would encompass the design and construction of at least the flood risk reduction features of the proposed project, which could include relocation of the Sutter Plant or portions thereof. This description assumes that the flood risk reduction components will be sufficiently separable to allow funding to be sought for specific project features with a flood risk reduction focus.

Unique Project Characteristics:

None specified

Project Status:	Pre-planning
Project Cost:	$80,000,000
Project Timeframe:	Undetermined
Cost-sharing:	No opportunities identified to date.
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management. As the project would protect water quality in the event of a flood event, it is considered consistent with the supporting objective of promoting multi-benefit projects. It is possible that flood risk reduction features identified in the reconnaissance studies that are currently underway would improve operations and maintenance, promote ecosystem functions, and/or improve institutional support.
Source of Project:	City of Modesto

Background Information:

None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood risk management. As the project would protect water quality in the event of a flood event, it is considered consistent with the supporting objective of promoting multi-benefit projects. It is possible that flood risk reduction features identified in the reconnaissance studies that are currently underway would improve operations and maintenance, promote ecosystem functions, and/or improve institutional support. However, because the flood risk reduction features are not yet defined, the score reflects only the flood risk management and multi-benefit project goals.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

Feasibility studies are currently underway. While not yet complete, the actions that are identified are expected to be those that are deemed feasible.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Low

The City of Modesto does not currently have the resources to implement the actions that will come out of the reconnaissance study process. The cost of those actions has not been determined, and potential cost-share partners have not been identified. The project was evaluated as "High," given that the funders will be local government and the local cost share is anticipated to be $500,000 or more.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Medium

As personnel are expected to be present at the site during floods, reduction of flood risk there is anticipated to reduce the risk of loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

The project is expected to create a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

Material, locally-significant water quality and economic stability benefits are anticipated as a result of implementing flood risk reduction actions identified through the reconnaissance studies.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be

assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

Orestimba Creek Flood Risk Management Project

Project Lead: Stanislaus County

Potential Project Partners:

City of Newman, Orestimba Creek Flood Control District, USACE

Short Project Description:

Construction of a 4.7-mile chevron levee along east bank of Central California Irrigation District (CCID) Main Canal and a 1-mile cross levee to reduce flood risk to Newman and adjacent agricultural areas, providing a 200-year level of protection. The chevron levee would include 3 feet of freeboard above the mean 200-year water surface elevation.

Long Project Description:

The chevron levee would be constructed parallel to the east bank of the CCID Main Canal. Starting at the Newman Wasteway, the levee would continue north to a location near Lundy Road, at which point the levee alignment would angle diagonally away from the canal toward the northeast for another 0.7 miles to tie in to the CNRR embankment near an existing culvert. This existing culvert would function to reduce the frequency and duration of floodwater ponding on the north side of the levee. The levee would also extend an additional 35 feet east of the CNRR embankment to ensure that floodwaters do not flank the proposed levee. The levee would be approximately 4.7 miles in total length. The proposed levee is higher than roadway elevations at four crossing locations, and a gap in the top portion of the levee is required to meet highway vertical curve safety standards. A slotted abutment would be constructed in the levee on each side of these roadways. During a flood event, stop logs would be placed into the slotted abutments across the roadways. When installed, the stop log structure would be approximately 1 to 3 feet high and would prevent floodwaters from flowing through the gap. This would not interfere with traffic because the roadway to the west of the structure would be flooded when the stop logs were in place. The stop-log closure structures would be located at four locations where existing roads cross the proposed levee alignment. These road crossings include Shells Road, Draper Road, Orestimba Creek Road, and Stuhr Road. Another gate closure would be constructed where the levee crosses the CNRR railroad embankment. The proposed levee is higher than the railway and a gap in the top portion of the levee is required to prevent interference with the levee grade. An abutment would be constructed in the levee on each side of the railway. During a flood event, floodgates hinged on the abutment would be closed across the railway. When installed, the swing gate structure would be approximately 2 to 3 feet high and would prevent floodwaters from flowing through the gap. This would not interfere with railway traffic because the railway north of the levee would be flooded when the swing gate structure was in place.

Where the levee crosses State Highway 33, the highway would be raised to meet levee design elevations. Highway 33 would be raised over an additional 2000 foot length to account for longer vertical curves necessary to go over the higher levee. Another component of the levee is a seepage berm. The proposed project would also include a railroad embankment protection plan. During small flood events and localized rainfall events, Orestimba Creek floodwater or local runoff would be conveyed to the east side of the railroad embankment through existing drainage culverts. However, the railroad would be overtopped during a large flood event. To mitigate for this condition, the east side of the railroad embankment would require a sand filter and be lined with rock revetment to prevent erosion. Approximately 10 culverts under the CNRR embankment would be extended to accommodate the seepage embankment and erosion protection. New upstream and downstream headwalls would be constructed at each culvert. The railroad embankment protection plan begins where the proposed levee crosses the railroad and ends where the railroad crosses Orestimba Creek. The distance is approximately 2 miles.

Stanislaus County has three low water crossings of Orestimba Creek that are closed every year during normal precipitation. The three low water crossings of Orestimba Creek from west to east are Bell Road, Jorgensen Road, and Eastin Road. Bell Road is the most westerly road and has automatic gates that drop when there is water on the road. This location does not incur as many stranded vehicles as the other two and not resulted in a fatality. The Bell Road crossing is a much shallower crossing than the other two as it does not drop as far down into the creek bottom as the other two crossings due to 3 culverts at low flow channel elevation. The low water crossing at Jorgensen Road has automatic gates that drop when there is water on the road. The channel profile at this location has a much more defined river channel that is approximately 8 to 10 feet lower than the existing top of bank elevation. Jorgensen Road does not have culverts and so any flows here flow over the road. Jorgensen Road has not had fatalities, however, Stanislaus County Public Works has had many dozens of vehicles in the last 20 years try to cross here and subsequently get stranded while Orestimba Creek is flowing. The low water crossing at Eastin Road is the most heavily traveled of the three low water crossings. This location has automatic gates that drop when there is water on the road. This location does have a 24" diameter culvert that carries a minimal amount of water under the road at the low flow condition. This location floods approximately up to 5 feet above the crown of the road. Stanislaus County has had 2 fatalities at this location due to people leaving their stranded vehicles and getting swept downstream in the flood.

Unique Project Characteristics:

None specified

Project Status:	Planning
Project Cost:	$44,000,000
Project Timeframe:	1-5 years
Cost-sharing:	Federal contribution of $23,230,000 with non-federal contribution of $21,100,000
Multi-benefit Project:	Yes
Types of benefits:	This project would reduce flood risk in the near term by providing protection against the 200-year flood. Note: It may lead to greater future flood risk if further development in the floodplain is spurred by its implementation. The project would also improve institutional support.
Source of Project:	USACE

Background Information:

Orestimba Creek Flood Risk Management Draft Feasibility Report and EA/IS - http://173.254.66.117/news-and-information/e-docs.html (see document list under Public Works)

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."

- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

This project would reduce flood risk in the near term by providing protection against the 200-year flood. Note: It may lead to greater future flood risk if further development in the floodplain is spurred by its implementation. The project would also improve institutional support.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The feasibility of the project has been evaluated in a document prepared by the United States Army Corps of Engineers (USACE).

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been

identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Low

The estimated $21.1 million local cost share of the total project cost to be born by local government is relatively high -- greater than $500,000, and the project is therefore evaluated as having "Low" financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Medium

At least one death has occurred as a result of flooding on Orestimba Creek. The project would protect portions of the City of Newman that are currently in the 100-year floodplain.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Medium

According to the USACE feasibility study, the project is expected to improve flood risk in the City of Newman and surrounding agricultural areas, which is considered regionally-significant. The USACE analysis estimates annual benefits of $3.128 million.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified. The project would add flood management facilities and, therefore, would add to operations, maintenance, and repair requirements. This is noted under RC-10.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.

- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project will improve institutional support at a locally-significant level, per the emergency planning and response components of the project.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

A benefit: cost ratio of 1.34 has been estimated for the Tentatively Recommended Plan; this is anticipated to fall in the mid-range of the projects considered.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The USACE EIR/EIS suggests that there will be no significant dis-benefits, but there will be an increase in operations, maintenance, and repair requirements as a result of the project; this is anticipated to fall in the mid-range of the projects considered.

Patterson WWTP – Reduce Flood Risks

Project Lead: City of Patterson

Potential Project Partners:

No partners identified at this time

Short Project Description:

Develop and evaluate potential solutions to existing flood hazards at the City of Patterson WWTP.

Long Project Description:

There is limited information available concerning the extent of flooding that occurs at or near the City of Patterson Waste Water Treatment Plant (WWTP) located along the San Joaquin River. Further study is needed to understand if the existing berm system surrounding the WWTP is adequate to control flooding or if the berms are of adequate size or length to control the seasonal flooding. A review of the limits of the flooding around the WWTP is needed. Specifically, the site should be surveyed to determine the size and heights of embankments, and high water elevations should be determined and whether they could affect operation of the WWTP. If inadequate, design solutions will be recommended which may include extending the embankments, increasing the height of the existing embankments or if the current system is adequate recommend no action.

In the screening- and ranking-level assessments, it is assumed that the items identified in the proposed study would be implemented and, therefore, the anticipated benefits would be realized. The only exception is the cost-effectiveness criterion, RC-9, where only the cost and benefit of the study can be compared because the costs for the action items that would come out of the study can't be estimated until the study is complete.

Unique Project Characteristics:

None specified

Project Status:	Pre-planning
Project Cost:	$27,000
Project Timeframe:	Undetermined
Cost-sharing:	No opportunities identified to date
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management. As the project would protect water quality in the event of a flood event, it is considered consistent with the supporting objective of promoting multi-benefit projects.
Source of Project:	City of Patterson

Background Information:

None provided

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood risk management. As the project would protect water quality in the event of a flood event, it is considered consistent with the supporting objective of promoting multi-benefit projects.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, the City of Patterson.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

Given the importance of the WWTP facilities to the urban area of Patterson and the magnitude of the tax base as well as the relatively modest cost of the project, it is anticipated that local funding for the project or a local cost share requirement can be met.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

As personnel are expected to be present at the site during floods, reduction of flood risk there is anticipated to potentially reduce the risk of loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.

- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

This project is expected to provide at least locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified. The project would add flood management facilities and, therefore, would add to operations, maintenance, and repair requirements. This is noted under RC-10.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

At least minimum, locally-significant modest water quality and economic stability benefits may are expected to accrue as a result of implementing any flood risk reduction actions that may be identified through this study and subsequently implemented.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.

- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RD 1602 Resilience

Project Lead: RD 1602

Potential Project Partners:

CVFPB - permitting, technical assistance; landowners - funding, governance; DWR - funding, technical assistance; USACE - small role in emergency response, possibly funding for repairs; Stanislaus County - oversees district governance and financing; engineering firms, environmental firms, other technical experts as needed.

Short Project Description:

Complete the necessary repairs and upgrades to bring RD levee system back into "Active" status for PL84-99 eligibility.

Long Project Description:

Many of the reclamation districts (RDs) in the planning area have been unable to maintain levees to United States Army Corps of Engineers (USACE) standards because they lacked the funding and staff to complete necessary repairs. As a result, these RDs no longer have "Active" status per the PL84-99 eligibility requirements.

This project would address the current deficiencies of the levees under the jurisdiction of RD 1602 including completion of the necessary repairs and upgrades to bring the levee system back into "Active" status for PL84-99 eligibility. Necessary actions can be found in RD inspection reports from 2013 – all "U" ratings need to be fixed immediately and all "M" ratings need to be fixed within 2 years or less. Actions listed in the inspection reports vary by RD, but generally include:

- structural repairs to levees, pumps, or other facilities
- removal of unpermitted encroachments (i.e. structures, fences, pipes, etc.)
- researching and negotiating encroachment permits for previously unpermitted encroachments
- improved fund-raising capacity for needed O&M
- improved technical capacity to perform necessary O&M (i.e. visual inspections of pipes, rodent control, erosion repairs, emergency road access, etc.)
- development of Emergency Response Plan for the RD
- establishment of Board of Trustees or maintenance agreement with another local agency(ies)
- others as needed

Specific deficiencies identified in the 2013 inspection report for RD 1602 include the following:

"U" rated items –

- Animal Control

"M" rated items –

- 1.68 miles of vegetation issues
- Encroachments
- 0.04 miles of slope stability concerns

The USACE Interim Policy for Determining Eligibility Status of Flood Risk Management Projects for the Rehabilitation Program Pursuant to PL 84-99 (Interim Policy) went into effect on March 21, 2014 and temporarily suspends PL 84-99 eligibility determinations, including generally excluding levee vegetation condition requirements. The Interim Policy allows for districts to make eligibility determinations based on a subset of items from the full inspection list. The path to regaining Active Status is through the USACE System-Wide Improvement Framework Policy (SWIF), which requires that the districts present a plan to address the deficiencies identified.

Unique Project Characteristics:

Varies – may include incorporation of environmental, water supply, or other secondary benefits to the region.

Project Status:	Pre-planning
Project Cost:	$4,700,000
Project Timeframe:	1-5 years
Cost-sharing:	Some costs may be eligible for funding from local, state or federal grant programs – likely requires active Reclamation District with Trustees and financial oversight from the County.
Multi-benefit Project:	Potentially
Types of benefits:	The project would improve flood risk management; operations and maintenance; and institutional support.
Source of Project:	RD 1602

Background Information:

Maintenance reports; Inspection Reports; Maintenance Agreement with CVFPB; USACE O&M Manual.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management; operations and maintenance; and institutional support.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, RD 1602.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Low

RD 1602 does not have the resources to fund the project or the local cost share, and the project cost is greater than the anticipated size of the assessment potential within the District over the next 30 years.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

Improvements to levees and other infrastructure, emergency response, and operations and maintenance may reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Improvements to levees and other infrastructure, emergency response, and operations and maintenance are expected to result in a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project is expected to materially improve operations and maintenance at a local level.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project is expected to materially improve institutional support at a local level.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.

- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

Improved protection for assets within RD 1602 is expected to result in a material increase in economic benefits at a locally-significant scale.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Low

The score is "Low" because the project cost is high relative to the assets that would be protected by it.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

RD 2031 Resilience

Project Lead: RD 2031

Potential Project Partners:

CVFPB - permitting, technical assistance; landowners - funding, governance; DWR - funding, technical assistance; USACE - small role in emergency response, possibly funding for repairs; Stanislaus County - oversees district governance and financing; engineering firms, environmental firms, other technical experts as needed

Short Project Description:

Complete the necessary repairs and upgrades to bring RD levee system back into "Active" status for PL84-99 eligibility.

Long Project Description:

Many of the reclamation districts (RDs) in the planning area have been unable to maintain levees to United States Army Corps of Engineers (USACE) standards because they lacked the funding and staff to complete necessary repairs. As a result, these RDs no longer have "Active" status per the PL84-99 eligibility requirements.

This project would address the current deficiencies of the levees under the jurisdiction of RD 2031 including completion of the necessary repairs and upgrades to bring the levee system back into "Active" status for PL84-99 eligibility. Necessary actions can be found in RD inspection reports from 2013 – all "U" ratings need to be fixed immediately and all "M" ratings need to be fixed within 2 years or less. Actions listed in the inspection reports vary by RD, but generally include:

- structural repairs to levees, pumps, or other facilities
- removal of unpermitted encroachments (i.e. structures, fences, pipes, etc.)
- researching and negotiating encroachment permits for previously unpermitted encroachments
- improved fund-raising capacity for needed O&M
- improved technical capacity to perform necessary O&M (i.e. visual inspections of pipes, rodent control, erosion repairs, emergency road access, etc.)
- development of Emergency Response Plan for the RD
- establishment of Board of Trustees or maintenance agreement with another local agency(ies)
- others as needed

Specific deficiencies identified in the 2013 inspection report for RD 2031 include the following:

"U" rated items –

- Animal Control

"M" rated items –

- Vegetation issues
- Tree trimming
- Encroachments

• 0.03 miles of erosion issues

• 0.07 miles of surface depression issues

The USACE Interim Policy for Determining Eligibility Status of Flood Risk Management Projects for the Rehabilitation Program Pursuant to PL 84-99 (Interim Policy) went into effect on March 21, 2014 and temporarily suspends PL 84-99 eligibility determinations, including generally excluding levee vegetation condition requirements. The Interim Policy allows for districts to make eligibility determinations based on a subset of items from the full inspection list. The path to regaining Active Status is through the USACE System-Wide Improvement Framework Policy (SWIF), which requires that the districts present a plan to address the deficiencies identified.

Unique Project Characteristics:

Varies – may include incorporation of environmental, water supply, or other secondary benefits to the region.

Project Status:	Pre-planning
Project Cost:	$2,000,000
Project Timeframe:	1-5 years
Cost-sharing:	Some costs may be eligible for funding from local, state or federal grant programs – likely requires active Reclamation District with Trustees and financial oversight from the County.
Multi-benefit Project:	Potentially
Types of benefits:	The project would improve flood risk management; operations and maintenance; and institutional support.
Source of Project:	RD 2031

Background Information:

Maintenance Reports; Inspection Reports; Maintenance Agreement with CVFPB; USACE O&M Manual.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management; operations and maintenance; and institutional support.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is ”Medium” because the project has been developed as a concept, has a description, and identified lead, RD 2031.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as “Low” if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for “Low” or “High” Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored “High” if it has been successful in attracting most of the needed funding already.

High

RD 2031 is expected to have the resources to fund the local cost share, as that is expected to be less than two years' worth of the hypothetical benefit potential within the District.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

While improvements to levees and other infrastructure, emergency response, and operations and maintenance may improve as a result of this project, the risk of loss of life in the area protected by these levees is extremely low due to the lack of residences and small number of people typically exposed to flood hazards on these lands.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Improvements to levees and other infrastructure, emergency response, and operations and maintenance are expected to result in a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.

- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project is expected to materially improve operations and maintenance at a local level.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project is expected to materially improve institutional support at a local level.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

Improved protection for assets within RD 2031 would result in a material increase in economic benefits at a locally-significant scale.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

RD 2063 Resilience

Project Lead: RD 2063

Potential Project Partners:

CVFPB - permitting, technical assistance; landowners - funding, governance; DWR - funding, technical assistance; USACE - small role in emergency response, possibly funding for repairs; Stanislaus County - oversees district governance and financing; engineering firms, environmental firms, other technical experts as needed.

Short Project Description:

Complete the necessary repairs and upgrades to bring RD levee system back into "Active" status for PL84-99 eligibility.

Long Project Description:

Many of the reclamation districts (RDs) in the planning area have been unable to maintain levees to United States Army Corps of Engineers (USACE) standards because they lacked the funding and staff to complete necessary repairs. As a result, these RDs no longer have "Active" status per the PL84-99 eligibility requirements.

This project would address the current deficiencies of the levees under the jurisdiction of RD 2063 including completion of the necessary repairs and upgrades to bring the levee system back into "Active" status for PL84-99 eligibility. Necessary actions can be found in RD inspection reports from 2013 – all "U" ratings need to be fixed immediately and all "M" ratings need to be fixed within 2 years or less. Actions listed in the inspection reports vary by RD, but generally include:

- structural repairs to levees, pumps, or other facilities
- removal of unpermitted encroachments (i.e. structures, fences, pipes, etc.)
- researching and negotiating encroachment permits for previously unpermitted encroachments
- improved fund-raising capacity for needed O&M
- improved technical capacity to perform necessary O&M (i.e. visual inspections of pipes, rodent control, erosion repairs, emergency road access, etc.)
- development of Emergency Response Plan for the RD
- establishment of Board of Trustees or maintenance agreement with another local agency(ies)
- others as needed

Specific deficiencies identified in the 2013 inspection report for RD 2063 include the following:

"U" rated items –

- Erosion / Bank Caving

"M" rated items –

- 0.14 miles of vegetation issues
- Tree trimming
- Animal control

- Encroachments
- ER preparadness / training

The USACE Interim Policy for Determining Eligibility Status of Flood Risk Management Projects for the Rehabilitation Program Pursuant to PL 84-99 (Interim Policy) went into effect on March 21, 2014 and temporarily suspends PL 84-99 eligibility determinations, including generally excluding levee vegetation condition requirements. The Interim Policy allows for districts to make eligibility determinations based on a subset of items from the full inspection list so that the focus remains on the levees in the worst condition first. The path to regaining Active Status is through the USACE System-Wide Improvement Framework Policy (SWIF), which requires that the districts present a plan to address the deficiencies identified.

Unique Project Characteristics:

Varies – may include incorporation of environmental, water supply, or other secondary benefits to the region.

Project Status:	Pre-planning
Project Cost:	$3,500,000
Project Timeframe:	1-5 years
Cost-sharing:	Some costs may be eligible for funding from local, state or federal grant programs – likely requires active Reclamation District with Trustees and financial oversight from the County.
Multi-benefit Project:	Potentially
Types of benefits:	The project would improve flood risk management; operations and maintenance; and institutional support.
Source of Project:	RD 2063

Background Information:

Maintenance reports; Inspection Reports; Maintenance Agreement with CVFPB; USACE O&M Manual.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management; operations and maintenance; and institutional support.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is ”Medium” because the project has been developed as a concept, has a description, and identified lead, RD 2063.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as “Low” if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for “Low” or “High” Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored “High” if it has been successful in attracting most of the needed funding already.

High

RD 2063 is anticipated to be able to cover the local cost share, as that is expected to be less than one years' worth of the hypothetical benefit potential within the District.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

Improvements to levees and other infrastructure, emergency response, and operations and maintenance may reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Improvements to levees and other infrastructure, emergency response, and operations and maintenance are expected to result in a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project is expected to materially improve operations and maintenance at a local level.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project is expected to materially improve institutional support at a local level.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

Improved protection for assets within RD 2063 would result in a material increase in economic benefits at a locally-significant scale.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

RD 2091 Resilience

Project Lead: RD 2091

Potential Project Partners:

CVFPB - permitting, technical assistance; landowners - funding, governance; DWR - funding, technical assistance; USACE - small role in emergency response, possibly funding for repairs; Stanislaus County - oversees district governance and financing; engineering firms, environmental firms, other technical experts as needed.

Short Project Description:

Complete the necessary repairs and upgrades to bring RD levee system back into "Active" status for PL84-99 eligibility.

Long Project Description:

Many of the reclamation districts (RDs) in the planning area have been unable to maintain levees to United States Army Corps of Engineers (USACE) standards because they lacked the funding and staff to complete necessary repairs. As a result, these RDs no longer have "Active" status per the PL84-99 eligibility requirements.

This project would address the current deficiencies of the levees under the jurisdiction of RD 2091 including completion of the necessary repairs and upgrades to bring the levee system back into "Active" status for PL84-99 eligibility. Necessary actions can be found in RD inspection reports from 2013 – all "U" ratings need to be fixed immediately and all "M" ratings need to be fixed within 2 years or less. Actions listed in the inspection reports vary by RD, but generally include:

• structural repairs to levees, pumps, or other facilities

• removal of unpermitted encroachments (i.e. structures, fences, pipes, etc.)

• researching and negotiating encroachment permits for previously unpermitted encroachments

• improved fund-raising capacity for needed O&M

• improved technical capacity to perform necessary O&M (i.e. visual inspections of pipes, rodent control, erosion repairs, emergency road access, etc.)

• development of Emergency Response Plan for the RD

• establishment of Board of Trustees or maintenance agreement with another local agency(ies)

• others as needed

Specific deficiencies identified in the 2013 inspection report for RD 2091 include the following:

"U" rated items –

• None

"M" rated items –

• Flood Preparadness & Training

The USACE Interim Policy for Determining Eligibility Status of Flood Risk Management Projects for the Rehabilitation Program Pursuant to PL 84-99 (Interim Policy) went into effect on March 21, 2014 and temporarily suspends PL 84-99 eligibility determinations, including generally excluding levee vegetation

condition requirements. The Interim Policy allows for districts to make eligibility determinations based on a subset of items from the full inspection list so that the focus remains on the levees in the worst condition first. The path to regaining Active Status is through the USACE System-Wide Improvement Framework Policy (SWIF), which requires that the districts present a plan to address the deficiencies identified.

Unique Project Characteristics:

Varies – may include incorporation of environmental, water supply, or other secondary benefits to the region

Project Status:	Pre-planning
Project Cost:	$400,000
Project Timeframe:	1-5 years
Cost-sharing:	Some costs may be eligible for funding from local, state or federal grant programs – likely requires active Reclamation District with Trustees and financial oversight from the County.
Multi-benefit Project:	Potentially
Types of benefits:	The project would improve flood risk management; operations and maintenance; and institutional support.
Source of Project:	RD 2091

Background Information:

Maintenance reports; Inspection Reports; Maintenance Agreement with CVFPB; USACE O&M Manual.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management; operations and maintenance; and institutional support.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)

- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, RD 2091.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

RD 2091 is expected to be able to provide the local cost share, as the cost is relatively modest and the Gomes Lake JPA may be willing to contribute.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.

- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

Improvements to levees and other infrastructure, emergency response, and operations and maintenance may reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Improvements to levees and other infrastructure, emergency response, and operations and maintenance are expected to result in a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project is expected to materially improve operations and maintenance at a local level.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project is expected to materially improve institutional support at a local level.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.

- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

Improved protection for assets within RD 2091 would result in a material increase in economic benefits at a locally-significant scale.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The score is "High" because the project cost is low relative to the assets that would be protected by it.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

RD 2101 Resilience

Project Lead: RD 2101

Potential Project Partners:

CVFPB - permitting, technical assistance; landowners - funding, governance; DWR - funding, technical assistance; USACE - small role in emergency response, possibly funding for repairs; Stanislaus County - oversees district governance and financing; engineering firms, environmental firms, other technical experts as needed.

Short Project Description:

Complete the necessary repairs and upgrades to bring RD levee system back into "Active" status for PL84-99 eligibility, including addressing a major levee erosion site.

Long Project Description:

Many of the reclamation districts (RDs) in the planning area have been unable to maintain levees to United States Army Corps of Engineers (USACE) standards because they lacked the funding and staff to complete necessary repairs. As a result, these RDs no longer have "Active" status per the PL84-99 eligibility requirements.

This project would address the current deficiencies of the levees under the jurisdiction of RD 2101 including completion of the necessary repairs and upgrades to bring the levee system back into "Active" status for PL84-99 eligibility. Necessary actions can be found in RD inspection reports from 2013 – all "U" ratings need to be fixed immediately and all "M" ratings need to be fixed within 2 years or less. Actions listed in the inspection reports vary by RD, but generally include:

• structural repairs to levees, pumps, or other facilities

• removal of unpermitted encroachments (i.e. structures, fences, pipes, etc.)

• researching and negotiating encroachment permits for previously unpermitted encroachments

• improved fund-raising capacity for needed O&M

• improved technical capacity to perform necessary O&M (i.e. visual inspections of pipes, rodent control, erosion repairs, emergency road access, etc.)

• development of Emergency Response Plan for the RD

• establishment of Board of Trustees or maintenance agreement with another local agency(ies)

• others as needed

Specific deficiencies identified in the 2013 inspection report for RD 2101 include the following:

"U" rated items –

• 0.10 miles of erosion

• Animal control

"M" rated items –

• Tree trimming

The USACE Interim Policy for Determining Eligibility Status of Flood Risk Management Projects for the Rehabilitation Program Pursuant to PL 84-99 (Interim Policy) went into effect on March 21, 2014 and

temporarily suspends PL 84-99 eligibility determinations, including generally excluding levee vegetation condition requirements. The Interim Policy allows for districts to make eligibility determinations based on a subset of items from the full inspection list so that the focus remains on the levees in the worst condition first. The path to regaining Active Status is through the USACE System-Wide Improvement Framework Policy (SWIF), which requires that the districts present a plan to address the deficiencies identified.

Unique Project Characteristics:

Varies – may include incorporation of environmental, water supply, or other secondary benefits to the region.

Project Status:	Pre-planning
Project Cost:	$2,500,000
Project Timeframe:	1-5 years
Cost-sharing:	Some costs may be eligible for funding from local, state or federal grant programs – likely requires active Reclamation District with Trustees and financial oversight from the County.
Multi-benefit Project:	Potentially
Types of benefits:	The project would improve flood risk management; operations and maintenance; and institutional support. It may also promote multi-benefit projects as a result of reducing sediment inflows to the river if the eroding levee is repaired.
Source of Project:	RD 2101

Background Information:

Maintenance reports; Inspection Reports; Maintenance Agreement with CVFPB; USACE O&M Manual.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management; operations and maintenance; and institutional support. It may also promote multi-benefit projects as a result of reducing sediment inflows to the river if the eroding levee is repaired.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, RD 2101.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Low

RD 2101 may have the resources to fund the project but may not want to fund the local cost share. Because the local cost share is relatively high for an individual landowner, the project has been assessed as having "Low" financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

While improvements to levees and other infrastructure, emergency response, and operations and maintenance may improve as a result of this project, the risk of loss of life in the area protected by these levees is extremely low due to the lack of residences and small number of people exposed to flood risks on these lands.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Improvements to levees and other infrastructure, emergency response, and operations and maintenance are expected to result in a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project is expected to materially improve operations and maintenance at a local level.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project is expected to materially improve institutional support at a local level.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

Improved protection for assets within RD 2101 would result in a material increase in economic benefits at a locally-significant scale. Additionally, water quality benefits may accrue to the river through reduced levee erosion.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Low

The score is "Low" because the project cost is high relative to the assets that would be protected by it.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

Reducing Sediment Loading into the San Joaquin River from Westside Agricultural Lands

Project Lead: West Stanislaus RCD

Potential Project Partners:

NRCS, irrigation districts, Westside Coalition.

Short Project Description:

Improve irrigation technology with buried drip and sprinkler irrigation systems that allow for the capacity to irrigate a variety of crop types and effectively eliminate erosion of sediment off of farm fields when compared to traditional, flood irrigation practices. Sediment loading results in reduced capacity of and increased flooding in Westside Creeks and the San Joaquin River.

Long Project Description:

Sediment erosion into Westside creeks and the San Joaquin River from agricultural land on the west side of Stanislaus and Merced Counties has been an ongoing problem since the inception of agriculture in that region. The sediment loading results in reduced capacity of and increased flooding in Westside Creeks and the San Joaquin River as well as diminished farm land productivity and increased pollution and costs.

Recent improvements in irrigation technology for large acreages allows for significant reductions in the amount of sediment eroding off of farmland. The improvements include buried drip and sprinkler irrigation systems that allow for the capacity to irrigate a variety of crop types and that effectively eliminate erosion of sediment off of farm fields when compared to traditional, flood irrigation practices.

These irrigation systems are in high demand because of increased crop production and reduced costs to growers allowing for more precise application of amendments. But, the systems remain cost prohibitive if producers must shoulder their full cost. NRCS and Proposition 84 State funds have cost-shared with producers to fund these types of irrigation systems but demand and need significantly outstrips funding capacity and State funds are no longer available.

Approximately 45% of the irrigated land on the Westside of the San Joaquin River has been converted to either drip or sprinkler systems in the last 10 years. Along with improved irrigation management, the use of PAM, sediment retention ponds and tail-water recirculation systems there has been an approximately 50% reduction in sediment loading to the San Joaquin River over the last 35 years. Our goal is to reduce sediment loading by 95% when compared to 1979 figures and convert over 80% of the agricultural land to drip or sprinkler irrigation systems (a total of approximately 65,000 acres).

Along with the implementation of recent advances in irrigation technologies we will also look at the feasibility of developing wetlands in strategic places on the Westside that further reduce sediment loading to the creeks and the river. Reducing sediment loads to the San Joaquin River has the added benefit of improving water quality by also reducing the amount of pesticides and herbicides reaching surface waters.

Unique Project Characteristics:

Reduces sediment loading to the San Joaquin River, reduces the buildup of choke points and flooding potential in the San Joaquin River, improves farming practices that come with economic and environmental improvements, increases acreage of wetland habitats.

Project Status: Ongoing with an existing list of interested producers.
Project Cost: $65,000,000
Project Timeframe: 15 years

Cost-sharing: NRCS 33%, grower 33%, RFMP 33% or development of funds for low interest loans to growers, repaid and available indefinitely for farm improvements that conserve water, protect water resources and reduce flooding risks.
Multi-benefit Project: Yes
Types of benefits: The project would improve flood risk management, improve operations and maintenance, and promote multi-benefit projects.
Source of Project: West Stanislaus Resource Conservation District

Background Information:
None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management, improve operations and maintenance, and promote multi-benefit projects.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The project is ongoing, has been successful, and the project lead, the West Stanislaus RCD, is motivated to continue the effort.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Low

Funding for this project would be split evenly among NRCS, growers, and the State through the CVFPP process, should it be granted. Because the local cost share would be relatively high (greater than $500,000), it is considered "Low" in terms of financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

A reduction in erosion from farms in the planning area would reduce sedimentation in the channel and the resultant loss of channel capacity. This may result in reduced risk of loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

A reduction in erosion from farms in the planning area would reduce sedimentation in the channel and the resultant loss of channel capacity. This could result in a regionally-significant reduction in flood risk. Given the uncertainty associated with how widely the project would be implemented, a score of "Low" is assigned.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

If irrigation technologies are upgraded on a sufficient number of farms to significantly reduce sedimentation, the project may materially increase operations, maintenance, and repair benefits at a locally- or regionally-significant scale. Since the actual magnitude of the project benefits cannot be quantified at this time, the score assigned is "Low."

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.

- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project would have water supply benefits through conservation as well as water quality benefits because fewer pollutants (e.g., sediment, pesticides, nutrients) would be carried off of farms in surface water runoff. Since the actual magnitude of the project benefits cannot be quantified at this time, the score assigned is "Medium."

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Low

The score is "Low" because the project cost is very high while the magnitude of the project benefits are uncertain.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

Regional Maintenance Technical Support

Project Lead: RD 2091 and RD 2092

Potential Project Partners:

CVFPB - permitting, technical assistance; landowners - funding, governance; DWR - funding, technical assistance; USACE - possibly funding for repairs; Stanislaus County - oversees governance and financing; engineering firms, environmental firms, other technical experts as needed.

Short Project Description:

Development and implementation of a shared staffing position to support LMA fulfillment of maintenance responsibilities within the Mid SJR Region.

Long Project Description:

It is very challenging for LMAs in the Mid SJR Region to fulfill their maintenance responsibilities to the satisfaction of both DWR and the USACE. This is true, in part, because LMA's have limited staff resources. Typically, maintenance responsibilities are only a small part of any one staff member's job. It is also because of such factors as conflicting standards, evolving and variable regulatory constraints, inconsistent or missing guidance with regard to permitting and best management practices with regard to compliance with permitting requirements.

By creating and funding a shared staffing position within the Mid SJR Region to support LMA fulfillment of maintenance responsibilities, the LMAs will create a knowledgeable and informed staffmember that will be able to effectively interact with the inspection programs and regulatory agencies to identify maintenance practices that meet inspection agency, regulatory agency, and LMA needs. This staffmember will also proactively engage participating LMAs on maintenance practices, providing advice, leadership, and directing some or all maintenance activities.

An initial effort would be required to establish the governance, financing, staffing, administration, position responsibilities and accounting for in-kind contributions. The position would be funded for at least two years as a pilot project. The initiation of this effort would require at least the participation of 2 or more LMAs; may grow to involve more LMAs after initial establishment. Additionally, the responsibilities of the position might expand after the pilot effort to include additional functions, such as supporting LMAs in seeking project funding from state and federal programs.

Unique Project Characteristics:

Will generate regional benefits; may provide a model for other regions.

Project Status:	Pre-planning
Project Cost:	$100,000
Project Timeframe:	1-5 years
Cost-sharing:	Participating LMAs, possibly Stanislaus County. Some costs may also be eligible for funding from local, state or federal grant programs
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management; operations and maintenance; and institutional support.
Source of Project:	RD 2092, consultant team

Background Information:

Maintenance reports; Inspection Reports; Maintenance Agreement with CVFPB; USACE O&M Manual.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management; operations and maintenance; and institutional support as well as promote ecosystem functions and improve water quality, making it a multi-benefit project.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead and co-lead, RD 2092 and RD 2091, respectively.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

RD 2092 does not have the resources to cover the local share. However, through partnerships with other LMAs, local agencies, and potential grant funding, it is anticipated that RD 2092 can generate sufficient funds for the project, as the anticipated local cost share is relatively modest.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

If the activities conducted under this project results in reduced flood risk, loss of life may also be reduced.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.

- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Medium

If the activities conducted under this project result in reduced flood risk, the value of assets of risk may also be reduced at a regionally-significant level.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

The project would materially improve operations and maintenance at a regionally-significant scale and could provide a model for other regions.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

Low

The project would reduce environmentally-damaging maintenance actions by providing technical support for design and permitting.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

The project would materially improve institutional support at a regionally-significant scale and could provide a model for other regions.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

The project would improve water quality by reducing environmentally-damaging maintenance actions such as vegetation removal and concrete dumping.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.

- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

If successful, the benefits to flood risk management; operations and maintenance; and institutional support would outweigh the modest cost. This project is expected to fall into the lower one third of those analyzed in this RFMP.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

Riverfront Park Project

Project Lead: City of Patterson

Potential Project Partners:

Stanislaus County, San Joaquin River Valley Coalition, River Partners, San Joaquin River Partnership, California Department of Boating and Waterways.

Short Project Description:

Creation of a riverfront park, recreational trail, and enhanced habitat along the western bank of the San Joaquin River between Old Las Palmas Avenue and Eucalyptus Avenue.

Long Project Description:

The proposed Riverfront County Park would extend along the west side of the San Joaquin River from Old Las Palmas Avenue to Eucalyptus Avenue, a distance of approximately 8,000 feet (about 1.5 miles). Although the exact dimensions of the park have yet to be determined, it is intended that the park would vary in width, generally between 100 and 200 feet, creating linear park of approximately 20 acres. The project would restore riparian and upland habitat, extending and enhancing a habitat corridor that has been significantly degraded. Restoration of vegetative cover may reduce flood risk to adjacent and downstream properties. The park's primary amenity, the multi-use recreational trail, would connect with the City of Patterson's planned bicycle and pedestrian network, providing greatly enhanced access to the riverfront, and encouraging bicycling and walking.

Unique Project Characteristics:

This project would improve community health by increasing recreational use of the riverfront. It would environmental health by enhancing and increasing habitat. It would provide opportunities for environmental education and recreational programming.

Project Status:	Pre-planning
Project Cost:	$2,500,000
Project Timeframe:	Undetermined
Cost-sharing:	Cost will be shared by Stanislaus County and the City of Patterson at an undetermined ratio.
Multi-benefit Project:	Yes
Types of benefits:	The project may improve flood risk management, and would promote ecosystem functions and improve recreation, making it a multi-benefit project.
Source of Project:	City of Patterson

Background Information:

The concept for the Riverfront County Park has been explored in the process of developing the City of Patterson's Parks and Recreation Master Plan (currently in draft form). It is an important link in the City's proposed recreational trail system. It would also be the community's primary access to the San Joaquin River for boating, swimming, fishing or just enjoying. Public input has confirmed the value of this proposed park to the community.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project may improve flood risk management, would promote ecosystem functions, and improve recreation, making it a multi-benefit project.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, the City of Patterson.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

Together with Stanislaus County, the City of Patterson may be able to fund any needed local cost share, which is anticipated to be less than $500,000. As a result, the project is considered "Medium" in terms of financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

If the proposed park results in assurance of minimal development of the land, the project has the potential to reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.

- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

If the proposed park results in the reduction of flood risk, the project has the potential to reduce flood damages on a locally-significant level.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

High

The project is consistent with CVFPP metrics 6a, Shaded Riparian Aquatic (SRA) Cover, and 6b, Riparian, under metric 6, Habitats - Increase and improve quantity, diversity, quality, and connectivity of riverine aquatic and floodplain habitats.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The proposed park would materially improve recreation on a locally-significant scale and provide water quality and public access benefits.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Low

Based on the high cost of the project and the uncertainty regarding the magnitude and nature of its benefits, a score of "Low" is assigned.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

A small decrease in the local tax base would result from

Salado Creek Flood Management Project

Project Lead: City of Patterson

Potential Project Partners:
Stanislaus County

Short Project Description:
Widening of Salado Creek from the Delta Mendota Canal to the city limits.

Long Project Description:
The project involves widening of Salado Creek from the Delta Mendota Canal (DMC) to the city limits, which is approximately 6,000 feet in length. The width of Salado Creek would be widened to accommodate 710 cubic feet per second to match the City of Patterson Storm Drain Master Plan sizing requirements. In addition, this project would also limit the Delta Mendota Canal to the City Limits.

Through review of air photos may indicate that some portions of the creek may already be of adequate width to accommodate the design flow. This project estimate assumes that the full length between the DMC and the City limits requires widening.

Unique Project Characteristics:
Upon research of 1916 USGS topographic maps, Salado Creek was channelized prior to 1916. Looking at the government survey from the 1870's, the creek stops and appears on the map to possibly sheet flow or fan.

Project Status:	Pre-planning
Project Cost:	$600,000
Project Timeframe:	Undetermined
Cost-sharing:	Cost will be shared by Stanislaus County and the City of Patterson at an undetermined ratio
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management.
Source of Project:	City of Patterson

Background Information:
None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood risk management.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, the City of Patterson.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as “Low” if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for “Low” or “High” Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored “High” if it has been successful in attracting most of the needed funding already.

Medium

Through a partnership with Stanislaus County, the City of Patterson may be able to fund any needed local cost share, which is anticipated to be less than $500,000. As a result, the project is considered "Medium" in terms of financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

Additional capacity to convey flows may result in the reduction of loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

The project would result in a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.

- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is “Medium” because there is not a clear reason to differentiate this project as “Low” or “High.”

SB5 Compliance – City of Modesto

Project Lead: City of Modesto

Potential Project Partners:

Stanislaus County

Short Project Description:

Comply with SB 5 regulations through update of the City's relevant planning documents and completion of a preliminary engineering report to identify potential alternatives on how the City can provide 200-year flood protection.

Long Project Description:

Senate Bill 5 was passed in 2007 which requires a 200-year level of flood protection for urban and urbanizing areas within California's Central Valley. Under SB5, development in moderate or special flood hazard areas (i.e. 500-year and 100-year floodplains, respectively) would only be allowed within the Central Valley if the city or county can find, based on substantial evidence in the record, that the development will be subject to flood depths of 3 feet or less during a 200-year flood event. The City is in the process of mapping the 200-year floodplains from the Tuolumne River within Modesto to determine where an Urban Level of Flood Protection (ULOP) finding is required (e.g., where potential depth from a 200-year flood event is greater than 3 feet). This will inform Modesto on where a ULOP finding in the City will be required, and where a ULOP finding is not required. The City is required to make the ULOP finding before: (1) entering into a development agreement for any property that is located within a flood hazard zone; (2) approving a discretionary permit or other discretionary entitlement, or a ministerial permit that would result in the construction of a new residence, for a project that is located within a flood hazard zone; or (3) approving a tentative map, or a parcel map for which a tentative map was not required, for any subdivision that is located within a flood hazard zone.

Phase I of this project will develop proposed amendments to the City of Modesto Urban Area General Plan and City of Modesto Zoning Code to include information associated with the new 200-year flood maps and ULOP provisions, as well as the 2012 Central Valley Flood Protection Plan. Proposed amendments can include supporting goals, policies, and implementation programs for the General Plan, and standards, regulations, and potentially new zoning districts for the Zoning Code.

For areas where ULOP findings are required, the next step, Phase II, will be for Modesto to complete a preliminary engineering report to identify potential alternatives for those areas. Implementation of the recommended alternatives will provide 200-year flood protection to targeted areas of the City. Phase III of this project will be to determine how the City will finance the proposed improvements.

Unique Project Characteristics:

Implementation of this project will enable Modesto to not only comply with SB5 regulations but to determine which areas within the City are most appropriate for growth and where flood risk is minimized. This will enable Modesto to continue to grow and provide opportunities for economic development.

Project Status:	Pre-planning
Project Cost:	$130,000
Project Timeframe:	Phases I and II - 1 year; Phase III - 10-20 years
Cost-sharing:	No opportunities identified to date.
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management and institutional support.

Source of Project: City of Modesto

Background Information:
None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management, institutional support, and is considered a multi-benefit project because there would be an economic benefit in avoiding land development restrictions that would come with non-compliance and in having new development protected from the 200-year flood.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The analysis and planning called for by this project is required by law.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

The City of Modesto has the resources to carry out Phase I and Phase II of the project. The cost of Phase III is unknown and is likely to be significant. Potential funding sources for Phase III will need to be evaluated during Phase II.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Medium

Improving 200-year flood management would reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Improving 200-year flood protection management in the City of Modesto would reduce flood damages at a locally-significant scale.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

This project would modestly improve institutional support for flood management entities.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

The project would modestly improve the sustainability of economic development in the area.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be

assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The score is "High" because the cost is relatively modest in comparison with the benefits of compliance with state law and the improved floodplain management that would flow from this project into the future.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

SB5 Compliance – City of Newman

Project Lead: City of Newman

Potential Project Partners:

No partners identified at this time.

Short Project Description:

Comply with SB 5 regulations through update of the City's relevant planning documents and completion of a preliminary engineering report to identify potential alternatives on how the City can provide 200-year flood protection.

Long Project Description:

Senate Bill 5 was passed in 2007 which requires a 200-year level of flood protection for urban and urbanizing areas within California's Central Valley. Under SB5, development in moderate or special flood hazard areas (i.e. 500-year and 100-year floodplains, respectively) would only be allowed within the Central Valley if the city or county can find, based on substantial evidence in the record, that the development will be subject to flood depths of 3 feet or less during a 200-year flood event.

Phase I of the project will include mapping of the 200-year floodplains in the City to determine where an Urban Level of Flood Protection (ULOP) finding is required (e.g., where potential depth from a 200-year flood event is greater than 3 feet). This will inform Newman on where a ULOP finding in the City will be required, and where a ULOP finding is not required. The City is required to make the ULOP finding before: (1) entering into a development agreement for any property that is located within a flood hazard zone; (2) approving a discretionary permit or other discretionary entitlement, or a ministerial permit that would result in the construction of a new residence, for a project that is located within a flood hazard zone; or (3) approving a tentative map, or a parcel map for which a tentative map was not required, for any subdivision that is located within a flood hazard zone.

In addition, this project will develop proposed amendments to the Newman 2030 General Plan and City of Newman Zoning Code to include information associated with the new 200-year flood maps and ULOP provisions, as well as the 2012 Central Valley Flood Protection Plan. Proposed amendments can include supporting goals, policies, and implementation programs for the General Plan, and standards, regulations, and potentially new zoning districts for the Zoning Code.

For areas where ULOP findings are required, the next step, Phase II, will be for Newman to complete a preliminary engineering report to identify potential alternatives for those areas. Implementation of the recommended alternatives will provide 200-year flood protection to targeted areas of the City. Phase III of this project will be to determine how the City will finance the proposed improvements.

Unique Project Characteristics:

Implementation of this project will enable Newman to not only comply with SB5 regulations but to determine which areas within the City are most appropriate for growth and where flood risk is minimized. This will enable Newman to continue to grow and provide opportunities for economic development.

Project Status:	Pre-planning
Project Cost:	$125,000
Project Timeframe:	Phases I and II – 3 years?; Phase III - 10-20 years
Cost-sharing:	City of Patterson could potentially share the costs of the 200-year floodplain mapping as there may be efficiencies for the modeling and maps to be prepared for both jurisdictions at the same time.

Multi-benefit Project: Yes
Types of benefits: The project would improve flood risk management and institutional support.
Source of Project: City of Newman

Background Information:
None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management, institutional support, and is considered a multi-benefit project because there would be an economic benefit in avoiding land development restrictions that would come with non-compliance and in having new development protected from the 200-year flood.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The analysis and planning called for by this project is required by law.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

The City of Newman has the resources to carry out Phase I and Phase II of the project. The cost of Phase III is unknown and is likely to be significant. Potential funding sources for Phase III will need to be evaluated during Phase II.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Medium

Improving 200-year flood management would reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Improving 200-year flood protection management in the City of Newman would reduce flood damages at a locally-significant scale.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

This project would modestly improve institutional support for flood management entities.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

The project would modestly improve the sustainability of economic development in the area.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be

assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The score is "High" because the cost is relatively modest in comparison with the benefits of compliance with state law and the improved floodplain management that would flow from this project into the future.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

SB5 Compliance – City of Patterson

Project Lead: City of Patterson

Potential Project Partners:

No partners identified at this time.

Short Project Description:

Comply with SB 5 regulations through update of the City's relevant planning documents and completion of a preliminary engineering report to identify potential alternatives on how the City can provide 200-year flood protection.

Long Project Description:

Senate Bill 5 was passed in 2007 which requires a 200-year level of flood protection for urban and urbanizing areas within California's Central Valley. Under SB5, development in moderate or special flood hazard areas (i.e. 500-year and 100-year floodplains, respectively) would only be allowed within the Central Valley if the city or county can find, based on substantial evidence in the record, that the development will be subject to flood depths of 3 feet or less during a 200-year flood event.

Phase I of the project will include mapping of the 200-year floodplains in the City of Patterson's General Plan Area to determine where an Urban Level of Flood Protection (ULOP) finding is required (e.g., where potential depth from a 200-year flood event is greater than 3 feet). This will inform Patterson on where a ULOP finding in the City will be required, and where a ULOP finding is not required. The City is required to make the ULOP finding before: (1) entering into a development agreement for any property that is located within a flood hazard zone; (2) approving a discretionary permit or other discretionary entitlement, or a ministerial permit that would result in the construction of a new residence, for a project that is located within a flood hazard zone; or (3) approving a tentative map, or a parcel map for which a tentative map was not required, for any subdivision that is located within a flood hazard zone.

In addition, this project will develop proposed amendments to the City of Patterson General Plan and City of Patterson Zoning Code to include information associated with the new 200-year flood maps and ULOP provisions, as well as the 2012 Central Valley Flood Protection Plan. Proposed amendments can include supporting goals, policies, and implementation programs for the General Plan, and standards, regulations, and potentially new zoning districts for the Zoning Code.

For areas where ULOP findings are required, the next step, Phase II, will be for Patterson to complete a preliminary engineering report to identify potential alternatives for those areas. Implementation of the recommended alternatives will provide 200-year flood protection to targeted areas of the City. Phase III of this project will be to determine how the City will finance the proposed improvements.

Unique Project Characteristics:

Implementation of this project will enable Patterson to not only comply with SB5 regulations but to determine which areas within the City are most appropriate for growth and where flood risk is minimized. This will enable Patterson to continue to grow and provide opportunities for economic development.

Project Status:	Pre-planning
Project Cost:	$205,000
Project Timeframe:	Phases I and II – 3 years?; Phase III - 10-20 years
Cost-sharing:	City of Patterson could potentially share the costs of the 200-year floodplain mapping with the City of Newman as there may be efficiencies for the modeling and maps to be prepared for both jurisdictions at the same time.

Multi-benefit Project: Yes
Types of benefits: The project would improve flood risk management and institutional support.
Source of Project: City of Patterson

Background Information:
None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management, institutional support, and is considered a multi-benefit project because there would be an economic benefit in avoiding land development restrictions that would come with non-compliance and in having new development protected from the 200-year flood.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The analysis and planning called for by this project is required by law.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

The City of Patterson has the resources to carry out Phase I and Phase II of the project. The cost of Phase III is unknown and is likely to be significant. Potential funding sources for Phase III will need to be evaluated during Phase II.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Medium

Improving 200-year flood management would reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Improving 200-year flood protection management in the City of Patterson would reduce flood damages at a locally-significant scale.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

This project would modestly improve institutional support for flood management entities.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

The project would modestly improve the sustainability of economic development in the area.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be

assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The score is "High" because the cost is relatively modest in comparison with the benefits of compliance with state law and the improved floodplain management that would flow from this project into the future.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

Sediment Management Investigation

Project Lead: River Partners

Potential Project Partners:

DWR, CVFPB, flood management agencies relevant to the Upper SJR RFMP and Lower SJR/Delta South RFMP.

Short Project Description:

Complete a study that identifies sediment-induced chokepoints along the San Joaquin River in the planning area, the dynamics that create them, and potential actions to improve flood conveyance in those areas.

Long Project Description:

This project would include several analyses to better inform sediment management in the planning area. If specific flood hydraulic analyses for the mainstem of the San Joaquin River in the Mid SJR Region's planning area have been completed prior to the initiation of this study, those models and results would be relied upon adequate to generally identify hydraulic chokepoints created by sedimentation during flood events with stages in the vicinity of the levee crest profile, assuming all flows are contained by the current levees. If those hydraulic studies have not yet been completed, this study would rely on new applications of the existing Central Valley Floodplain Evaluation and Delineation Program (CVFED) model of the San Joaquin River and representations of flood hydrology adequate for the study purpose.

To determine how the channel has changed over time, recent topographic and bathymetric data represented in the hydraulic model would be compared to data from existing sources, including the 1917 Debris Commission Survey, construction of the project levees (1955), and Sacramento and San Joaquin Basins Comprehensive Study (2002).

Lastly, a field survey would be completed to gather San Joaquin River sediment data for current and future study purposes. With the assumption that the river is capacity-limited in delivering sediment into and out of the Mid SJR Region's planning area, grain size data collected as part of this study would be combined with available channel geometry data and used to estimate upstream sediment inflow to the region, outflow from the region, and typical transport capacities for reaches within the study area. The grain size data could also be used for potential future channel migration analysis, sediment transport modeling, and/or evaluation of dredge material disposal options, not included as part of the current study. Identification of apparent areas of erosion and deposition in the field can cross-check the desktop chokepoint analysis and provide a basis for estimates of the volumes of sediment in the study reach that have been contributed by bank erosion in recent years and sediment that has been stored in the channel as deposits during a similar time frame. Data collected and estimated in the course of this study will be used to develop an approximate sediment budget and a conceptual model of sediment transport dynamics for the San Joaquin River between the Merced River and the Stanislaus River. Based on the information developed through the activities described above, sediment management recommendations would be made for the San Joaquin River to improve flood conveyance within the Mid SJR Region's planning area.

Unique Project Characteristics:

None specified.

Project Status:	Pre-planning
Project Cost:	$250,000
Project Timeframe:	1-5 years
Cost-sharing:	Undetermined
Multi-benefit Project:	Yes

Types of benefits: The project would improve flood risk management; operations and maintenance; and institutional support.
Source of Project: River Partners

Background Information:
1917 Debris Commission Survey, construction of the project levees (1955), and Sacramento and San Joaquin Basins Comprehensive Study (2002).

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management; operations and maintenance; and institutional support.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, the River Partners.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

River Partners is expected to either supply the local cost share or successfully fundraise for it. However, the local cost share is anticipated to be greater than $20,000, so the project has been assessed as having "Medium" financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

N/A

Given the uncertainty associated with post-study implementation of flood management actions, no benefits are identified.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

N/A

Given the uncertainty associated with post-study implementation of flood management actions, no benefits are identified.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

Information gained through the study may be used to improve operations, maintenance, and repair.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

Low

Understanding the sediment transport regime in the region would inform ecosystem rehabilitation efforts, but would not directly improve ecosystem function.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be

assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The information gained through the proposed study has the potential to be very useful to flood and resource managers and has a relatively low cost.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are identified.

Storm Drainage Enhancements along Salado Creek

Project Lead: City of Patterson

Potential Project Partners:
No partners identified at this time

Short Project Description:
Installation of reinforced concrete pipelines under the California Northern Railroad wooden bridge to improve storm drainage along Salado Creek.

Long Project Description:
The inlet structure for the 96" Cured in Place Pipe (CIPP) just downstream of the California Northern Railroad (CNRR) wooden bridge has a limited capacity and includes a debris collection grate at the pipe inlet that is too small. These conditions contribute to frequent flooding within and upstream of this area and prevent the available capacity in the 96" CIPP from being fully utilized. The inlet structure needs to be enlarged at this location to reduce flooding and to provide discharge capacity.

This project is located downstream of the State Highway 33 and starts where the CNRR bridge crosses Salado Creek. The project will install two new 72 inch diameter reinforced concrete pipelines (RCP) under the bridge. Each pipe will be 60 feet in length. The existing trash rack at the entrance to the 96 inch pipeline will also be replaced with a new static (non-powered) unit. A new precast headwall will be installed on the upstream side of the twin 72 inch pipelines. The canal between the outlet of the new pipeline and the existing 96 inch pipeline will be lined with concrete.

Unique Project Characteristics:
None specified.

Project Status:	Pre-planning
Project Cost:	$880,000
Project Timeframe:	Undetermined
Cost-sharing:	No opportunities identified to date.
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management.
Source of Project:	City of Patterson

Background Information:
None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.

- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood risk management.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, the City of Patterson.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been

identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

The City of Patterson may have the resources to supply a local cost share. However, the local cost share is anticipated to be greater than $20,000, so the project has been assessed as having "Medium" financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

Reducing flood risk at the project site may also reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

The project is expected to create a locally-significant reduction in flood risk at and around the project site.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

N/A

No benefits identified.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.

- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

Improved protection for assets within the vicinity of the project site would result in a material increase in economic benefits at a locally-significant scale.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

No significant dis-benefits are anticipated, but there may be an increase in operations, maintenance, and repair requirements as a result of the project; this is anticipated to fall in the mid-range of the projects considered.

Three Amigos (also known as the Non-structural Alternative at the San Joaquin River National Wildlife Refuge)

Project Lead: San Joaquin River National Wildlife Refuge

Potential Project Partners:

River Partners, USFWS Anadromous Fish Restoration Program, USACE, early project partners - USDA/NRCS, DWR, CALFED.

Short Project Description:

Project to restore flooding and transient floodwater storage to more than 3,100 acres of historic floodplain, restore riparian habitats, and promote river physical processes of scour and deposition along 3 miles of the San Joaquin River. While the lands have been purchased, additional investment is needed to implement flood risk reduction goals consistent with the Refuge's habitat management goals. Needed efforts include planning and design of the Refuge for flood management as well as removal of levees from the federal project.

Long Project Description:

As a result of the January 1997 floods, the San Joaquin River National Wildlife Refuge (SJRNWR) is working with the US Army Corps of Engineers (USACE) to plan a non-structural flood management alternative (NSA). This alternative includes breaching existing mainstem San Joaquin River levees on refuge land to protect and restore riverine and riparian habitat. This proposed NSA will provide floodplain inundation behind project levees of up to 3,100 acres on the Refuge in some years. The focus of the NSA study, being led by the USACE, has been to identify potential levee breech sites and evaluate potential flooding risk to adjacent landowners. The proposed scope of work will take the next step to identify and explore the potential impacts of the NSA alternative and help to refine this alternative to insure benefits to native aquatic, terrestrial, and avian species. Additional effort beyond the USACE study is needed to examine the potential impacts to existing infrastructure. It will also be necessary to assess potential hazards to wildlife caused by floodplain inundation, particularly terrestrial mammals. The adequacy of constructed floodwater refugia will need to be evaluated, particularly with respect to the endangered riparian brush rabbit.

This project will accomplish all the steps needed to allow implementation of the NSA to proceed. It will build on the technical studies and NSA alternative development that has occurred to date. These include the prior and current USACE NSA analysis, floodplain topographic data generated by DWR for the FloodSAFE Program, and the current study funded by DWR to develop a Water Control Structure design concept for the Refuge. Evaluation of potential resource management issues and monitoring of interim flood conditions prior to full NSA implementation will help the SJRNWR to identify and design the optimal combination of management and infrastructure modifications to meet flood risk reduction objectives while at the same time providing benefits to juvenile Chinook salmon, steelhead, and other native fish species, as well as native wildlife, including riparian obligate birds and mammals. These analyses and additional effort will be required to support the project through any necessary USACE and Central Valley Flood Protection Board procedural steps to allow implementation of the NSA, in addition to environmental documentation and permitting.

Unique Project Characteristics:

The envisioned use of the Refuge as connected floodplain and a site for transitory flood storage would be a remarkable ecological asset in the region and would benefit many endangered and native species in the San Joaquin River Basin. In particular, the proximity of the SJRNWR to salmon-producing tributaries is such that all juvenile salmonids produced in the Tuolumne and Merced rivers pass through riverine habitat of the SJRNWR. Improved floodplain habitat could provide additional beneficial rearing and growth opportunities in

a mainstem system with very little remaining physical habitat diversity. Development and implementation of an NSA that considers fish benefits provides a unique opportunity to the SJRNWR to cooperate with other fish management interests in planning mainstem habitat improvements to benefit the native fish fauna.

Project Status: Planning
Project Cost: $5,500,000
Project Timeframe: More than 5 years
Cost-sharing: No opportunities identified to date.
Multi-benefit Project: Yes
Types of benefits: The project would improve flood risk management, promote ecosystem functions, and promote multi-benefit projects.
Source of Project: USFWS AFRP

Background Information:

The USACE is the federal sponsor for all SPFC levees within the region. Under Public Law 84-99, the USACE is authorized, when requested by the non-federal sponsor of a flood work, to implement Non-Structural Alternatives (NSA's) to the rehabilitation, repair, or restoration of flood works damaged by floods. Following the devastating floods in 1997, the USACE convened an Inter-Agency Task Force to evaluate the locations where levees failed in the San Joaquin Basin, and identify opportunities for NSA's. Of 17 sites evaluated in the San Joaquin Basin, one rose to the forefront as an opportunity supported by many partners. The landowners in RDs 2099, 2100, and 2102 (collectively the "Three Amigos") were willing to sell their flood-prone lands, and the USFWS was willing to accept ownership of those lands for management as flood-prone wildlife habitat and inclusion into the adjacent San Joaquin River National Wildlife Refuge (SJRNWR). The USDA NRCS partnered with USACE and USFWS to purchase perpetual floodplain easements on the lands; the USACE purchased flowage easements and the USFWS purchased the underlying fee title of the properties. Additionally, a Memoranda of Agreement was drafted and signed by the USFWS, USACE, and California Reclamation Board (now Central Valley Flood Protection Board) to implement the NSA.

Conceptually, the NSA included the purchase of flowage easements over the lands that were previously provided flood protection by the levees within the Three Amigos in lieu of the levee breach locations being repaired. This required modification to the maintenance manuals for these Reclamation Districts to eliminate the need to perform levee maintenance (i.e. the levees would be maintained in a breached condition as the levees no longer provide flood protection to the district lands). The USACE offered to construct ring levees around existing structures that would be exposed to more frequent flooding under the implementation of the NSA, however ring levees were not constructed at the request of the landowner. Flowage easements were offered on lands outside of the Three Amigos to ensure that unintended flood damages were compensated; however two landowners rejected the offer. Until these remaining landowners accept the flowage easements, the maintenance manual cannot be modified. Today, implementation of the NSA is still largely supported by the resource agencies and the original signatories to the MOA, however the required flowage easements have not yet been offered or accepted.

The Three Amigos cover an area of approximately 3,200 acres. During the 1997 flood event, four failures occurred on the west or left bank levee along the San Joaquin River flooded RDs 2099, 2100, 2101, and 2102. These levees were subsequently repaired even as steps were being taken to implement the Non Structural Alternative. Since that time, however, the SJRNWR has continued to experience flooding, most recently in late December 2010, early January 2011, and late March 2011. This flooding occurs as high river flows back up the West Stanislaus Irrigation District intake canal, which cuts across the SJRNWR between RD 2100 (Hagemann Tract) and RD 2102 (Lara Tract). The canal was at one time protected at its mouth by a levee penetrated by a dual box culvert connection to the canal which was damaged and removed some years ago.

The canal is bordered by berms that are prone to overtopping and breaching in high water. At the end of December 2010, flood water flowed through such a breach and flooded a portion of the Lara tract. Flooding in late March 2011 resulted in extensive flooding at the SJRNWR, including both the Lara tract and the Hagemann tract. Drainage of floodwaters from behind breached levees often requires active pumping. Following flooding in the spring of 2006, pumps were inaccessible and lands on the dry side of the RD 2100 levee (Hagemann tract) were inundated for months after the river levels had receded. Such long duration flooding has negative impacts to natural areas, as was documented by River Partners (2008).

Hydraulic modelling to support the restoration of lands formerly protected by the Three Amigos levees has shown that high-elevation refugia and appropriately located levee breaches are needed to ensure that the wildlife habitat requirements of resident populations are met. Since 1997, the levee slopes across the majority of the Three Amigos have been vegetated with brushy native plants to provide cover for terrestrial species fleeing floodwaters, and over 30 acres of elevated refugia have been constructed in consultation with wildlife experts, flood management engineers, and resource agency personnel.

In 2010, DWR has invested in the Ecosystem Restoration and Floodwater Attenuation (ERFA) project at the SJRNWR which includes 551 acres of habitat restoration within the Three Amigos footprint as well as the construction of enhanced reconnection facilities to increase the frequency of inundation of the floodplain fields and to decrease the residence time for impeded floodwaters on the dry side of the levees. The final implementation of this construction will require realization of the NSA in the form of a revised maintenance manual for the SPFC facilities within the Three Amigos. The agencies continue to work to implement this important demonstration project and to illustrate the pathway for removal of levee maintenance obligations from federal project levees. Should other RDs in the Central Valley wish to implement similar NSAs, lessons learned through the implementation of the Three Amigos project may provide a cost savings and a time savings, although the ultimate implementation of the NSA project has yet to be seen.

In 2012, the 1600-acre Dos Rios Ranch was purchased by River Partners for management as flood-prone wildlife habitat and potentially as a transient floodwater storage basin. Funding for the acquisition was provided by the USDA NRCS, California Wildlife Conservation Board, DWR, the California River Parkways Program, the San Francisco Public Utilities Commission, the USFWS North American Wetland Conservation Act (NAWCA), the US Bureau of Reclamation and USFWS Central Valley Project Conservation Program, and River Partners. The USDA NRCS holds a Wetland Reserve Program easement, the Tuolumne River Trust holds a Conservation Easement, and River Partners holds the fee title for the property. In 2013, the remaining 497 acres of flood-prone land within Reclamation District 2092 (Dos Rios) were purchased by River Partners for similar purposes. The Tuolumne River Trust holds a Conservation Easement on the property which expressly provides for the future development of habitat mitigation opportunities for SPFC impacts on 191 acres of the property, and River Partners owns the fee title. River Partners hopes to use the NSA example from the Three Amigos project as a model for floodplain reconnection on the RD 2092 properties. Habitat restoration is currently underway and is expected to be completed in phases over the next 8 to 10 years. Restoration activities include screening river pumps to protect juvenile salmonids, earthwork to create floodplain swales and benches as well as high-elevation refugia for terrestrial species, planting, and ongoing vegetation maintenance, and eventual modification to the existing levee to provide for floodplain reconnection and transient floodwater storage. Additional funding and permitting is required to complete the full build-out of the Dos Rios Ranch Habitat Restoration Project.

The following are additional references on this project:

Portion of AFRP website that features the project:
http://www.fws.gov/stockton/afrp/project.cfm?code=2001-09

USFWS, 2006. San Joaquin River National Wildlife Refuge Final Comprehensive Conservation Plan. September 29. (Available at http://www.fws.gov/Refuge/San_Joaquin_River/what_we_do/conservation.html)

USACE, 2000. Memorandum of Agreement Between the Department of the Army and the United States Fish and Wildlife Service for Implementation of Nonstructural Alternative to the Repair or Restoration of Levees for Reclamation Districts 2099, 2100, and 2102. June 27.
USACE, 1998. PL 84-99 Nonstructural Alternative to Structural Rehabilitation of Levees, San Joaquin River Sub-basins 12 and 13, Reclamation Districts 2099, 2100, and 2102, Sacramento District. September.
USACE, 1997. FONSI (with: Environmental Assessment: PL 84-99 Levee Rehabilitation, Reclamation District 2099, San Joaquin River Basin, Stanislaus County, CA. July 29).

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management, promote ecosystem functions, and promote multi-benefit projects.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The project has reasonable assurance of being implemented by the lead, the San Joaquin River National Wildlife Refuge, which is committed to seeing the project through and has the support of the USACE and DWR in doing so.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

The project is currently more than 90% funded, and financial feasibility has therefore been evaluated as "High," despite having relatively high costs.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

It is possible that the transitory storage provided by the project could result in the reduction of loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

Enhanced floodplain reconnection at the SJRNWR and securing flood easements at lands at risk from project changes are expected to create at least a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project may allow for the cessation of maintenance of 6.9 miles of levee at the SJRNWR, more than 10% of the levee miles within the region. Because this aspect of the project benefits remains uncertain, we have assumed that the project will at least m

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.

- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

High

The project is consistent with CVFPP metrics 5a, Inundated Floodplain, and 5b, Riverine Geomorphic Processes, under metric 5, Ecosystem Processes - Improve and enhance natural dynamic hydrologic and geomorphic processes; metrics 6a, Shaded Riparian Aquatic (SRA) Cover, 6b, Riparian, under metric 6, Habitats - Increase and improve quantity, diversity, quality, and connectivity of riverine aquatic and floodplain habitats; metric 7, Species - Contribute to the recovery and stability of native species populations and overall biotic community diversity, for Central Valley steelhead, Central Valley fall-run Chinook salmon, and other species (specific species metrics for the CVFPP haven't been developed yet); and metric 8b, Levees, under metric 8, Stressors - Reduce stressors related to the development and operation of the flood management system that negatively affect important species.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

The project improves institutional support by providing perpetual land management by the federal government. Prior to the project, the lands were managed by three local districts lacking the resources to manage the flood project.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.

- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

The project would provide material recreational, water quality, public access, and possibly groundwater recharge benefits at a locally-significant scale or better.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The project is very cost-effective relative to other projects with similar outcomes (more than 3,000 acres restored for less than $50m invested to date).

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No significant dis-benefits are identified. A minor reduction in the tax base is an expected dis-benefit. While the property is currently subject to a lower tax rate through a Williamson Act contract, the property value is expected to descrease after project implementation, which would reduce the property tax collected.

Tuolumne River Flood Management Feasibility Study

Project Lead: Stanislaus County

Potential Project Partners:

City of Modesto, USACE

Short Project Description:

Complete a USACE Feasibility Study, or a study similar in scope, that evaluates how the management of the Tuolumne River could be revised to improve flood control, enhance aquatic habitat, and improve water quality.

Long Project Description:

The Northern California Streams, Tuolumne River, California, Reconnaissance Study, Section 905(b) Analysis was prepared by the USACE and published in October 1998. The purpose of the investigation was to document flooding and related problems, and to identify potential opportunities for flood protection and environmental restoration in the Lower Tuolumne River Watershed. Stanislaus County and the City of Modesto were identified as potential non-federal sponsors of the feasibility analysis, which is the next phase of analysis per the USACE protocol. Several measures were identified during the process that were deemed worthy of further analysis at the feasibility level to be included as part of this project. These measures included the evaluation of 1) detention/wetland habitat basin along Dry Creek; 2) a potential site for small off-stream multi-purpose reservoir along the Tuolumne River for flood control storage, habitat, and water supply below La Grange Dam; 3) the construction of levees from below the City of Modesto Wastewater Treatment Plant to approximately two miles east of the airport along the Tuolumne River for flood control and environmental restoration; 4) the riparian corridor from below La Grange Dam to the confluence of the San Joaquin and Tuolumne Rivers (approximately 52 miles); 5) a low-flow meandering channel within the riparian corridor; 6) non-structural measures such as flood flow easements, relocation, elevating structures, ring levees, floodwalls, and floodplain management restrictions along Tuolumne River and Dry Creek; 7) channelization of the Tuolumne River at and downstream of the 9th Street Bridge in Modesto to relieve the Tuolumne River floodwater backwater effect in Dry Creek; and 8) the need to increase the channel capacity of the Tuolumne River at the 9th Street Bridge from 9,000 to 20,000 cubic feet per second (cfs).

Since publication of the Northern California Streams, Tuolumne River, California, Reconnaissance Study, Section 905(b) Analysis, the need for at least one additional analysis has been identified and is included as part of this project. A hydraulic analysis of current conditions is needed to identify any existing constrictions or structures at risk of flood damage along the Tuolumne River. The hydraulic analysis should analyze flood releases of 9,000-15,000 cfs with Dry Creek flows of 5,000-6,000 cfs. With this information in hand, agencies responsible for flood management would be better able to focus future flood damage reduction projects while also improving flood operations of Don Pedro Dam. Other necessary analyses may be identified in the reevaluation of the scope of the feasibility study, which would be necessary given that the reconnaissance study was published more than 15 years ago in 1998.

Unique Project Characteristics:

This project would protect human life and property. It marries flood management and habitat restoration.

Project Status:	Dormant
Project Cost:	$3,000,000
Project Timeframe:	Approximately 5 years
Cost-sharing:	USACE, Stanislaus County, and City of Modesto
Multi-benefit Project:	Yes

Types of benefits: The project would improve flood risk management and institutional support.
Source of Project: USACE

Background Information:
See the Northern California Streams, Tuolumne River, California, Reconnaissance Study, Section 905(b) Analysis (October 1998).

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management, institutional support, and water quality, making it a multi-benefit project.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified co-leads, the City of Modesto and Stanislaus County.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

The project cost is undetermined, and local cost-share partners have not been identified. It is anticipated that the City of Modesto and Stanislaus County can either supply the local share or form local cost-share partnerships. However, the local cost share is anticipated to be greater than $20,000, so the project has been assessed as having "Medium" financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Medium

The study would generate information that would inform flood management and lead to actions that would reduce loss of life in Modesto, which has the highest population in the planning area.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Medium

The study would generate information that would inform flood management and may lead to actions that would result in the reduction of flood risk in terms of loss of life in the relatively populated river corridor.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

Low

Several measures related to ecosystem rehabilitation are included in the scope of the proposed study, but the magnitude of benefits that will flow from actions recommended by the study have not been defined. A score of "Low" has been selected to represent a modest expectation of ultimate project outcomes flowing from this study.

RC-7. ***Institutional support*.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

Ecosystem rehabilitation has the potential to improve water quality. The study includes an analysis of detention/wetland habitat along Dry Creek, which, if implemented, would be expected to improve water

quality. A score of "Low" has been selected to represent a modest expectation of ultimate project outcomes flowing from this study.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated. (Betty, would you consider funding a study rather than an implementable project a dis-benefit?)

Tuolumne River Regional Park – Carpenter Road/West Modesto Flood Management and Park Development

Project Lead: Tuolumne River Regional Park Joint Powers Authority

Potential Project Partners:

City of Modesto, City of Ceres, Stanislaus County, Tuolumne River Trust

Short Project Description:

Help reduce flood damages in West Modesto neighborhoods while developing the adjacent Tuolumne River Regional Park.

Long Project Description:

The January 1997 flood caused major damage to many areas throughout the Central Valley. In Stanislaus County, one area that was heavily impacted is West Modesto adjacent to the Carpenter Road area of the Tuolumne River Regional Park and has been identified in the 2008 FEMA 100-year Flood Zone. Through this project, a small flood management levee is proposed to be constructed along the northern edge of the Tuolumne River Regional Park, south of the residences, which would protect the neighborhood while the undeveloped parkland is developed. Additionally, habitat restoration and park development activities would be undertaken in order to bring the undeveloped open space area back to a more riparian and natural riverine habitat while creating nature-based land forms to channel flood waters onto and through the Carpenter Road Area of the Tuolumne River Regional Park limiting flooding into the adjacent neighborhoods.

Unique Project Characteristics:

Installing a flood management levee would contribute to protecting human life and property during periods of high water flows in the Tuolumne River. This project marries flood management, habitat restoration, and park development and could be completed with other flood reduction, park development and habitat restoration projects on the Tuolumne River.

Project Status: Planning. The Tuolumne River Regional Park Master Plan, adopted in 2001, includes the overview for development of the Carpenter Road Area. Funding is required to implement the construction of the levee and to develop the Specific Plan for the Carpenter Road Area.
Project Cost: $750,000
Project Timeframe: Approximately 2 years
Cost-sharing: No opportunities identified to date.
Multi-benefit Project: Yes
Types of benefits: The project would improve flood risk management, promote ecosystem functions, and improve recreation, making it a multi-benefit project.
Source of Project: City of Modesto on behalf of the Tuolumne River Regional Park JPA.

Background Information:

None provided

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management, promote ecosystem functions, and improve recreation, making it a multi-benefit project.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The project has broad support and capable project co-leads, the Tuolumne River Regional Park and Tuolumne Joint Powers Authority.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

The project co-leads do not have the resources to meet the local cost share, and no funding partners have been identified. Additionally, the local cost share is anticipated to be greater than $20,000, so the project has been assessed as having "Medium" financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Medium

The project would improve flood protection in West Modesto neighborhoods, and is expected to reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

The project would improve flood protection in West Modesto neighborhoods, and is expected to reduce flood damages at a locally-significant level.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified. The project would add flood management facilities and, therefore, would add to operations, maintenance, and repair requirements. This is noted under RC-10.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.

- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

High

The project is consistent with CVFPP metrics 6a, Shaded Riparian Aquatic (SRA) Cover, and 6b, Riparian, under metric 6, Habitats - Increase and improve quantity, diversity, quality, and connectivity of riverine aquatic and floodplain habitats. The project is also consistent with the Habitat Restoration Plan for the Lower Tuolumne River.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project would materially increase recreation and public access benefits on the Tuolumne River at a locally-significant scale.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The score is "High" because the project would provide flood risk reduction, park development, and habitat enhancement in an important urban center at a relatively low cost.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

Tuolumne River Regional Park

Project Lead: Tuolumne River Regional Park Joint Powers Authority

Potential Project Partners:

City of Modesto, City of Ceres, Stanislaus County, Tuolumne River Trust

Short Project Description:

Continued development of the undeveloped areas of the Tuolumne River Regional Park including the Gateway Parcel.

Long Project Description:

Development of these two areas of TRRP will focus on protecting and enhancing sensitive habitats and natural areas, including wetlands and riparian corridors; preserving and enhancing existing wildlife habitat areas; protecting and enhancing aquatic species and habitat; promoting a flood management program that provides protection from catastrophic flooding and contributes to the ecological values of the river corridor; developing educational programs that emphasize individual and community responsibility for resource protection and conservation and design areas within the overall park to accommodate multiple purposes and changes in recreational preferences over time while creating active and passive areas within the park.

Development of the 87-acre Gateway Parcel will provide a high-profile public gathering place, close to the commercial centers of Modesto and Ceres and accessible to the rest of the region along major arterial streets and California state Highway 99. In addition to the public gathering areas the park will include a substantial trail network, river access points, active and passive recreational zones, extensive riparian restoration work, storm water purification wetlands and educational interpretive elements.

Development of the 185-acre Carpenter Road Area will provide area for active use of a planned-for sports complex along with a place for land and water reclamation and restoration and educational interpretation. The site will include an extensive river promenade trail network, a mile and half of riparian corridor restoration and more the 100 acres of new forests and meadows along with storm water purification wetlands. Lastly, the development of the Carpenter Road Area will include a nature interpretive center to be located near the sports complex and will host exhibits about the riparian restoration in the park, new forests and meadows, and the many wildlife species that live in and along the river.

Unique Project Characteristics:

The continued development of TRRP will promote conservation and open space along the 7 river miles long park while limiting catastrophic flooding in the neighborhoods adjacent to TRRP. This overall project marries flood management, habitat restoration, educational opportunities, park development and open space conservation.

Project Status:	Planning and construction
Project Cost:	$60,000,000
Project Timeframe:	15-25 years to completion
Cost-sharing:	City of Modesto, County of Stanislaus, State of California Natural Resources Agency have all contributed over $1 million each to this project with grants from the State of California totaling approximately $5.5 million to date.
Multi-benefit Project:	Yes
Types of benefits:	The project would promote ecosystem functions and recreation, making it a multi-benefit project.
Source of Project:	City of Modesto on behalf of the Tuolumne River Regional Park JPA.

Background Information:
None provided.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project would improve flood risk management, promote ecosystem functions, and promote recreation, making it a multi-benefit project.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified co-leads, Tuolumne River Regional Park and the Tuolumne Joint Powers Authority.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Low

Significant funding has been provided by cost sharing partners. However, while substantial, the funding is a small part of the estimated cost of the project. Because the local cost share is anticipated to be greater than $500,000, the project has been assessed as having "Low" financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

The project would limit catastrophic flooding in the neighborhoods adjacent to the TRRP, which may reduce loss of life.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.

- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.
- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

The project would limit catastrophic flooding in the neighborhoods adjacent to the TRRP, which would create a locally-significant reduction in flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

High

The project is consistent with CVFPP metrics 6a, Shaded Riparian Aquatic (SRA) Cover, 6b, Riparian, and 6c, Marsh, under metric 6, Habitats - Increase and improve quantity, diversity, quality, and connectivity of

riverine aquatic and floodplain habitats. The project is also consistent with the Habitat Restoration Plan for the Lower Tuolumne River.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

N/A

No benefits identified.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project would materially increase recreation and public access benefits on the Tuolumne River at a locally-significant scale.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.

- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

Westside Creeks On-Farm Multi-Benefit Program

Project Lead: Audubon California

Potential Project Partners:

West Stanislaus Resource Conservation District, irrigation districts, Natural Resources Conservation Service, United States Fish and Wildlife Service, California Wildlife Conservation Board.

Short Project Description:

Provide outreach and technical assistance to landowners in the Stanislaus County Westside Creek watersheds for multi-benefit flood risk reduction projects.

Long Project Description:

This project would involve Audubon California reaching out to farmers and coordinating multi-benefit flood protection projects throughout entire watersheds on Del Puerto, Ingram-Hospital, and Orestimba Creeks. By addressing an entire watershed, as opposed to supporting piecemeal restoration projects, this project's efforts will match the scale of the solution to the scale of the problem. A three-year program is envisioned that reduces flood risk, prevents erosion, improves water quality, and enhances wildlife habitat and pollinator services on 20 miles or more of creek.

This program proposes supporting project development (landowner outreach, grant writing, permitting, and planning). Various entities will be engaged that could include the West Stanislaus Resource Conservation District , a Conservation Corps (either the California Conservation Corps or the San Joaquin County Regional Conservation Corps), or a local Audubon Society chapter, as well as the landowner, in the on-the-ground implementation, including site preparation, plant installation, and maintenance for two to three years. Typical maintenance tasks include drip irrigation, weed control, and possibly replanting in the case of plant failure.

Prior to establishing a combination of native trees, shrubs, forbs, grasses and sedges, the project will likely involve the landowners and NRCD engineers to reduce, or lay back, the bank slope to facilitate plant establishment. This practice has the benefit of increasing channel capacity in the upper portion, thereby reducing flood risk. We then stabilize the new slope by plugging sedges and rushes, which both stabilize the slope, through their root action, and filter water going into the creek.

Unique Project Characteristics:

The project lead, Audubon California, has a proven track record of working with farmers to enhance the wildlife value of farms. Over the past 15 years, Audubon staff has worked with over 100 landowners throughout the Sacramento Valley. The Audubon approach is to use their expertise to reach out to farmers, help identify multiple funders, seek permits, and plan restoration projects. They work closely with the farmer, Resource Conservation Districts, and Conservation Corps to implement the projects.

Project Status:	This project is in the concept phase, but since the project lead is currently conducting very similar work in the Sacramento Valley; thus, work could begin very quickly if funding were allocated.
Project Cost:	$75,000
Project Timeframe:	3 years
Cost-sharing:	The project lead, Audubon California, has been very successful in attracting partners for on-farm habitat restoration. We regularly work with NRCS, USFWS Partners of Fish and Wildlife Program, and the Wildlife Conservation Board. The project lead has also been able to leverage this funding to attract considerable foundation support.

During the past two years, the project lead has brought in over $1,000,000 from state, federal, and private sources to support ten projects. The project lead anticipates that this project will also be funded by multiple sources.
NRCS's Bay Delta Initiative is funding $6,000,000 over five years of water-quality projects on Ingram-Hospital Creek, and this project would incorporate water-quality benefits, so we may be able to use those funds as a cost share. NRCS' EQIP program could also potentially be tapped for wildlife benefits.
The Partners of Fish and Wildlife Program office for the area is potentially interested in contributing $75,000 over three years to these multi-benefit projects. Further, they think there may be potential funding from the regional office for a large-scale program.

Multi-benefit Project: Yes

Types of benefits: The project is anticipated to improve flood risk management; operations and maintenance; and institutional support.

Source of Project: Through the project lead's relationship with the West Stanislaus RCD, they have met several landowners in these watersheds who have asked Audubon California for help implementing this kind of project.

Background Information:

Audubon California has been planning and implanting on-farm habitat restoration projects for 15 years. This work in Yolo County began by the invitation of local farmers. Since that time, Audubon has sought to increase the pace, scope, and scale of our work by expanding into Solano, Colusa, San Joaquin, Stanislaus, and Merced Counties. One of the primary practices is to vegetate waterways that carry agricultural drainage water, as these channels often have available moisture in the summer, which enhances the success of plant installation. When this is done, the channel is widened, and the slope reduced, as it provides space for the vegetation we establish, and reduces erosion.

Audubon California collaborates with The Nature Conservancy and Point Blue Conservation Science in the Migratory Bird Conservation Partnership, where each organization lends its strength to the larger effort of enhancing migratory bird populations in the Central Valley. One of Audubon California's roles in the partnership is reaching out to farmers and providing technical assistance on farm edge plantings, and ensuring that the projects we develop provide food, shelter, and nest sites for migratory and resident birds.

In the last few years, several landowners on Del Puerto Creek have asked Audubon California for help with identifying funding opportunities and grant writing, permitting, and planning multi-benefit flood control projects. Audubon's interest is in establishing demonstration projects on working farms that benefit birds and other wildlife, and will lead to large-scale adoption of these practices.

Audubon has observed that many growers are farming to the edge of Del Puerto Creek, and the banks are steep and failing in many places. According to anecdotal evidence, the channel capacity is inadequate in places to carry flood flows during the significant rain events which occur every two to three years.

Audubon's typical farm edge planting practice is to reduce the bank slope to facilitate plant establishment. This practice has the added benefit of increasing channel capacity, thereby reducing flood risk.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

High

The project is anticipated to improve flood risk management; operations and maintenance; and institutional support as well as promote ecosystem functions and multi-benefit projects.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

Medium

The score is "Medium" because the project has been developed as a concept, has a description, and identified lead, Audubon California.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

Medium

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

High

Audubon may be able to fundraise to supply the local cost share. Because the estimated project local cost share is quite modest, the financial feasibility is evaluated as "High."

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

Low

If improved coordination among Westside Creeks landowners results in reduced flood risk, loss of life may also be reduced.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.

- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

If improved coordination among Westside Creeks landowners results in reduced flood risk, a reduction in damages could occur at a locally-significant scale.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

The project is anticipated to materially improve channel maintenance at a locally-significant scale.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

Medium

Audubon is specifically interested in supporting efforts that incorporate a restoration goal. While project benefits and magnitudes have not specifically been identified at this stage, the project is expected to

increase ecosystem function at some level, and would support the Central Valley Joint Venture Implementation Plan and the Riparian Bird Conservation Plan.

RC-7. ***Institutional support*****.** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project would materially increase institutional support at a locally-significant level. It is anticipated to provide education, funding planning, and design support to landowners along the targeted waterways.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Low

Audubon is specifically interested in supporting efforts that incorporate a restoration goal. While project benefits and magnitudes have not specifically been identified at this stage, the project is expected to at least improve water quality at some level, and a score of "Low" has therefore been assigned.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

High

The cost of the project is very low when compared to the benefits.

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

High

No dis-benefits are anticipated.

WSID Fish Screen and Change in Point of Diversion Project

Project Lead: West Stanislaus Irrigation District

Potential Project Partners:

Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Services (USFWS), U.S. Bureau of Reclamation (USBR).

Short Project Description:

This project will help support three phases of the West Stanislaus Irrigation District (WSID) Fish Screen Project, which will significantly improve site-specific and regional flood management and resilience as well as ecosystem enhancement. Phase 1 would provide cost-share to complete the planning, design and permitting of mutually beneficial fish screen alternatives. Phase 2 funding would contribute to the required 50% non-federal cost-share for construction of WSID's preferred alternative fish screen project. Phase 3 would provide cost-share contribution to help develop and complete the planning, design and permitting of integrated and mutually beneficial flood management and resilience and ecosystem enhancements along 90% of the WSID intake canal and alignment across the SJRNWR.

Long Project Description:

The WSID Fish Screen Project is a state and federal agency priority, and has been included in numerous published conservation and enhancement and restoration plans. These include: 1) Department of Fish and Game. 1990. Central Valley Salmon and Steelhead Restoration and Enhancement Plan (page 107); 2) USFWS. 1995. Working Paper on restoration needs and habitat restoration actions to double natural production of anadromous fish in the Central Valley of California. Volumes 1-3. May 9, 1995. (page 3-Xd-43 and 3-Xd-50-51; 3) USFWS. 2001. Final Restoration Plan for the Anadromous Fish Restoration Program. Adopted January 9, 2001. (page 82"); 4) numerous publications of the CalFed Ecosystem Restoration Program that document the project priorities and progress of this major state/federal/private conservation effort.; and 5) support documents from state and federal agencies responsible for protecting and restoring listed (federal and /or state) fish such as steelhead, and other native fish of concern such as splittail, unique lamprey, white sturgeon, and others that exist in the San Joaquin Basin. Finally, the USFWS management plans and objectives for the San Joaquin River National Wildlife Refuge would be facilitated as a result of planning, permitting, and constructing this proposed project. The three project phases are described below.

Phase 1: Funds would augment non-federal cost-share to the state (existing) and federal (pending) grants to complete the planning, design, and permitting of a "Flood Safe-friendly" fish screen on WSID's water diversion facilities from the San Joaquin River (SJR). This work includes the development of fish screening alternatives at several sites, including new locations to the north near the Highway 132 Bridge over the SJR. Should the District and the partners view this new northern location as a preferred alternative fish screen site(s), this alternative would include new or refurbished linear canals extending west and south from the new diversion and connecting to the District's main canal. It will also require design and permitting for the continued long term use of a short segment (approximately 10%) of the existing WSID intake canal (the extreme western end) as a re-regulating pool to efficiently connect the "fish free" water from the new screen location to the remainder of the District water supply infrastructure (at/near Pump Station 1A).

Phase 2: Should the District select a preferred alternative Fish Screen Project at the Highway 132 site(s), they and their partners will need to secure additional non-federal cost-share funding contributions to complete the construction of the new fish screen and associated infrastructure. The current cost estimate to construct a new fish screen located near Highway 132 is approximately $30M. The federal agencies (USBR/USFWS) require a 50% non-federal cost-share commitment. The District believes that significant benefits to nearby

(proposed) flood management and ecosystem restoration projects will accrue if such a preferred alternative is selected. Hence, Phase 2 of this RFMP Project proposes a significant cost share contribution (to be determined) to help match a 50% federal cost share commitment to the WSID Fish Screen Project.

Phase 3: Either concurrent with or following completion of construction (if at the Highway 132 site(s)), this phase of this RFMP proposal requests cost-share funding contribution for the planning, design, and permitting of a project(s) that uses the remaining 90% of the existing intake canal/alignment across SJRNWR in a mutually-beneficial manner. Clearly, the District will be working very closely with the SJRNWR and other partners on this project phase. The District recognizes that the Three Amigos Project, or similar projects, overlap geographically and functionally and will need to be well-integrated to eventually reach a construction phase. If this phase of the RFMP project is successful, a construction phase would likely be proposed by an appropriate entity.

Unique Project Characteristics:

Reduced operations and maintenance costs and improved efficiency in flood management/maintenance activities would occur over the short and long term in this central portion of the Region upon completion of this proposed project in conjunction with several non-structural flood control projects proposed there. Successful planning, permitting, and construction of this proposed project would also increase institutional and local support for several non-structural flood control projects proposed by the USFWS and River Partners in this central portion of river within the Mid-SJR RFMP planning area.

Project Status:	Planning, design, and permitting
Project Cost:	$38,000,000
Project Timeframe:	1-5 years
Cost-sharing:	WSID, CDFW and BR/FWS have thus far invested more than $3.5 M in preliminary planning, advanced planning, design and the permitting of this Intake/Fish Screen Project. The preliminary estimates for construction costs range from $25-30M. This cost estimate is not unlike many other fish screens built throughout the Pacific Northwest. CDFW has made clear that the State needs to obtain cost-share partner in the construction phase, as have the BR/FWS representatives. WSID has continued to participate as a significant cost-share partner in each phase of the project, and has agreed to the long term maintenance and operations costs to operate the new fish screen once completed. In the interim, they continue to operate and maintain their current intake on the SJR just upstream of the Tuolumne River confluence.
Multi-benefit Project:	Yes
Types of benefits:	The project would improve flood risk management as the diversion would be relocated to a more readily protected location. The WSID diversion would be consolidated with other existing diversions, reducing the number of locations that would be exposed to flood risk, which would also improve O&M and institutional support. The project would improve water supply reliability, making it a multi-benefit project, and protect fish from entrainment, which would support ecosystem function.
Source of Project:	West Stanislaus Irrigation District

Background Information:

There are reports and other materials available through the West Stanislaus Irrigation District.

Screening-level assessment

SC-1. ***Consistency with RFMP goals.*** Consistent with CVFPP goals: improve flood risk management, improve operations and maintenance, promote ecosystem functions, improve institutional support, promote multi-benefit projects.

Note: If the project is a study, evaluate the goals of the ultimate project that would flow from the study.

- **Low** if it meets *only* the multi-benefit project supporting objective.
- **Medium** as long as it meets 1-2 of the primary and/or supporting objectives and does not qualify as "Low."
- **High** if it includes meeting 3 or more of the primary and/or supporting objectives.

Medium

The project would improve flood management and water supply reliability and protect fish from entrainment, making it a multi-benefit project.

SC-2. ***Implementation feasibility.*** Consider existing laws or regulations, community opposition/support, or other factors affecting implementation feasibility.

Note: If the project is a study, evaluate only the implementation feasibility of completing the study.

- **Low** if the project is judged to face significant odds (e.g., a similar project has already been forcefully pursued and has failed to progress, and there is little reason to expect a different outcome now.)
- **Medium** if the project has been developed as a concept and has a description and an identified lead.
- **High** if the project has already gone through feasibility analysis and been found feasible, if appropriate, or the project already has reasonable assurance of being implemented by a capable project lead.

High

The project has been partially designed and the environmental review process is underway.

Ranking-level assessment

RC-1. ***Implementation feasibility.*** (As in Screening-level assessment guidance.)

High

RC-2. ***Financial feasibility.*** Capacity to cover local share, with funding availability, or all project costs).

Note: project costs should be considered to include both the initial costs and the ongoing operations, maintenance, and repair costs, though this information may not be available. If the project is a study, evaluate only the financial feasibility of completing the study.

- **Low** if the anticipated project lead does not have the resources to either 1) carry out the project; or 2) supply any needed local cost share. Given the findings of the Financial Plan, projects are identified as "Low" if the anticipated local cost share exceeds $500,000, unless the project has been successful in attracting grant funding so far.
- **Medium** if the project does not meet the criteria for "Low" or "High" Financial Feasibility.
- **High** if the anticipated project lead has the resources to either 1) carry out the project; or 2) supply any needed local cost share and a plausible funding source for the balance has been identified. Given the findings of the Financial Plan, we estimate that for most entities in the planning area, local cost shares will need to be less than $20,000 to be funded. For projects having an anticipated local cost share exceeding $500,000, the project will be scored "High" if it has been successful in attracting most of the needed funding already.

Medium

While the cost of this project is quite high relative to other projects in the planning area, the District has been able to attract some funding to the project thus far. As a result, the project is assessed as having "Medium" financial feasibility.

RC-3. ***Flood risk reduction - life risk***. Change in the number of lives potentially at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project may reduce loss of life.
- **Medium** if the project is expected to reduce loss of life based on a qualitative assessment.
- **High** if the project has been analyzed for effect on loss of life and is expected to reduce it.

N/A

No benefits identified.

RC-4. ***Flood risk reduction - flood damage.*** Change in the value of assets at risk, at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to create a locally-significant reduction in flood risk.
- **Medium** if the project is expected to create a regionally-significant reduction in flood risk.

- **High** if the project is expected to create a significant reduction in flood risk from a regional perspective and beyond.

Low

The project is anticipated to reduce exposure of WSID diversion and delivery infrastucture to flood risk.

RC-5. ***Operations, maintenance and repair.*** Improvement in efficiency and effectiveness, or reduction of need at present and over the long term.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to only modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project would materially improve O&M at a locally-significant level. Specifically, the O&M of the berms adjacent to the diversion canal will be reduced as a result of relocating these facilities.

RC-6. ***Ecosystem function*****.** Consistency with ecosystem priorities and goals of the (Draft) CVFPP metrics, the (Draft) Conservation Strategy (if available) and/or adopted conservation or recovery plans.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to increase ecosystem function compared to current conditions, but is not specifically consistent with the priorities and goals of the Draft CVFPP metrics or other adopted conservation or recovery plans.
- **Medium** if the project is consistent with the priorities and goals of one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.
- **High** if the project is if the project is consistent with the priorities and goals of more than one of the following: 1) the Draft CVFPP metrics or 2) other adopted conservation or recovery plans.

High

This project would screen the largest remaining unscreened diversion along the San Joaquin River. (Note that the diversions/screens metric was removed from the BWFS/CS metrics; the table states that diversions are

outside of the scope of the CVFPP and BWFS.) As described in the long project description, the project is consistent with several conservation and recovery plans.

RC-7. ***Institutional support.*** Improved support for entities contributing to flood management.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

Medium

The project would materially improve institutional support at a locally significant level.

RC-8. ***Other benefits.*** "Multiple benefits" not addressed by criteria above, e.g., water quality, recreation, public access, water supply, groundwater recharge, economic, etc.

Note: if the project does not directly incorporate this benefit, score as "N/A." If a study, evaluate the anticipated benefits of the ultimate project that would flow from the study.

- **Low** if the project is expected to modestly increase such benefits compared to current conditions and into the future.
- **Medium** if the project is expected to materially increase such benefits at a locally-significant level compared to current conditions and into the future.
- **High** if the project is expected to materially increase such benefits at a regionally-significant level compared to current conditions and into the future.

High

The project would increase water supply reliability and protect fish from entrainment. Benefits would be realized on a regionally-significant scale.

RC-9. ***Cost-effectiveness.*** Benefits vs costs compared to other projects accomplishing similar benefits.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the lower third of the projects considered in terms of the mix of benefits provided for the given project cost.

- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of benefits provided for the given project cost.
- **High** if the project is expected to fall within the upper third of the projects considered in terms of the mix of benefits provided for the given project cost.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

RC-10. ***Low potential for dis-benefits (post-mitigation).*** Low potential for negative outcomes after mitigation; a "High" score indicates very low probability; a "Low" score indicates high probability, etc.

Note: if the project is a study, score as "Medium." To the extent that projects have a similar mix of dis-benefits types and magnitudes, they can be compared. Where direct comparison is not possible, projects should be assumed to fall into the "Medium" category unless there is a clear reason to differentiate them as "Low" or "High."

- **Low** if the project is expected to fall within the upper third of the projects considered in terms of the mix of anticipated dis-benefits.
- **Medium** if the project is expected to fall within the middle third of the projects considered in terms of the mix of anticipated dis-benefits.
- **High** if the project is expected to fall within the lower third of the projects considered in terms of the mix of anticipated dis-benefits.

Medium

The score is "Medium" because there is not a clear reason to differentiate this project as "Low" or "High."

H = High; valued as 3 points
M = Medium; valued as 2 points
L = Low; valued as 1 point
N/A = Not Applicable; valued as 0 point

Project Name	SC-1 Consistency with RFMP goals	SC-2 Implementation feasibility	RC-1 Implementation feasibility	RC-2 Financial feasibility	RC-3 Flood risk reduction - life risk	RC-4 Flood risk reduction - flood damage	RC-5 Operations, maintenance, and repair	RC-6 Ecosystem function	RC-7 Institutional support	RC-8 Other benefits	RC-9 Cost-effectiveness	RC-10 Low potential for dis-benefits	Total
Black Gulch Storm Drainage Study	2	2	2	3	1	1	0	0	0	0	2	2	11
City of Newman/Bureau of Reclamation Flood L	2	2	2	3	2	1	0	0	0	2	2	2	14
Consolidation of O&M	3	2	2	2	1	2	3	0	3	2	2	3	20
Dennett Dam Removal	3	3	3	2	3	1	0	3	0	2	3	3	20
Dos Rios Ranch Floodplain Expansion and Eco	3	3	3	3	1	1	2	3	0	3	3	3	22
Dry Creek Watershed Detention Reconnaissanc	2	2	2	3	2	2	0	0	0	0	2	2	13
Emergency Response Plan – Debris Manageme	2	2	2	3	1	1	1	0	2	3	3	3	19
Emergency Response Plan – Local Planning an	3	3	3	3	2	2	3	0	3	0	3	3	22
Flood Risk Education	3	2	2	3	1	2	1	0	1	1	3	3	17
Gomes Lake / Harding Drain Improvements	2	2	2	2	1	1	2	0	0	0	2	3	13
Hydraulic and Channel Migration Studies	2	2	2	2	1	1	2	0	0	0	2	3	13
Integrated Levee Vegetation Management – Flo	3	3	3	2	0	0	3	3	0	1	2	3	17
La Grange Floodplain Restoration and Spawnin	3	2	2	2	1	1	0	3	0	2	3	3	17
Little Salado Creek	2	3	3	2	1	1	0	0	0	2	2	3	14
Modesto WWTP - Reduce Flood Risk	2	3	3	1	2	1	0	0	0	2	2	2	13
Orestimba Creek Flood Risk Management Proje	2	3	3	1	2	2	0	0	2	0	2	2	14
Patterson WWTP – Reduce Flood Risks	2	2	2	3	1	1	0	0	0	1	2	2	12
RD 1602 Resilience	3	2	2	1	1	1	2	0	2	2	1	3	15
RD 2031 Resilience	3	2	2	3	1	1	2	0	2	2	2	3	18
RD 2063 Resilience	3	2	2	3	1	1	2	0	2	2	2	3	18
RD 2091 Resilience	3	2	2	3	1	1	2	0	2	2	3	3	19
RD 2101 Resilience	3	2	2	1	1	1	2	0	2	2	1	3	15
Reducing Sediment Loading into the San Joaqu	3	3	3	1	1	1	1	0	0	2	1	3	13
Regional Maintenance Technical Support	3	2	2	3	1	2	3	1	3	1	3	3	22
Riverfront Park Project	3	2	2	2	1	1	0	3	0	2	1	3	15
Salado Creek Flood Management Project	2	2	2	2	1	1	0	0	0	0	2	2	10
SB5 Compliance – City of Modesto	3	3	3	3	2	1	0	0	1	1	3	2	16
SB5 Compliance – City of Newman	3	3	3	3	2	1	0	0	1	1	3	2	16
SB5 Compliance – City of Patterson	3	3	3	3	2	1	0	0	1	1	3	2	16
Sediment Management Investigation	3	2	2	2	0	0	1	1	0	0	3	3	12
Storm Drainage Enhancements along Salado C	2	2	2	2	1	1	0	0	0	2	2	2	12
Three Amigos (also known as the Non-structura	3	3	3	3	1	1	2	3	1	3	3	3	23
Tuolumne River Flood Management Feasibility S	3	2	2	2	2	2	0	1	0	1	2	3	15
Tuolumne River Regional Park – Carpenter Roa	3	3	3	2	2	1	0	3	0	2	3	2	18
Tuolumne River Regional Parkway	3	2	2	1	1	1	0	3	0	2	2	2	14
Westside Creeks On-Farm Multi-Benefit Prograı	3	2	2	3	1	1	1	2	2	1	3	3	19
WSID Fish Screen and Change in Point of Diver	2	3	3	2	0	1	2	3	2	3	2	2	20