

DRAFT

Central Valley Flood System Conservation Strategy

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STATE OF CALIFORNIA
THE NATURAL RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES



Table 5-4. Summary of Specificity Added to Upper Sacramento River Conservation Planning Area Objectives to Maximize Contribution to Targeted Species Recovery

Objective Topic	Specificity Added to Maximize Contribution to Targeted Species Recovery
Inundated Floodplain	<ul style="list-style-type: none"> • Sustain inundation for 14 days or longer between late November and late April to benefit anadromous fish • Modify floodplain topography to minimize stranding potential • Eliminate or modify ditches potentially trapping fish
Riverine Geomorphic Processes	- ¹
SRA Cover	<ul style="list-style-type: none"> • Avoid degradation of bank swallow habitat when restoring SRA or near-channel vegetation
Riparian	<ul style="list-style-type: none"> • Incorporate elderberry shrubs into habitat restored in riparian areas within 12 miles of habitat occupied by valley elderberry longhorn beetle • Establish large trees in close proximity to field and row crops to provide Swainson's hawk nesting habitat • Restore patches of riparian habitat greater than 100 acres in size and 660 feet in width to provide high-quality habitat for western yellow-billed cuckoo, where there is potential for occupancy
Marsh (and Other Wetlands)	<ul style="list-style-type: none"> • Minimize potential for submerged aquatic vegetation in restored marsh because it reduces habitat value for target species • Include refugia and basking sites for giant garter snake in restored marsh • Restore marsh and seasonal wetland that is shallowly flooded (less than 6 inches in depth) to provide habitat for greater sandhill crane
Floodplain Agriculture	<ul style="list-style-type: none"> • Promote cultivation of grain crops near existing and potential greater sandhill crane roosting sites • Increase portion of existing rice managed to enhance value as giant garter snake habitat • Increase the quality of existing cropland as habitat for Swainson's hawk foraging by increasing the extent of alfalfa, irrigated pasture, and low-height row crops, particularly relative to orchard and vineyard • Establish large trees in close proximity to field and row crops to provide Swainson's hawk nesting habitat
Fish Passage Barriers	<ul style="list-style-type: none"> • Remediate the following structures to improve fish passage (see Appendix K): <ul style="list-style-type: none"> - Tisdale Weir in the Tisdale Bypass - Moulton Weir in the Butte Basin Overflow Area - Weir No. 1 (Parks Weir) in the West Canal of the Sutter Bypass - One Mile Dam and Sycamore Pool in the lower Big Chico Creek - Lindo Channel Diversion Structure at Lindo Channel
Invasive Plants	- ¹

Sources: Appendix G, "Identification of Target Species and Focused Conservation Plans," and Appendix K, "Synthesis of Fish Migration Improvement Opportunities in the Central Valley Flood System."

Key: SRA = shaded riverine aquatic.

Note:

¹ Focused conservation plans for targeted species do not identify additional specificity as necessary to maximize contribution of objective to recovery of species. Lack of additional specificity does not imply lesser importance for species recovery. Objectives making a major contribution to species recovery (e.g., riverine geomorphic processes) simply may not require additional design criteria to be effective.

Table 5-7. Summary of Specificity Added to Feather River Conservation Planning Area Objectives to Maximize Contribution to Targeted Species Recovery

Objective Topic	Specificity Added to Maximize Contribution to Targeted Species Recovery
Inundated Floodplain	<ul style="list-style-type: none"> • Sustain inundation for 14 days or longer between late November and late April to benefit anadromous fish • Modify floodplain topography to minimize stranding potential • Eliminate or modify ditches potentially trapping fish
Riverine Geomorphic Processes	— ¹
SRA Cover	<ul style="list-style-type: none"> • Avoid degradation of bank swallow habitat when restoring SRA or near-channel vegetation
Riparian	<ul style="list-style-type: none"> • Incorporate elderberry shrubs into habitat restored in riparian areas within 12 miles of habitat occupied by valley elderberry longhorn beetle • Establish large trees in close proximity to field and row crops to provide Swainson’s hawk nesting habitat • Restore patches of riparian habitat greater than 100 acres in size and 660 feet in width to provide high-quality habitat for western yellow-billed cuckoo, where there is potential for occupancy
Marsh (and Other Wetlands)	<ul style="list-style-type: none"> • Minimize potential for submerged aquatic vegetation in restored marsh because it reduces habitat value for target species • Include refugia and basking sites for giant garter snake in restored marsh • Restore marsh and seasonal wetland that is shallowly flooded (less than 6 inches in depth) to provide habitat for greater sandhill crane
Floodplain Agriculture	<ul style="list-style-type: none"> • Promote cultivation of grain crops near existing and potential greater sandhill crane roosting sites • Increase portion of existing rice managed to enhance value as giant garter snake habitat • Increase the quality of existing cropland as habitat for Swainson’s hawk foraging by increasing the extent of alfalfa, irrigated pasture, and low-height row crops, particularly relative to orchard and vineyard • Establish large trees in close proximity to field and row crops to provide Swainson’s hawk nesting habitat
Fish Passage Barriers	—
Invasive Plants	— ¹

Sources: Appendix G, “Identification of Target Species and Focused Conservation Plans,” and Appendix K, “Synthesis of Fish Migration Improvement Opportunities in the Central Valley Flood System.”

Key: SRA = shaded riverine aquatic.

Note:

¹ Focused conservation plans for targeted species do not identify additional specificity as necessary to maximize contribution of objective to recovery of species. Lack of additional specificity does not imply lesser importance for species recovery. Objectives making a major contribution to species recovery (e.g., riverine geomorphic processes) simply may not require additional design criteria to be effective.

Table 5-10. Summary of Specificity Added to Lower Sacramento River Conservation Planning Area Objectives to Maximize Contribution to Targeted Species Recovery

Objective Topic	Specificity Added to Maximize Contribution to Targeted Species Recovery
Inundated Floodplain	<ul style="list-style-type: none"> • Sustain inundation for 14 days or longer between late November and late April to benefit anadromous fish • Modify floodplain topography to minimize stranding potential • Eliminate or modify ditches potentially trapping fish
Riverine Geomorphic Processes	— ¹
SRA Cover	<ul style="list-style-type: none"> • Avoid degradation of bank swallow habitat when restoring SRA or near-channel vegetation
Riparian	<ul style="list-style-type: none"> • Incorporate elderberry shrubs into habitat restored in riparian areas within 12 miles of habitat occupied by valley elderberry longhorn beetle • Establish large trees in close proximity to field and row crops to provide Swainson's hawk nesting habitat
Marsh (and Other Wetlands)	<ul style="list-style-type: none"> • Minimize potential for submerged aquatic vegetation in restored marsh because it reduces habitat value for target species • Include refugia and basking sites for giant garter snake in restored marsh • Provide refugia from floodwaters for giant garter snake and California black rail • Restore patches of marsh greater than 20 acres in size to provide habitat for California black rail, where potential for occupancy is high • Restore marsh and seasonal wetland that is shallowly flooded (less than 6 inches in depth) to provide habitat for greater sandhill crane
Floodplain Agriculture	<ul style="list-style-type: none"> • Promote cultivation of grain crops near existing and potential greater sandhill crane roosting sites • Increase portion of existing rice managed to enhance value as giant garter snake habitat • Increase the quality of existing cropland as habitat for Swainson's hawk foraging by increasing the extent of alfalfa, irrigated pasture, and low-height row crops, particularly relative to orchard and vineyard • Establish large trees in close proximity to field and row crops to provide Swainson's hawk nesting habitat
Fish Passage Barriers	<ul style="list-style-type: none"> • Remediate the following priority structures to improve fish passage: <ul style="list-style-type: none"> - Sacramento Weir in the Sacramento Bypass - Fremont Weir in the Yolo Bypass - Lisbon Weir in the Yolo Bypass - Tule Canal crossings (5) in the Yolo Bypass
Invasive Plants	— ¹

Sources: Appendix G, "Identification of Target Species and Focused Conservation Plans," and Appendix K, "Synthesis of Fish Migration Improvement Opportunities in the Central Valley Flood System."

Key: SRA = shaded riverine aquatic.

Note:

¹ Focused conservation plans for targeted species do not identify additional specificity as necessary to maximize contribution of objective to recovery of species. Lack of additional specificity does not imply lesser importance for species recovery. Objectives making a major contribution to species recovery (e.g., riverine geomorphic processes) simply may not require additional design criteria to be effective.

Table 5-13. Summary of Specificity Added to Upper San Joaquin River Conservation Planning Area Objectives to Maximize Contribution to Targeted Species Recovery

Objective Topic	Specificity Added to Maximize Contribution to Targeted Species Recovery
Inundated Floodplain	– ¹
Riverine Geomorphic Processes	– ¹
SRA Cover	– ¹
Riparian	<ul style="list-style-type: none"> • Incorporate elderberry shrubs into habitat restored in riparian areas within 12 miles of habitat occupied by valley elderberry longhorn beetle • Establish large trees in close proximity to field and row crops to provide Swainson's hawk nesting habitat
Marsh (and Other Wetlands)	<ul style="list-style-type: none"> • Restore seasonal wetland habitat on floodplains of the San Joaquin River between RM 120 and RM 170 and in the Eastside Bypass downstream of the Mariposa Bypass to provide habitat for Delta button-celery • Control invasive plants in and near occupied Delta button-celery habitat • Include refugia and basking sites for giant garter snake in restored marsh • Restore marsh and seasonal wetland that is shallowly flooded (less than 6 inches in depth) to provide habitat for greater sandhill crane
Floodplain Agriculture	<ul style="list-style-type: none"> • Promote cultivation of grain crops near existing and potential greater sandhill crane roosting sites • Increase portion of existing rice managed to enhance value as giant garter snake habitat • Increase the quality of existing cropland as habitat for Swainson's hawk foraging by increasing the extent of alfalfa, irrigated pasture, and low-height row crops, particularly relative to orchard and vineyard • Establish large trees in close proximity to field and row crops to provide Swainson's hawk nesting habitat
Fish Passage Barriers	– ²
Invasive Plants	<ul style="list-style-type: none"> • Control invasive plants in and near occupied Delta button-celery habitat

Source: Appendix G, "Identification of Target Species and Focused Conservation Plans."

Key: RM = River Mile.

Notes:

¹ Focused conservation plans for targeted species do not identify additional specificity as necessary to maximize contribution of objective to recovery of species. Lack of additional specificity does not imply lesser importance for species recovery. Objectives making a major contribution to species recovery (e.g., riverine geomorphic processes) simply may not require additional design criteria to be effective.

² Fish passage barriers have not yet been prioritized.

5.2.5 Lower San Joaquin River CPA

Summary of Existing Conditions

The Lower San Joaquin River CPA encompasses the San Joaquin River from its confluence with the Merced River into the Delta (Figure 5-5). It also includes several major tributaries that are of significance for both flood management and conservation: the Merced, Stanislaus, and Tuolumne Rivers. The San Joaquin River actively meanders in portions of the reach between its confluence with the Merced River and its confluence with the Stanislaus River. The river corridor includes floodplain with complex topography, such as oxbows, swales, and other products of channel migration. In their lower reaches, the Merced, Tuolumne, and Stanislaus Rivers also have sinuous channels in alluvial floodplains. Downstream of its confluence with the Stanislaus River, the San Joaquin River flows into a network of channels that spread into the Delta.

Table 5-16. Summary of Specificity Added to Lower San Joaquin River Conservation Planning Area Objectives to Maximize Contribution to Targeted Species Recovery

Objective Topic	Specificity Added to Maximize Contribution to Targeted Species Recovery
Inundated Floodplain	<ul style="list-style-type: none"> • Restore seasonal wetland habitat on San Joaquin River floodplains, RMs 80–120, to benefit multiple target species • Sustain inundation for 14 days or longer between late November and late April to benefit anadromous fish • Modify floodplain topography to minimize stranding potential • Eliminate or modify ditches potentially trapping fish
Riverine Geomorphic Processes	— ¹
SRA Cover	— ¹
Riparian	<ul style="list-style-type: none"> • Restore patches of riparian habitat greater than 10 acres in size to provide habitat for least Bell's vireo, where potential for occupancy is high • Incorporate elderberry shrubs into habitat restored in riparian areas within 12 miles of habitat occupied by valley elderberry longhorn beetle • Establish large trees in close proximity to field and row crops to provide nesting habitat for Swainson's hawk • Provide high-quality refugia from floodwaters for riparian brush rabbit and riparian woodrat, including in all setbacks and bypasses • Restore habitat to connect riparian areas of Caswell SP, San Joaquin River NWR, and the South Delta
Marsh (Other Wetlands)	<ul style="list-style-type: none"> • Restore seasonal wetland habitat on San Joaquin River floodplains, RMs 80–120, to benefit Delta button-celery • Minimize potential for submerged aquatic vegetation in restored marsh because it reduces habitat value for target species • Include refugia and basking sites for giant garter snake in restored marsh • Provide refugia from floodwaters for giant garter snake and California black rail • Restore patches of marsh greater than 20 acres in size to provide habitat for California black rail, where potential for occupancy is high • Restore marsh and seasonal wetland that is shallowly flooded (less than 6 inches in depth) to provide habitat for greater sandhill crane
Floodplain Agriculture	<ul style="list-style-type: none"> • Promote cultivation of grain crops near existing and potential greater sandhill crane roosting sites • Increase the quality of existing cropland as habitat for Swainson's hawk foraging by increasing the extent of alfalfa, irrigated pasture, and low-height row crops, particularly relative to orchard and vineyard • Establish large trees in close proximity to field and row crops to provide Swainson's hawk nesting habitat
Fish Passage Barriers	— ²
Invasive Plants	<ul style="list-style-type: none"> • Control invasive plants in and near occupied Delta button-celery habitat • Control invasive plants in and near occupied slough thistle habitat

Source: Appendix G, "Identification of Target Species and Focused Conservation Plans."

Key: NWR = National Wildlife Refuge; RM = River Mile; SP = State Park; SRA = shaded riverine aquatic.

Notes:

¹ Focused conservation plans for targeted species do not identify additional specificity as necessary to maximize contribution of objective to recovery of species. Lack of additional specificity does not imply lesser importance for species recovery. Objectives making a major contribution to species recovery (e.g., riverine geomorphic processes) simply may not require additional design criteria to be effective.

² Fish passage barriers have not yet been identified or prioritized. Information is forthcoming.