CVFPP Conservation Strategy Measurable Objectives Summary

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The Conservation Strategy (CS) is part of the CVFPP and its supporting goals are interrelated as, are the four ecological goals specific to the CS.

For each ecological goal, the CS provides objectives for specific processes, habitats, species or stressors.

Ecological Goal	Targeted Ecosystem Process, Habitat, Species, or Stressor
Ecosystem processes. Improve dynamic hydrologic and geomorphic processes.	Floodplain inundation
	Riverine geomorphic processes
Habitats. Increase and improve quantity, diversity, quality, and connectivity of riverine and floodplain habitats.	SRA cover
	Riparian
	Marshes and other wetlands
	Floodplain agriculture
Species. Contribute to the recovery and sustainability of native species populations and overall biotic community diversity.	Targeted species
Stressors. Reduce stressors related to the development and operation of the SPFC that negatively affect at-risk species.	Revetment
	Levees[1]
	Fish passage barriers
	Invasive plants

Key: CVFPP = Central Valley Flood Protection Plan, SRA = shaded riverine aquatic.
Note:
[1] In particular, levees are a stressor where located within river meander zones or if their design does not provide sufficient capacity for riparian habitat throughout the floodway.

Metrics

The CS identifies metrics for each targeted ecosystem process, habitat, or stressor that provides a basis for developing measurable objectives.

| Goal	Targeted Ecosystem Process, Habitat, or Stressor	Metric
Ecosystem Processes. Improve dynamic hydrologic and geomorphic processes.	Inundated Floodplain	**Inundated Floodplain—total amount (acres) of 33-percent flows with 14 day-long duration during December–May:** This is a metric of the amount of inundated floodplain benefiting target fish species. These amounts are derived from hydraulic modeling using data developed for planning flood management projects.
	Riverine Geomorphic Processes	**Natural Bank—total length (miles):** Natural bank is a component of SRA cover and bank habitat and is necessary for migration of a river channel. Its length is related to the area of floodplain potentially reworked by channel migration (river meander). The length of natural bank can be readily measured from imagery, topographic data, and DWR-maintained inventories of revetment.
		River Meander Potential—total amount (acres): Movement of a river channel across its floodplain regenerates channel and floodplain habitats. River meander potential is the area of floodplain that has the potential to be reworked by the meandering channel because it is within the river's natural meander zone, not underlain by substrates resistant to erosion, and not isolated by revetted banks or levees. Areas with river meander potential can be cost-effectively mapped using aerial photography, inventories of revetment and levees and existing geologic/soils data.
Habitats. Increase and improve quantity, diversity, quality, and connectivity of riverine aquatic and floodplain habitats.	SRA Cover	**Natural Bank—total length (miles):** see natural bank description under "Riverine Geomorphic Processes."
		Riparian-Lined Bank—total length (miles): Riparian-lined banks are an attribute of SRA cover and because SRA cover exists only along channel margins, length is a direct measure of its quantity. Mapping of riparian-lined banks is related to the mapping of riparian vegetation, natural bank, and revetment, all of which DWR inventories for multiple purposes.
	Riparian	**Habitat Amount—total amount (acres) in floodways:** The area of riparian vegetation (i.e., riparian forests, woodlands, and scrub) is a direct measure of its quantity. DWR has mapped this vegetation in the Sacramento and San Joaquin Valleys.
	Marsh (and Other Wetlands)	**Habitat Amount—total area (acres) in floodways:** The area of marsh and other wetlands is a direct measure of their quantity. DWR has mapped this vegetation in the Sacramento and San Joaquin Valleys.
	Floodplain Agriculture— Wildlife-Friendly	**Habitat Amount—total amount (acres) of wildlife-friendly agriculture in floodways:** The area of floodplain agricultural land with wildlife-friendly agricultural practices is a direct measure of its quantity. Wildlife-friendly practices are those increasing habitat value for target wildlife species; fish habitat provided by inundated agricultural land is addressed under inundated floodplain.) Areas implementing wildlife-friendly practices have not yet been mapped.

Example: Floodplain Inundation

*Floodplains are a critical habitat component to ensure healthy native fish populations.*

Source: Jeffres et al. 2008; reprinted with permission.

Historical vs. existing rearing habitat, for example, illustrates needs critical to meeting CS goals and informs development of objectives.
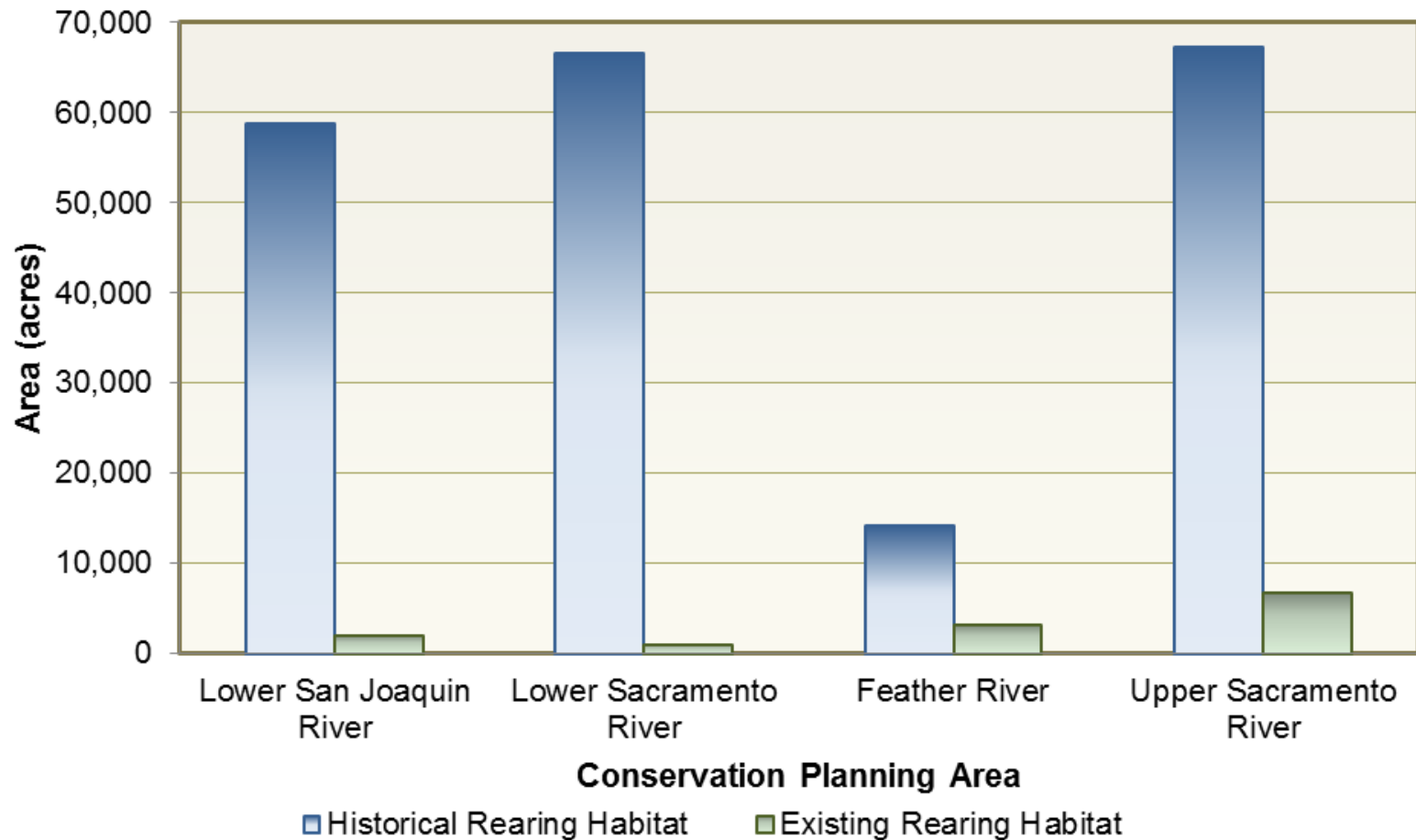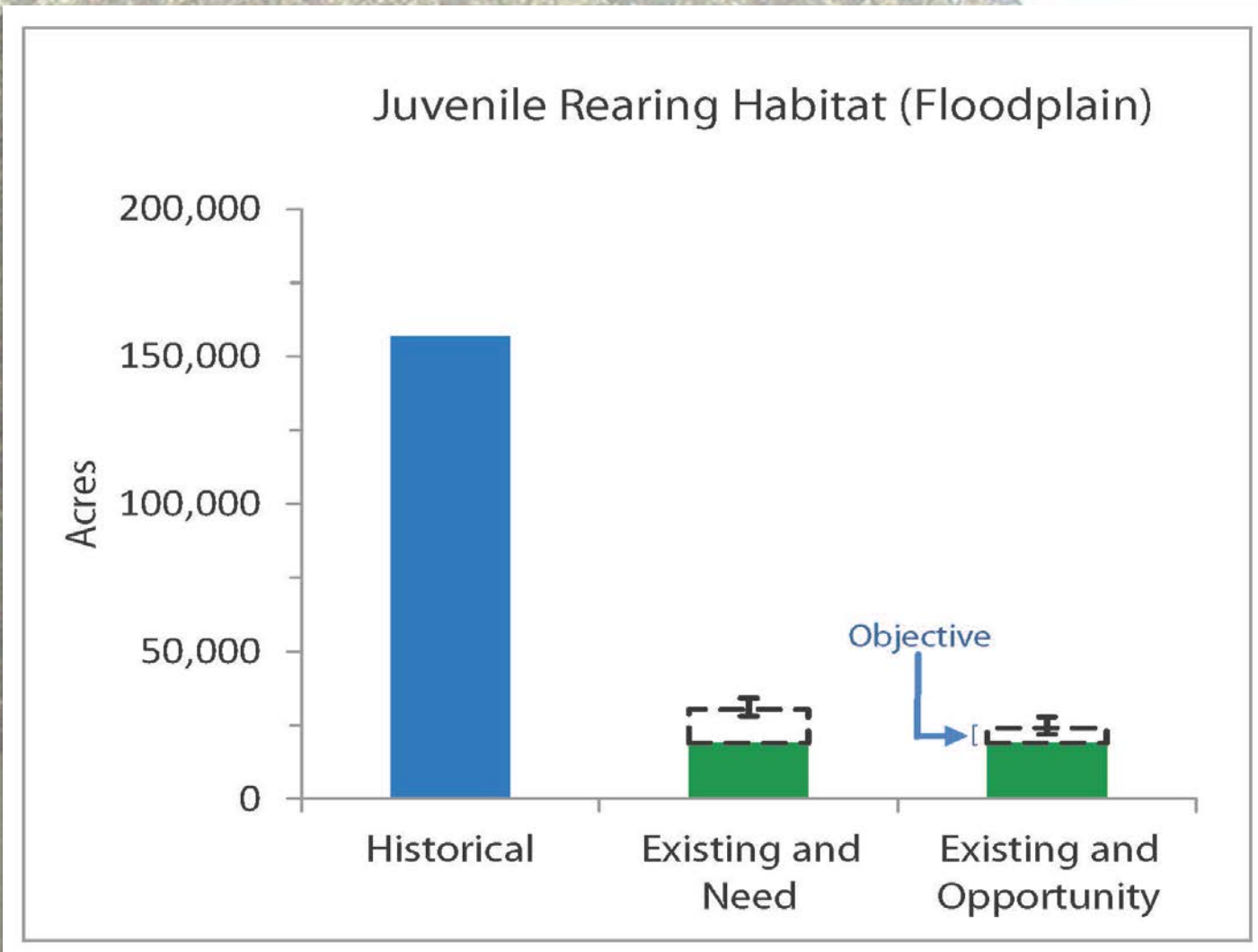
Understanding Conservation Needs

Translating a recovery goal for species (such as the doubling goal for salmon populations) into something measurable within the flood system can provide a means for setting a target for a metric such as acres of suitable floodplain habitat.
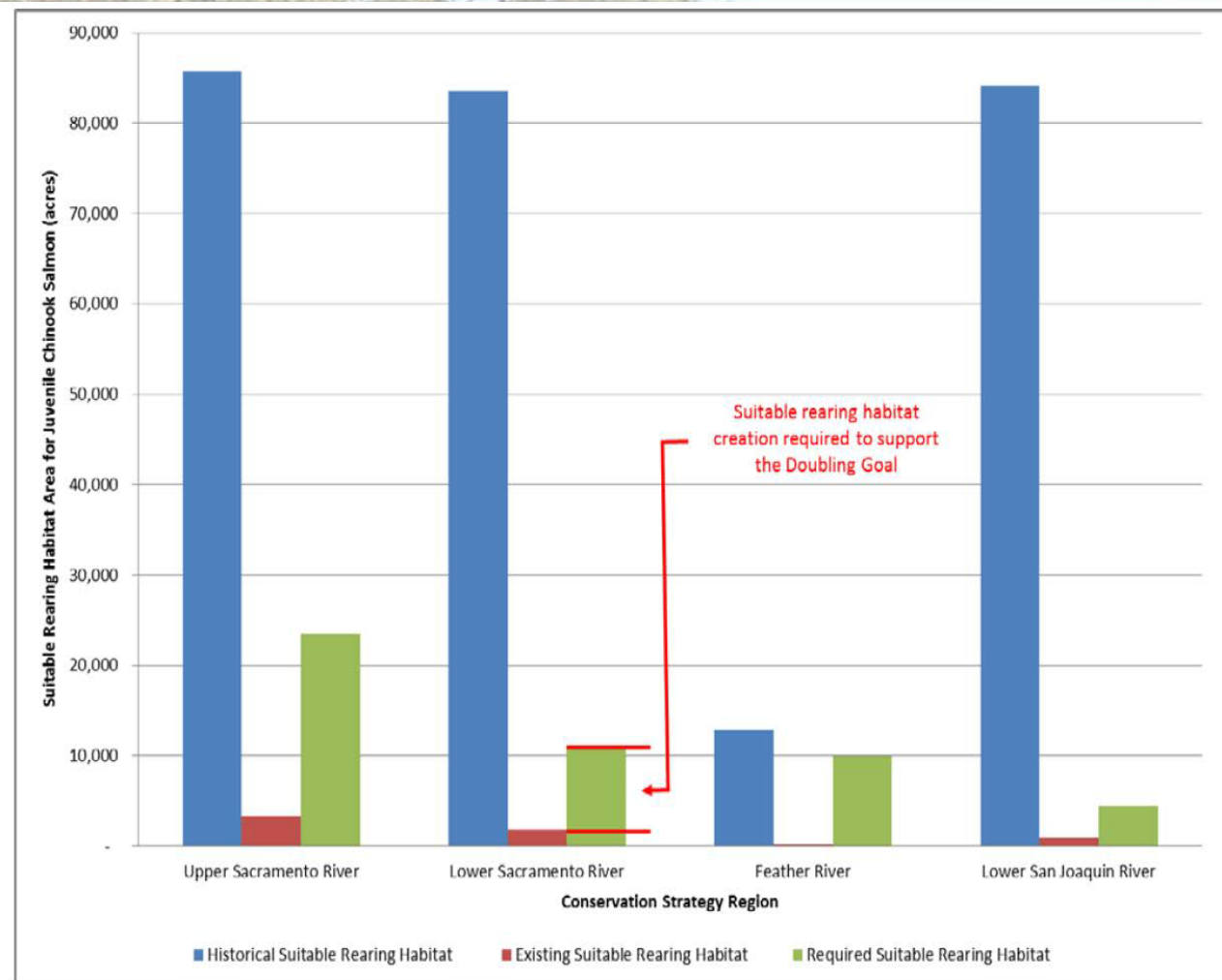
Note: Historical and existing values assume average suitability of the total area inundated by flows with timing, duration, and frequency suitable for juvenile California Chinook salmon rearing. Required values assume migration, growth, and survival rates averaged for early and late migration strategy juvenile salmonid life histories.

Measurable objectives are developed based on projected changes in the flood system that could contribute to conservation needs.

Schedule

Questions?