

Sespe Creek, Ventura County
CAP Workbook Threats Assessment Summary Tables
2008

Assessment of Target Viability Sespe Creek, Ventura County

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| | | | | Indicator Ratings | | | | | | | | | |
|---------------------|----------|-------------------|-------------------------------|--|---|--|-------------------------------|---------------------------------|--|----------------|------------------------|-------------------------|--|
| | | | | Poor | Fair | Good | Very Good | | | | | | |
| Conservation Target | Category | Key Attribute | Indicator | Poor | Fair | Good | Very Good | Current Indicator Status | Current Rating | Desired Rating | Date of Current Rating | Date for Desired Rating | |
| 1 | Egg | Landscape Context | Flow during incubation period | Baseflow in relation to avg. annual daily flow | < 25% of avg. annual daily flow | 26-50% of avg. annual daily flow | | > 50% of avg. annual daily flow | mostly perennial flows | Good | | Dec-05 | |
| 1 | Egg | Landscape Context | Non-native species | Non-native egg predators | present throughout watershed | present in >50% of watershed | present in < 50% of watershed | absent | about 50% of main stem; none in tributaries | Fair | | Dec-05 | |
| 1 | Egg | Landscape Context | Water temperature | Mean weekly avg. temperature in redds | < 5 C. and > 13 C. | 11.1-13 C. | 10.1-11 C. | 6-10 C. | | | | Dec-05 | |
| 1 | Egg | Condition | Substrate quality | Avg. percent fines (<0.85mm) in potential spawning areas | > 17% fines | 11-17% fines | 5-10 % fines | < 5% fines | < 10% | Good | | Dec-05 | |
| 1 | Egg | Condition | Substrate quality | Embeddedness | > 75% embedded | 50-75% embedded | 25-49% embedded | < 25% embedded | avg 36.4% | Good | | May-05 | |
| 2 | Fry | Landscape Context | Dispersal | Barriers between redds and rearing habitat | complete barrier | partial barriers common | partial barriers scarce | no barriers | perennial flows and no mainstem barriers | Very Good | | Sep-05 | |
| 2 | Fry | Landscape Context | Non-native species | Non-native fry predators | present throughout watershed | present > 50% watershed | present < 50% of watershed | absent | about 50% of main stem have exotics; none in tributaries | Fair | | Dec-05 | |
| 2 | Fry | Landscape Context | Sediment supply | Turbidity (no. days turbidity is > 25 NTUs) | > 30 days during fry development period | 20-30 days | 10-19 days | < 10 days | | | | Sep-07 | |
| 2 | Fry | Condition | Habitat complexity/refugia | Amount of functional high velocity refuge habitat with flows < 15 cm/sec (boulders, overhanging banks, etc.) | none; watercourse in rearing habitat is channelized | some | common | abundant | high amount of instream cover | Very Good | | Jan-05 | |
| 3 | Juvenile | Landscape Context | Dispersal | Barriers between rearing habitat and estuary | present | | | absent | lack of surface flows in SC River; Freeman Diversion Dam | Poor | | Dec-05 | |

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| Conservation Target | Category | Key Attribute | Indicator | Poor | Fair | Good | Very Good | Current Indicator Status | Current Rating | Desired Rating | Date of Current Rating | Date for Desired Rating |
|---------------------|-------------------|---|---|------------------------------|-------------------------|-------------------------|--|---|----------------|----------------|------------------------|-------------------------|
| 3 Juvenile | Landscape Context | Flow during rearing period | Pool habitat > 3 feet in depth | pools scarce or absent | low abundance of pools | high abundance of pools | high abundance of pools with multiple "refuge" pools (> 5 ft deep) | high abundance | Very Good | | Dec-05 | |
| 3 Juvenile | Landscape Context | Non-native species | Non-native juvenile predators | present throughout watershed | present > 50% watershed | present < 50% watershed | absent | about 50% of main stem; none in tributaries | Fair | | Dec-05 | |
| 3 Juvenile | Landscape Context | Summer flow | Percent of unimpaired median summer baseflow (based on long-term mean monthly discharge) | < 70% | 70-90% | > 90% | 100% over all IP-km | mostly perennial flows | Good | | Dec-05 | |
| 3 Juvenile | Landscape Context | Water temperature | Median weekly average temperature (MWAT) in potential rearing habitat | > 21 C. | 18-21 C. | < 18 C. | < 17 C. | about 15-16 C | Very Good | | Dec-05 | |
| 3 Juvenile | Condition | Estuarine inflows | Percentage of unimpaired freshwater inflow to estuary (necessary for maintaining brackish water < 15 ppt salinity) | < 25% | 25-49% | 50-75% | > 75% | | | | Sep-05 | |
| 3 Juvenile | Condition | Estuarine inflows | Persistence of hypoxic or anoxic saline layer (> 15 ppt) in potential rearing habitat areas between May and onset of winter rains | 3 months | 1 month | 1 week | < 3 days | | | | Sep-96 | |
| 3 Juvenile | Condition | Food availability | Species richness | < 25 taxa | 25-29 taxa | 30-40 taxa | > 40 taxa | | | | Sep-07 | |
| 3 Juvenile | Condition | Habitat complexity/refugia | Instream refugia | absent | | | present (boulders, overhanging banks, etc.) | cover common | Good | | Dec-05 | |
| 3 Juvenile | Condition | Riparian corridor species composition and structure | Mean percent native, undisturbed composition and structure in 100-foot riparian buffer | < 25% | 25-50% | 51-75% | historic conditions | 31% avg canopy cover, but unmodified | Good | | Dec-05 | |
| 4 Smolt | Landscape Context | Dispersal | Number of days when depths are < 0.4 ft anywhere in migration corridor during outmigration period (March through June) | > 10 days | 6-10 days | 1-5 days | 0 days | dry reaches common in late summer/fall | Fair | | Dec-05 | |

**Assessment of Target Viability
Sespe Creek, Ventura County**

| Conservation Target | | Category | Key Attribute | Indicator | Poor | Fair | Good | Very Good | Current Indicator Status | Current Rating | Desired Rating | Date of Current Rating | Date for Desired Rating |
|---------------------|----------------------|-------------------|--|--|---|---|--|---|--|----------------|----------------|------------------------|-------------------------|
| 4 | Smolt | Landscape Context | Flow for downstream passage March through June | Maximum potential rate of diversion by pumping during April and May (expressed as percent of estimate unimpaired median flow in April) | > 150% | 100-150% | 50-99% | < 50% | very little diversion | Good | | Dec-05 | |
| 4 | Smolt | Landscape Context | Passage to ocean | Number of days stream mouth is open with adequate flow during outmigration period (March through June) | < 30 days | 30-60 days | 60-90 days | > 90 days | | | | Sep-96 | |
| 5 | Adult | Landscape Context | Dispersal | Accessibility of suitable spawning areas (based on TRT criteria) | accessible sites are clumped in one location or < 25% of all tributaries are accessible | 25-50% of all tributaries are accessible | 50-75% of all tributaries are accessible | > 75% of all tributaries are accessible | Vern Freeman Diversion Dam, but Sespe Creek is mostly barrier free | Good | | Dec-05 | |
| 5 | Adult | Landscape Context | Dispersal | Number of days stream mouth is open with adequate flow during entry period (1 November to 1 June) | < 30 days | 30-60 days | 60-90 days | > 90 days | | | | Sep-96 | |
| 5 | Adult | Landscape Context | Flow during spawning period (spawning and upstream/downstream passage) | Percent of net discharge (unimpaired flow minus total diversions) occurring between 1 December to 1 June, in all water years | > 10% | 6-10% | 3-5% | < 3% | no diversions | Very Good | | Dec-05 | |
| 5 | Adult | Landscape Context | Water temperature | Median weekly average temperature in migration corridor | > 17 C. | 15-16.9 C. | 13-14.9 C. | 10-12.9 C. | 15-16 C | Fair | | Dec-05 | |
| 5 | Adult | Size | Population size | Mean annual adult spawner abundance | | TRT criteria for low extinction risk (by watershed) | | | | | | May-07 | |
| 6 | Multiple Life Stages | Landscape Context | Barriers/diversions | Stream crossings/stream mile | > two/mile | | | < two/mile | | | | Oct-07 | |
| 6 | Multiple Life Stages | Landscape Context | Channel flow and morphology | Percent of total watercourse length channelized | > 25% | 16-25% | 5-15% | < 5% | lower reaches channelized, but < 5% overall | Very Good | | Dec-05 | |
| 6 | Multiple Life Stages | Landscape Context | Fire regime/vegetation maturity | Percent of watershed affected by high intensity fire within previous 100 yrs | > 25% | 10-24% | 5-9% | < 5% | >> 25% in 2005 | Poor | | Dec-05 | |

**Assessment of Target Viability
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| Conservation Target | Category | Key Attribute | Indicator | Poor | Fair | Good | Very Good | Current Indicator Status | Current Rating | Desired Rating | Date of Current Rating | Date for Desired Rating | |
|---------------------|----------------------|-------------------|--------------------------------------|---|---|---|---|---|---|----------------|------------------------|-------------------------|--|
| 6 | Multiple Life Stages | Landscape Context | Floodplain connectivity | Floodplain connectivity | < 50% of response reaches in watershed have inundation of historic floodplains by bankfull flows (connectivity) | 50-65% of response reaches in watershed demonstrate floodplain connectivity | 66-80% of response reaches in watershed demonstrate floodplain connectivity | > 80% of response reaches in watershed demonstrate connectivity | lower reaches channelized and some floodplain encroachment, but < 20% overall | Very Good | | Dec-05 | |
| 6 | Multiple Life Stages | Landscape Context | Historic vs Current Spawning Habitat | Fraction of historic spawning tributaries currently accessible to spawners | < 15% available | 16-50% available | 51-90% available | >90% available | barriers present, but relatively minor | Very Good | | Dec-05 | |
| 6 | Multiple Life Stages | Landscape Context | Hydrology | Dry stream reaches | > 75% dry reaches | 26-75% dry reaches | 1-25% dry reaches | no dry reaches; perennial surface flows | about 50% dry reaches | Fair | | Dec-05 | |
| 6 | Multiple Life Stages | Landscape Context | Hydrology | Hydrograph | severely modified | | | natural | some groundwater pumping, but mostly natural flow | Very Good | | Sep-05 | |
| 6 | Multiple Life Stages | Landscape Context | Land use | Distribution of public ownership along main stem of watercourse | < 25% of land bordering main stem of drainage is publicly owned | 25-50% | 51-75% | > 75% | | | | Jun-07 | |
| 6 | Multiple Life Stages | Landscape Context | Land use | Miles of road per square mile of watershed within 100 meters of watercourse | > 1 mi | 0.5-1.0 mi | 0.1-0.49 mi | < 0.1 mi | | | | Sep-07 | |
| 6 | Multiple Life Stages | Landscape Context | Land use | Miles of roads per square mile of watershed | > 3.0 mi | 2.6-3.0 mi | 1.6-2.5 mi | < 1.6 mi | | | | Jun-02 | |
| 6 | Multiple Life Stages | Landscape Context | Land use | Percent of watershed area in agricultural use | > 30% | 20-29% | 10-19% | < 10% | | | | Jun-02 | |
| 6 | Multiple Life Stages | Landscape Context | Land use | Percent of watershed area in agriculture within 100 meters of watercourse | > 20% | 11-20% | 5-10% | < 5% | | | | | |
| 6 | Multiple Life Stages | Landscape Context | Land use | Percent of watershed area in public ownership | < 25 % public ownership | 25-50% | 51-75% | > 75% | | | | Jan-06 | |
| 6 | Multiple Life Stages | Landscape Context | Land use | Percent of watershed area in urban/residential use | > 25% | 10-25% | 5-9% | < 5% | | | | Sep-07 | |

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| Conservation Target | Category | Key Attribute | Indicator | Poor | Fair | Good | Very Good | Current Indicator Status | Current Rating | Desired Rating | Date of Current Rating | Date for Desired Rating |
|---------------------|----------------------|-------------------|---------------------------|--|--|--|---|------------------------------------|--|----------------|------------------------|-------------------------|
| 6 | Multiple Life Stages | Landscape Context | Water quality | General index of toxicity based on severity of adverse effects on fish | Acute lethal effects (fish kill) | Sublethal effects (reduced growth, altered behavior, etc.) | Toxins detected but no sublethal effects | No toxins or contaminants detected | | | Sep-07 | |
| 6 | Multiple Life Stages | Landscape Context | Water quality | Percent total impervious surfaces as % of watershed area | >40% | 21-40% | 5-20% | < 5% | | | Sep-07 | |
| 6 | Multiple Life Stages | Condition | Estuarine habitat quality | Current lagoon area as percentage of historic total area | < 25% | 26-50% | 51-75% | > 75% | 10-15% remaining | Poor | Sep-05 | |
| 6 | Multiple Life Stages | Condition | Estuarine habitat quality | Depth, LWD, and other habitat elements (e.g. eelgrass) | depth < 1 meter; LWD and/or overhanging banks absent | | depth > 1 meter; LWD and/or overhanging banks present | | | | Sep-96 | |
| 6 | Multiple Life Stages | Condition | Riparian corridor quality | Riparian canopy cover | < 25% cover | 25-49% cover | 50-75% cover | > 75% cover | 31 % cover; riparian corridor mostly intact; bedrock walls provide shade | Good | Dec-05 | |
| 6 | Multiple Life Stages | Condition | Riparian corridor quality | Riparian corridor species composition | < 25% native composition | 25-50% native composition | 50-75% native composition | > 75% native composition | mostly native | Very Good | Dec-05 | |

**Detailed Viability Summary
San Miguel/Dolores River**

Summary of Threats

Click the page-down icon ▼ to the right to view more summary tables.

Sespe Creek, Ventura County

| Threats Across Targets | | Egg | Fry | Juvenile | Smolt | Adult | Multiple Life Stages | | | Overall Threat Rank |
|--|---|--------|--------|-----------|-----------|-----------|----------------------|---|---|---------------------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Project-specific threats | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 1 | Urban development | Low | Medium | Very High | Very High | Very High | Very High | | | Very High |
| 2 | Conversion of watershed lands to row crop agriculture | Low | Low | Very High | Very High | Very High | Very High | | | Very High |
| 3 | Groundwater extraction | Low | - | Very High | Very High | Very High | Very High | | | Very High |
| 4 | Levees and channelization | - | Low | Very High | Very High | Very High | Very High | | | Very High |
| 5 | Dams and surface water diversions | - | - | Very High | Very High | Very High | Very High | | | Very High |
| 6 | Channel and/or estuary maintenance, dredging, and vegetation control (incl. flood control activities) | Low | Low | High | High | High | Very High | | | Very High |
| 7 | Culverts, crossings, and bridges | Medium | Low | High | High | High | High | | | High |
| 8 | Recreational facilities and activities (ORV use, campgrounds, etc.) | Medium | Medium | Medium | - | - | Very High | | | High |
| 9 | Wildland fires (incl. debris flows following fires) | Medium | - | - | - | - | Very High | | | High |
| 10 | Non-native species present (incl. hatchery fish) | High | High | High | - | - | - | | | High |
| 11 | Roads in watershed and/or within 300 feet of watercourses | Low | Low | - | - | - | Low | | | Low |
| 12 | Invasive, non-native plants | - | - | Low | - | - | Low | | | Low |
| 13 | Livestock Farming & Ranching | Low | - | - | - | - | Low | | | Low |
| 14 | Agricultural effluents | - | - | - | - | - | Low | | | Low |
| 15 | Non-point pollution from roads | Low | - | - | - | - | - | | | Low |
| 16 | Artificial lagoon breaching | - | - | - | - | - | - | | | - |
| Threat Status for Targets and Project | | Medium | Medium | Very High | Very High | Very High | Very High | - | - | Very High |

Detailed Viability Summary San Miguel/Dolores River

| Threats Across Targets | | Egg | Fry | Juvenile | Smolt | Adult | Multiple Life Stages | | | Overall Threat Rank |
|--|--|--------|--------|-----------|-----------|-----------|----------------------|---|---|---------------------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Project-specific threats | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 17 | Gas, water, and/or other utility pipelines | - | - | - | - | - | - | | | - |
| 18 | Illegal collecting, poaching, and/or unauthorized angling | - | - | - | - | - | - | | | - |
| 19 | Mining & Quarrying | - | - | - | - | - | - | | | - |
| 20 | Oil & Gas Drilling | - | - | - | - | - | - | | | - |
| 21 | Public ownership in watershed | | | | | | | | | - |
| 22 | Urban wastewater effluents (incl. industrial and commercial effluents) | - | - | - | - | - | - | | | - |
| 23 | | | | | | | | | | - |
| 24 | | | | | | | | | | - |
| 25 | | | | | | | | | | - |
| 26 | | | | | | | | | | - |
| 27 | | | | | | | | | | - |
| 28 | | | | | | | | | | - |
| 29 | | | | | | | | | | - |
| 30 | | | | | | | | | | - |
| 31 | | | | | | | | | | - |
| 32 | | | | | | | | | | - |
| Threat Status for Targets and Project | | Medium | Medium | Very High | Very High | Very High | Very High | - | - | Very High |

**Detailed Viability Summary
San Miguel/Dolores River**

Stress Matrix

Sespe Creek, Ventura County

| Stresses (Altered Key Ecological Attributes) Across Targets | | Egg | Fry | Juvenile | Smolt | Adult | Multiple Life Stages | | |
|---|---|--------|------|-----------|-----------|-----------|----------------------|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Impaired estuarine habitat quality | - | - | - | - | - | Very High | - | - |
| 2 | Altered fire regime/recent fire in watershed | - | - | - | - | - | Very High | - | - |
| 3 | Impaired access to rearing and/or spawning habitat | - | - | - | - | - | Very High | - | - |
| 4 | Impaired access to spawning areas | - | - | - | - | Very High | - | - | - |
| 5 | Impaired access to ocean | - | - | - | Very High | - | - | - | - |
| 6 | Impaired access to estuary | - | - | Very High | - | - | - | - | - |
| 7 | Non-native predators | - | High | High | - | - | - | - | - |
| 8 | Non-native egg predators | High | - | - | - | - | - | - | - |
| 9 | Impaired water temperatures in migration corridor | - | - | - | - | High | - | - | - |
| 10 | Impaired riparian habitat quality | - | - | Medium | - | - | - | - | - |
| 11 | Altered riparian habitat quality | - | - | - | - | - | Medium | - | - |
| 12 | Impaired substrate quality (sedimentation and embeddedness) | Medium | - | - | - | - | - | - | - |
| 13 | Impaired summer base flows | - | - | Medium | - | - | - | - | - |
| 14 | Impaired instream habitat complexity/refugia | - | - | Medium | - | - | - | - | - |
| 15 | Dispersal barriers between redds and rearing habitat | - | Low | - | - | - | - | - | - |
| 16 | Impaired flows during rearing period | - | - | Low | - | - | - | - | - |

Detailed Viability Summary San Miguel/Dolores River

| Stresses (Altered Key Ecological Attributes) Across Targets | | Egg | Fry | Juvenile | Smolt | Adult | Multiple Life Stages | | |
|---|--|-----|-----|----------|-------|-------|----------------------|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 17 | Impaired water quality | - | - | - | - | - | Low | - | - |
| 18 | Impaired water temperature | - | - | Low | - | - | - | - | - |
| 19 | Altered land use from natural condition | - | - | - | - | - | Low | - | - |
| 20 | Altered hydrograph | - | - | - | - | - | Low | - | - |
| 21 | Impaired habitat complexity/refugia | - | Low | - | - | - | - | - | - |
| 22 | Altered base flows during incubation | Low | - | - | - | - | - | - | - |
| 23 | Impaired floodplain connectivity | - | - | - | - | - | Low | - | - |
| 24 | Impaired food availability | - | - | - | - | - | - | - | - |
| 25 | Altered sediment supply | - | - | - | - | - | - | - | - |
| 26 | Low adult population size | - | - | - | - | - | - | - | - |
| 27 | Impaired water temperature in spawning areas | - | - | - | - | - | - | - | - |
| 28 | Impaired access to stream from ocean (stream mouth closed) | - | - | - | - | - | - | - | - |
| 29 | Impaired estuarine inflows | - | - | - | - | - | - | - | - |
| 30 | | - | - | - | - | - | - | - | - |
| 31 | | - | - | - | - | - | - | - | - |
| 32 | | - | - | - | - | - | - | - | - |

**Detailed Viability Summary
San Miguel/Dolores River**

**Overall Viability Summary
Sespe Creek, Ventura County**

| Conservation Targets | | Landscape Context | | Condition | | Size | | Viability Rank |
|---|----------------------|-------------------|--------|-----------|--------|-------|--------|----------------|
| | | Grade | Weight | Grade | Weight | Grade | Weight | |
| 1 | Egg | Fair | 1 | Good | 1 | - | 1 | Good |
| 2 | Fry | Fair | 1 | Very Good | 1 | - | 1 | Good |
| 3 | Juvenile | Poor | 1 | Good | 1 | - | 1 | Fair |
| 4 | Smolt | Fair | 1 | - | 1 | - | 1 | Fair |
| 5 | Adult | Fair | 1 | - | 1 | - | 1 | Fair |
| 6 | Multiple Life Stages | Poor | 1 | Poor | 1 | - | 1 | Poor |
| 7 | | - | 1 | - | 1 | - | 1 | - |
| 8 | | - | 1 | - | 1 | - | 1 | - |
| Project Biodiversity Health Rank | | | | | | | | Fair |

Detailed Viability Summary San Miguel/Dolores River

Detailed Viability Summary Sespe Creek, Ventura County

| Conservation Targets | | Key Ecological Attributes | | | | Indicators | | | | Calculated Rank | User Override |
|----------------------|-----------------------------|---------------------------|------|------|-----------|------------|------|------|-----------|-----------------|---------------|
| | | Poor | Fair | Good | Very Good | Poor | Fair | Good | Very Good | | |
| 1 | Egg | | | | | | | | | Good | |
| | Landscape Context | | 1 | 1 | | | 1 | 1 | | Fair | |
| | Condition | | | 1 | | | | 2 | | Good | |
| | Size | | | | | | | | | - | |
| 2 | Fry | | | | | | | | | Good | |
| | Landscape Context | | 1 | | 1 | | 1 | | 1 | Fair | |
| | Condition | | | | 1 | | | | 1 | Very Good | |
| | Size | | | | | | | | | - | |
| 3 | Juvenile | | | | | | | | | Fair | |
| | Landscape Context | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | Poor | |
| | Condition | | | 2 | | | | 2 | | Good | |
| | Size | | | | | | | | | - | |
| 4 | Smolt | | | | | | | | | Fair | |
| | Landscape Context | | 1 | 1 | | | 1 | 1 | | Fair | |
| | Condition | | | | | | | | | - | |
| | Size | | | | | | | | | - | |
| 5 | Adult | | | | | | | | | Fair | |
| | Landscape Context | | 1 | 1 | 1 | | 1 | 1 | 1 | Fair | |
| | Condition | | | | | | | | | - | |
| | Size | | | | | | | | | - | |
| 6 | Multiple Life Stages | | | | | | | | | Poor | |
| | Landscape Context | 1 | | 1 | 3 | 1 | 1 | | 4 | Poor | |
| | Condition | 1 | | | 1 | 1 | | 1 | 1 | Poor | |
| | Size | | | | | | | | | - | |
| 7 | | | | | | | | | | - | |
| | Landscape Context | | | | | | | | | - | |
| | Condition | | | | | | | | | - | |
| | Size | | | | | | | | | - | |
| 8 | | | | | | | | | | - | |
| | Landscape Context | | | | | | | | | - | |
| | Condition | | | | | | | | | - | |
| | Size | | | | | | | | | - | |