

**Santa Margarita River, San Diego County
CAP Workbook Threats Assessment Summary Tables
2008**

**Assessment of Target Viability
Santa Margarita River, San Diego County**

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Santa Margarita River, San Diego 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	intermittent flow in summer in main stem; perennial flow in tributaries	Fair		May-96	
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	present throughout	Poor		Oct-98	
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.					
1 Egg	Condition	Substrate quality	Avg. percent fines (<0.85mm) in potential spawning areas	> 17% fines	11-17% fines	5-10 % fines	< 5% fines	heavily embedded	Poor		May-95	
1 Egg	Condition	Substrate quality	Embeddedness	> 75% embedded	50-75% embedded	25-49% embedded	< 25% embedded	> 75% embedded	Poor		May-95	
2 Fry	Landscape Context	Dispersal	Barriers between redds and rearing habitat	complete barrier	partial barriers common	partial barriers scarce	no barriers				Jun-02	
2 Fry	Landscape Context	Non-native species	Non-native fry predators	present throughout watershed	present > 50% watershed	present < 50% of watershed	absent	present throughout	Poor		Aug-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				May-06	
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				Jan-06	
3 Juvenile	Landscape Context	Dispersal	Barriers between rearing habitat and estuary	present			absent	intermittent flow	Poor		May-96	
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)	scarce	Poor		May-95	

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3	Juvenile	Landscape Context	Non-native species	Non-native juvenile predators	present throughout watershed	present > 50% watershed	present < 50% watershed	absent	present throughout	Poor		Oct-07	
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	Lake O'Neill to lagoon is dry most years	Poor		Sep-96	
3	Juvenile	Landscape Context	Water temperature	Median weekly average temperature (MWAT) in potential rearing habitat	> 21 C.	18-21 C.	< 18 C.	< 17 C.	> 17C	Poor		May-95	
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%	probably < 25%	Poor		May-96	
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	2-3 months	Poor		Sep-96	
3	Juvenile	Condition	Food availability	Species richness	< 25 taxa	25-29 taxa	30-40 taxa	> 40 taxa	< 25 taxa	Poor		Mar-95	
3	Juvenile	Condition	Habitat complexity/refugia	Instream refugia	absent			present (boulders, overhanging banks, etc.)	absent	Poor		May-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					
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	probably > 10 days	Poor		May-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 unimpaired median flow in April)	> 150%	100-150%	50-99%	< 50%	extensive groundwater pumping	Poor		May-96	
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	probably > 90 days	Very Good		Sep-96	

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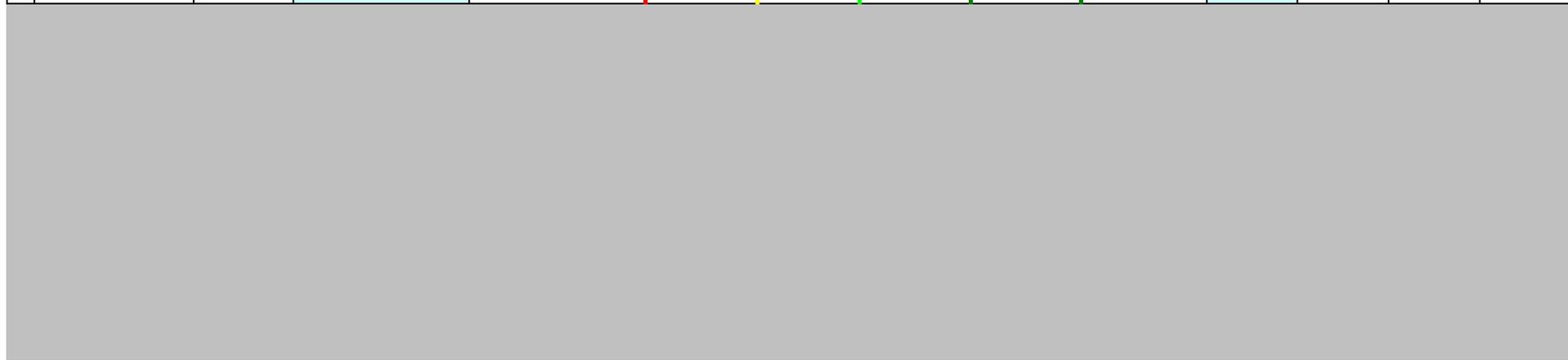
Conservation Target	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Indicator Status	Current Rating	Desired Rating	Date of Current Rating	Date for Desired Rating
5 Adult	Landscape Context	Dispersal	Accessibility of suitable spawning areas (based on TRT criteria)	accessible sites are 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	dams and intermittent flow	Fair		May-96	
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	probably > 90 days	Very Good		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%				Jun-02	
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.	25 C temps common in summer	Poor		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 mile	> two/mile			< two/mile	avg 1.6 crossings/mile	Fair		Jan-08	
6 Multiple Life Stages	Landscape Context	Channel flow and morphology	Percent of total watercourse length channelized	> 25%	16-25%	5-15%	< 5%	low	Good		Jan-08	
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%	31%	Poor		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	< 80%	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	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	47% accessible	Fair		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: perennial surface flows	50% of main stem is intermittent	Fair		May-96	
6	Multiple Life Stages	Landscape Context	Hydrology	Hydrograph	severely modified			natural	severely modified	Poor		May-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%	35%	Fair		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 0.85 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 3.8 mi/sq mile	Poor		Jan-08	
6	Multiple Life Stages	Landscape Context	Land use	Percent of watershed area in agricultural use	> 30%	20-29%	10-19%	< 10%	13%	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%	4.3%	Very Good		Jan-08	
6	Multiple Life Stages	Landscape Context	Land use	Percent of watershed area in public ownership	< 25 % public ownership	25-50%	51-75%	> 75%	35%	Fair		Jan-08	
6	Multiple Life Stages	Landscape Context	Land use	Percent of watershed area in urban/residential use	> 25%	10-25%	5-9%	< 5%	10%	Fair		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 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%	3%	Fair		Jan-08	
6	Multiple Life Stages	Condition	Estuarine habitat quality	Current lagoon area as percentage of historic total area	< 25%	26-50%	51-75%	> 75%	41% remains	Fair		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	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		0.6-1.2 meters deep	Fair		Sep-96	
6	Multiple Life Stages	Condition	Riparian corridor quality	Riparian canopy cover	< 25% cover	25-49% cover	50-75% cover	> 75% cover	< 25% cover	Poor		May-95	
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	giant reed abundant	Fair		May-95	



Stresses and Threats

Santa

Summary of Threats

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

Santa Margarita River, San Diego County

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

Stresses and Threats

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Santa Margarita River, San Diego 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	
17	Wildland fires (incl. debris flows following fires)	-	-	-	-	-	High			Medium
18	Artificial lagoon breaching	-	-	-	-	-	-			-
19	Gas, water, and/or other utility pipelines	-	-	-	-	-	-			-
20	Illegal collecting, poaching, and/or unauthorized angling	-	-	-	-	-	-			-
21	Livestock Farming & Ranching	-	-	-	-	-	-			-
22	Oil & Gas Drilling	-	-	-	-	-	-			-
23	Public ownership in watershed									-
24										-
25										-
26										-
27										-
28										-
29										-
30										-
31										-
32										-
Threat Status for Targets and Project		Very High	-	-	Very High					

Stresses and Threats

Stress Matrix

Santa Margarita River, San Diego 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	-	Very High	Very High	-	-	-	-	-
2	Altered riparian habitat quality	-	-	-	-	-	Very High	-	-
3	Altered hydrograph	-	-	-	-	-	Very High	-	-
4	Non-native egg predators	Very High	-	-	-	-	-	-	-
5	Altered fire regime/recent fire in watershed	-	-	-	-	-	Very High	-	-
6	Impaired water temperatures in migration corridor	-	-	-	-	Very High	-	-	-
7	Impaired access to ocean	-	-	-	Very High	-	-	-	-
8	Impaired water quality	-	-	-	-	-	Very High	-	-
9	Impaired water temperature	-	-	Very High	-	-	-	-	-
10	Impaired access to estuary	-	-	Very High	-	-	-	-	-
11	Altered base flows during incubation	High	-	-	-	-	-	-	-
12	Impaired estuarine habitat quality	-	-	-	-	-	High	-	-
13	Impaired summer base flows	-	-	High	-	-	-	-	-
14	Altered land use from natural condition	-	-	-	-	-	High	-	-
15	Impaired estuarine inflows	-	-	High	-	-	-	-	-
16	Impaired food availability	-	-	High	-	-	-	-	-

Stresses and Threats

San

Stress Matrix

Santa Margarita River, San Diego 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 access to rearing and/or spawning habitat	-	-	-	-	-	High	-	-
18	Impaired access to spawning areas	-	-	-	-	High	-	-	-
19	Impaired flows during rearing period	-	-	Medium	-	-	-	-	-
20	Impaired floodplain connectivity	-	-	-	-	-	Medium	-	-
21	Impaired riparian habitat quality	-	-	-	-	-	-	-	-
22	Low adult population size	-	-	-	-	-	-	-	-
23	Altered sediment supply	-	-	-	-	-	-	-	-
24	Dispersal barriers between redds and rearing habitat	-	-	-	-	-	-	-	-
25	Impaired substrate quality (sedimentation and embeddedness)	-	-	-	-	-	-	-	-
26	Impaired water temperature in spawning areas	-	-	-	-	-	-	-	-
27	Impaired instream habitat complexity/refugia	-	-	-	-	-	-	-	-
28	Impaired habitat complexity/refugia	-	-	-	-	-	-	-	-
29	Impaired access to stream from ocean (stream mouth closed)	-	-	-	-	-	-	-	-
30		-	-	-	-	-	-	-	-
31		-	-	-	-	-	-	-	-
32		-	-	-	-	-	-	-	-

Stresses and Threats

Overall Viability Summary

Santa Margarita River, San Diego County

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

Stresses and Threats

Detailed Viability Summary

Santa Margarita River, San Diego County

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