

**San Simeon Creek, San Luis Obispo County
CAP Workbook Threats Assessment Summary Tables
2008**

Assessment of Target Viability

Double-click opens entry form				Indicator Ratings	Indicator Ratings		Indicator Ratings					
				Bold = Current	Indicator Ratings		<i>Italics = Desired</i>					
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	seasonal flow	Fair		Mar-07	
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	not present or low levels	Good		Mar-07	
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.	probably limiting	Fair		Mar-07	
1 Egg	Condition	Substrate quality	Avg. percent fines (<0.85mm) in potential spawning areas	> 17% fines	11-17% fines	5-10 % fines	< 5% fines	erosion probably widespread in watershed	Fair		Mar-07	
1 Egg	Condition	Substrate quality	Embeddedness	> 75% embedded	50-75% embedded	25-49% embedded	< 25% embedded	probably high embeddedness in many localized reaches	Fair		Mar-07	
2 Fry	Landscape Context	Dispersal	Barriers between redds and rearing habitat	complete barrier	partial barriers common	partial barriers scarce	no barriers	probably few to no barriers	Good		Mar-07	
2 Fry	Landscape Context	Non-native species	Non-native fry predators	present throughout watershed	present > 50% watershed	present < 50% of watershed	absent	absent or low levels	Good		Mar-07	
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	high bank erosion	Fair		Mar-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	instream refugia probably common	Good		Mar-07	
3 Juvenile	Landscape Context	Dispersal	Barriers between rearing habitat and estuary	present			absent	seasonal surface water in most years	Poor		Mar-07	
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)	pool habitat abundance probably good, but seasonal	Fair		Mar-07	
3 Juvenile	Landscape Context	Non-native species	Non-native juvenile predators	present throughout watershed	present > 50% watershed	present < 50% watershed	absent	absent or low levels	Good		Mar-07	

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3	Juvenile	Landscape Context	Summer flow	Percent of unimpaired median summer baseflow (based on long-term mean monthly discharge)	< 70% s	70-90%	> 90%	100% over all IP-km	seasonal surface flows	Poor		Mar-07	
3	Juvenile	Landscape Context	Water temperature	Median weekly average temperature (MWAT) in potential rearing habitat	> 21 C.	18-21 C.	< 18 C.	< 17 C.	probably limiting	Fair		Mar-07	
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%	seasonal surface flows	Poor		Mar-07	
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	> 3 months	Poor		Jul-06	
3	Juvenile	Condition	Food availability	Species richness	< 25 taxa	25-29 taxa	30-40 taxa	> 40 taxa				Mar-07	
3	Juvenile	Condition	Habitat complexity/refugia	Instream refugia	absent			present (boulders, overhanging banks, etc.)	probably fair; seasonal surface flows	Fair		Mar-07	
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	highly modified	Poor		Mar-07	
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	seasonal flows	Poor		Mar-07	
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%	probably very high	Poor		Mar-07	
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				Mar-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
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	adults regularly spawn in middle and upper watershed; 70-89% accessible	Good		Jan-08	
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				Mar-07	
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%	high diversion rate	Fair		Mar-07	
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.	probably limiting	Fair		Mar-07	
5	Adult	Size	Population size	Mean annual adult spawner abundance		TRT criteria for low extinction risk (by watershed)						Mar-03	
6	Multiple Life Stages	Landscape Context	Barriers/diversions	Stream crossings/stream mile	> two/mile			< two/mile	avg 0.86 crossings/mile	Good		Jan-08	
6	Multiple Life Stages	Landscape Context	Channel flow and morphology	Percent of total watercourse length channelized	> 25%	16-25%	5-15%	< 5%	extensively incised creekbed	Fair		Mar-07	
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%	3.4%	Very Good		Jan-08	
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	Highly incised channel	Fair		Mar-07	

Assessment of Target Viability

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	Historic vs Current Spawning Habitat	Fraction of historic spawning tributaries currently accessible to spawners	< 15% available	16-50% available	51-90% available	>90% available	70% to 89% accessible	Good		Jan-08	
6	Multiple Life Stages	Landscape Context	Hydrology	Dry stream reaches	> 75% dry reaches	26-75% dry reaches	1-25% dry reaches	no dry reaches	highly seasonal surface flows	Fair		Mar-07	
6	Multiple Life Stages	Landscape Context	Hydrology	Hydrograph	severely modified			natural	probably highly modified	Fair		Mar-07	
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%	0.1%	Poor		Jan-08	
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	avg 0.6 mi/sq mile	Fair		Jan-08	
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	avg 2.0 mi/sq mile	Good		Jan-08	
6	Multiple Life Stages	Landscape Context	Land use	Percent of watershed area in agricultural use	> 30%	20-29%	10-19%	< 10%	0.4%	Very Good		Jan-08	
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%	extensive irrig agriculture	Poor		Mar-07	
6	Multiple Life Stages	Landscape Context	Land use	Percent of watershed area in public ownership	< 25 % public ownership	25-50%	51-75%	> 75%	0.1%	Poor		Jan-08	
6	Multiple Life Stages	Landscape Context	Land use	Percent of watershed area in urban/residential use	> 25%	10-25%	5-9%	< 5%	low density residential and ranches; 1%	Very Good		Jan-08	
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	high total N and total P	Poor		Jan-08	
6	Multiple Life Stages	Landscape Context	Water quality	Percent total impervious surfaces as % of watershed area	>40%	21-40%	5-20%	< 5%	0.5%	Very Good		Jan-08	

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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	Condition	Estuarine habitat quality	Current lagoon area as percentage of historic total area	< 25%	26-50%	51-75%	> 75%	50%	Fair		Jan-08	
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					Mar-07	
6	Multiple Life Stages	Condition	Riparian corridor quality	Riparian canopy cover	< 25% cover	25-49% cover	50-75% cover	> 75% cover	60%	Fair		Jan-08	
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	non-natives common along lower and middle main stem	Fair		Mar-07	

Overall Viability Summary San Simeon Creek, San Luis Obispo County

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

Overall Viability Summary
San Simeon Creek, San Luis Obispo 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	
17	Gas, water, and/or other utility pipelines	-	-	-	-	-	-			-
18	Illegal collecting, poaching, and/or unauthorized angling	-	-	-	-	-	-			-
19	Log jams and other removable barriers									-
20	Non-point pollution from roads	-	-	-	-	-	-			-
21	Oil & Gas Drilling	-	-	-	-	-	-			-
22	Public ownership in watershed									-
23	Urban wastewater effluents (incl. industrial and commercial effluents)	-	-	-	-	-	-			-
24	Wildland fires (incl. debris flows following fires)	-	-	-	-	-	-			-

Overall Viability Summary
San Simeon Creek, San Luis Obispo 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 riparian habitat quality	-	-	Very High	-	-	-	-	-
2	Impaired water quality	-	-	-	-	-	Very High	-	-
3	Impaired access to ocean	-	-	-	Very High	-	-	-	-
4	Impaired estuarine inflows	-	-	Very High	-	-	-	-	-
5	Impaired summer base flows	-	-	Very High	-	-	-	-	-
6	Impaired flows during rearing period	-	-	Very High	-	-	-	-	-
7	Impaired access to estuary	-	-	Very High	-	-	-	-	-
8	Altered base flows during incubation	High	-	-	-	-	-	-	-
9	Altered sediment supply	-	High	-	-	-	-	-	-
10	Altered riparian habitat quality	-	-	-	-	-	High	-	-
11	Impaired estuarine habitat quality	-	-	-	-	-	High	-	-
12	Altered land use from natural condition	-	-	-	-	-	High	-	-
13	Impaired substrate quality (sedimentation and embeddedness)	High	-	-	-	-	-	-	-
14	Impaired water temperature	-	-	High	-	-	-	-	-
15	Impaired water temperature in spawning areas	High	-	-	-	-	-	-	-
16	Altered hydrograph	-	-	-	-	-	High	-	-

Overall Viability Summary
San Simeon Creek, San Luis Obispo County

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 instream habitat complexity/refugia	-	-	High	-	-	-	-	-
18	Impaired floodplain connectivity	-	-	-	-	-	High	-	-
19	Impaired water temperatures in migration corridor	-	-	-	-	High	-	-	-
20	Impaired access to spawning areas	-	-	-	-	High	-	-	-
21	Impaired habitat complexity/refugia	-	Medium	-	-	-	-	-	-
22	Dispersal barriers between redds and rearing habitat	-	Medium	-	-	-	-	-	-
23	Impaired access to rearing and/or spawning habitat	-	-	-	-	-	Medium	-	-
24	Non-native predators	-	Low	Low	-	-	-	-	-
25	Altered fire regime/recent fire in watershed	-	-	-	-	-	Low	-	-
26	Non-native egg predators	Low	-	-	-	-	-	-	-
27	Low adult population size	-	-	-	-	-	-	-	-
28	Impaired access to stream from ocean (stream mouth closed)	-	-	-	-	-	-	-	-
29	Impaired food availability	-	-	-	-	-	-	-	-

Overall Viability Summary
San Simeon Creek, San Luis Obispo County

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

Overall Viability Summary
San Simeon Creek, San Luis Obispo County

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