San Antonio Creek, Ventura County
CAP Workbook Threats Assessment Summary Tables
2008

Assessment of Target Viability
San Antonio Creek, Ventura County

Double-click opens entry form | **Bold = Current** | Indicator Ratings | *Italics = Desired*

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	perennial flows	Good		Sep-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	crayfish	Fair		Oct-05	
1	Egg	Landscape Context	Water temperature	Mean weekly avg. temperature in	< 5 C. and > 13 C.	11.1-13 C.	10.1-11 C.	6-10 C.					
1	Egg	Condition	Substrate quality	Avg. percent fines (<0.85mm) in potential spawning	> 17% fines	11-17% fines	**5-10 % fines**	< 5% fines	high quality habitat	Good		Jan-96	
1	Egg	Condition	Substrate quality	Embeddedness	> 75% embedded	50-75% embedded	**25-49% embedded**	< 25% embedded	low to moderate embeddedness	Good		Jan-96	
2	Fry	Landscape Context	Dispersal	Barriers between redds and rearing habitat	complete barrier	partial barriers common	partial barriers scarse	**no barriers**	no barriers	Very Good		Jan-96	
2	Fry	Landscape Context	Non-native species	Non-native fry predators	present throughout watershed	**present > 50% watershed**	present < 50% of watershed	absent	crayfish	Fair		Oct-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,	none; watercourse in rearing habitat is channelized	some	**common**	abundant	common to abundant	Good		Jan-96	
3	Juvenile	Landscape Context	Dispersal	Barriers between rearing habitat and estuary	present			absent	Robles Diversion-partial barrier	Good		Jan-08	
3	Juvenile	Landscape Context	Flow during rearing period	Pool habitat > 3 feet in depth	pools scarse or absent	low abundance of pools	**high abundance of pools**	high abundance of pools with muliple "refuge" pools (> 5 ft deep)	pools common	Good		Feb-96	
3	Juvenile	Landscape Context	Non-native species	Non-native juvenile predators	present throughout watershed	present > 50% watershed	**present < 50% watershed**	absent	crayfish	Good		Oct-05	
3	Juvenile	Landscape Context	Summer flow	Percent of unimpaired median summer baseflow (based on long-term mean monthly	< 70%	**70-90%**	> 90%	100% over all IP-km	groundwater extraction	Fair		Jan-96	
3	Juvenile	Landscape Context	Water temperature	Median weekly average temperature	> 21 C.	18-21 C.	< 18 C.	< 17 C.				May-95	
3	Juvenile	Condition	Estuarine inflows	Percentage of unimpaired freshwater inflow to estuary (necessary for maintaining brackish water < 15	< 25%	25-49%	50-75%	> 75%				Sep-07	
3	Juvenile	Condition	Estuarine inflows	Persistence of hypoxic or anoxic saline layer (> 15 ppt) in potential rearing habitat areas between May	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	Chubb (1999)	Good		Jan-99	

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3	Juvenile	Condition	Habitat complexity/refugia	Instream refugia	absent			present (boulders, overhanging banks, etc.)	common to abundant	Good		Feb-96	
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**	80% native	Very Good		Jan-96	
4	Smolt	Landscape Context	Dispersal	Number of days when depths are < 0.4 ft anywhere in migration corridor during outmigration period (March	> 10 days	**6-10 days**	1-5 days	0 days	perennial flows but groundwater extr common	Fair		Jan-96	
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	> 150%	100-150%	50-99%	< 50%				Sep-07	
4	Smolt	Landscape Context	Passage to ocean	Number of days stream mouth is open with adequate flow during outmigration period	< 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	Robles Diverions; main stem accessible	Good		Jan-96	
5	Adult	Landscape Context	Dispersal	Number of days stream mouth is open with adequate flow during entry period (1 November	< 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	> 10%	6-10%	3-5%	< 3%				Jun-02	
5	Adult	Landscape Context	Water temperature	Median weekly average temperature in	> 17 C.	15-16.9 C.	13-14.9 C.	10-12.9 C.				May-96	
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	> 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%	about 5%	Good		May-02	
6	Multiple Life Stages	Landscape Context	Fire regime/vegetation maturity	Percent of watershed affected by high intensity fire within previous 100	> 25%	10-24%	5-9%	< 5%					

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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**	> 80% of reaches are connected	Very Good		May-02	
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	Robles Diversion; main stem fully accessible	Good		Jan-96	
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**	perennial flows	Very Good		Jan-96	
6	Multiple Life Stages	Landscape Context	Hydrology	Hydrograph	severely modified			natural	groundwater extraction is common	Fair		Jan-96	
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	> 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	> 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	> 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	> 25%	10-25%	5-9%	< 5%				Sep-07	
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	WQ impaired by nitrates, phophate, and bacteria	Fair		May-06	
6	Multiple Life Stages	Landscape Context	Water quality	Percent total impervious surfaces as % of	>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%	32%	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					Sep-96	

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6	Multiple Life Stages	Condition	Riparian corridor quality	Riparian canopy cover	< 25% cover	25-49% cover	**50-75% cover**	> 75% cover	moderate riparian cover	Good		Jan-96	
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**	about 80% native cover	Very Good		Jan-96	

Overall Viability Summary
San Antonio Creek, Ventura County

Summary of Threats

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

San Antonio Creek, Ventura County

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

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Summary of Threats **Click the page-down icon ▼to the right to view more summary tables.**

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

Overall Viability Summary
San Antonio Creek, Ventura County

Stress Matrix

San Antonio 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	Non-native predators	-	High	Medium	-	-	-	-	-
2	Impaired estuarine habitat quality	-	-	-	-	-	High	-	-
3	Altered hydrograph	-	-	-	-	-	High	-	-
4	Non-native egg predators	High	-	-	-	-	-	-	-
5	Impaired access to ocean	-	-	-	High	-	-	-	-
6	Impaired summer base flows	-	-	High	-	-	-	-	-
7	Impaired water quality	-	-	-	-	-	High	-	-
8	Altered base flows during incubation	Medium	-	-	-	-	-	-	-
9	Impaired access to rearing and/or spawning habitat	-	-	-	-	-	Medium	-	-
10	Impaired habitat complexity/refugia	-	Medium	-	-	-	-	-	-
11	Impaired access to estuary	-	-	Medium	-	-	-	-	-
12	Impaired flows during rearing period	-	-	Medium	-	-	-	-	-
13	Impaired access to spawning areas	-	-	-	-	Medium	-	-	-
14	Impaired substrate quality (sedimentation and embeddedness)	Medium	-	-	-	-	-	-	-
15	Impaired instream habitat complexity/refugia	-	-	Medium	-	-	-	-	-
16	Impaired food availability	-	-	Medium	-	-	-	-	-

Overall Viability Summary
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Stress Matrix
San Antonio 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
17	Impaired riparian habitat quality	-	-	Low	-	-	-	-	-
18	Altered riparian habitat quality	-	-	-	-	-	Low	-	-
19	Impaired floodplain connectivity	-	-	-	-	-	Low	-	-
20	Dispersal barriers between redds and rearing habitat	-	Low	-	-	-	-	-	-
21	Impaired estuarine inflows	-	-	-	-	-	-	-	-
22	Low adult population size	-	-	-	-	-	-	-	-
23	Impaired water temperatures in migration corridor	-	-	-	-	-	-	-	-
24	Impaired water temperature	-	-	-	-	-	-	-	-
25	Altered fire regime/recent fire in watershed	-	-	-	-	-	-	-	-
26	Impaired water temperature in spawning areas	-	-	-	-	-	-	-	-
27	Altered land use from natural condition	-	-	-	-	-	-	-	-
28	Altered sediment supply	-	-	-	-	-	-	-	-
29	Impaired access to stream from ocean (stream mouth closed)	-	-	-	-	-	-	-	-
30		-	-	-	-	-	-	-	-
31		-	-	-	-	-	-	-	-
32		-	-	-	-	-	-	-	-

Overall Viability Summary
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Overall Viability Summary

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	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	Good	1	-	1	**Good**
3	Juvenile	Fair	1	Good	1	-	1	**Good**
4	Smolt	Fair	1	-	1	-	1	**Fair**
5	Adult	Good	1	-	1	-	1	**Good**
6	Multiple Life Stages	Fair	1	Fair	1	-	1	**Fair**
7		-	1	-	1	-	1	**-**
8		-	1	-	1	-	1	**-**
Project Biodiversity Health Rank								**Good**

Overall Viability Summary
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Detailed Viability Summary
San Antonio 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		Good	
	Size									-	
3	**Juvenile**									**Good**	
	Landscape Context		1	3			1	3		Fair	
	Condition			2	1			2	1	Good	
	Size									-	
4	**Smolt**									**Fair**	
	Landscape Context		1				1			Fair	
	Condition									-	
	Size									-	
5	**Adult**									**Good**	
	Landscape Context			1				1		Good	
	Condition									-	
	Size									-	
6	**Multiple Life Stages**									**Fair**	
	Landscape Context		1	3	1		2	2	2	Fair	
	Condition		1		1		1	1	1	Fair	
	Size									-	
7										**-**	
	Landscape Context									-	
	Condition									-	
	Size									-	
8										**-**	
	Landscape Context									-	
	Condition									-	
	Size									-	