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# TRIHEY & ASSOCIATES, INC. FACSIMILE

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DATE: January 28, 1997

SUBJECT: Background information for January 29 call re: habitat flow relationships on the Santa Ynez River

PAGES: 4 including cover

MESSAGE:

Please see attached materials. The conference call will start at 11 AM on Wednesday, January 29. The call-in number is 800-403-2030, participant code 484604. Please contact Ramona Swenson if you have questions (510-234-2473 on Tuesday, 510-689-8822 on Wednesday).

cc: Paul Forsberg  
Chuck Hanson

## **Developing Habitat-Flow Relationships for the lower Santa Ynez River**

In the long-term plan, the Santa Ynez Technical Advisory Committee identified the need to determine habitat vs flow relationships for steelhead/rainbow trout in the Santa Ynez River downstream of Bradbury Dam. This information would be used to evaluate various management alternatives for instream flows and fisheries objectives. The river reach that appears to have water temperature and habitat structure most conducive for providing adequate habitat for steelhead/rainbow trout is the reach between Buellton and Bradbury Dam. Within this reach, the best opportunities may be in the reach between Hwy 154 and Bradbury Dam. Recently, we have not been able to obtain permission to access a three mile portion of the river between Hwy 154 (approximately 3.4 miles downstream of Bradbury Dam) and the Long pool (approximately 0.5 mile downstream of the Dam) in order to collect additional information on the response of habitat to changes in streamflow, either by direct observation of habitat conditions or by modeling.

The long-term study plan envisions using several analytical approaches to provide information on the effects of flow on habitat for steelhead/rainbow trout. Fish abundance and distribution have been/will be tracked by snorkel surveys. At selected sites habitat characteristics and water quality parameters have been/will be evaluated empirically under various flow conditions. A habitat modeling component is also envisioned. Hydraulic data suitable for calibrating PHABSIM models will be collected, as determined during the course of study, in the reach between Hwy 154 and the Long pool to supplement the available PHABSIM data.

We have made some progress towards our goal. We have empirical information on the response of habitat to changes in streamflow in adjacent areas, PHABSIM data for adjacent areas from other studies, and habitat survey data for the entire reach from the Santa Ynez Fisheries study and from other studies (summarized in Table 1). We also have some data on fish use from the early years of the Santa Ynez Fisheries study and incidental observations from other studies.

The purpose of our meeting on February 11 is to review the information available and determine the appropriate course of action to develop habitat vs flow information that can be used to make management decisions. We will discuss two scenarios: 1) we are not granted access to collect additional field data in the reach between 154 and the Long pool and 2) we are granted limited access to the reach between Hwy 154 and the Long pool. We would like to develop an approach for estimating the flow vs habitat relationship for each of these scenarios that can be used to make management decisions for this reach.

The purpose of the conference call on January 29 is to discuss what data should be available for review prior to our February 11 meeting so we can be prepared to discuss various approaches and the Bio-Subcommittee can decide on an appropriate course of action for these studies.

**SANTA YNEZ RIVER TAC  
BIOLOGICAL SUBCOMMITTEE**

January 27, 1997

DRAFT

**Table 1 - Summary of habitat, flow and fisheries data collected on the lower Santa Ynez River. Please correct any errors you find in the table will be updated prior to the February 11 meeting. d/s = downstream, Mile = miles downstream from Bradbury Dam**

Hwy 154 reach - Mile 0.25 to Mile 0.5  
San Lucas Ranch - approx. Mile 0.5-3.4  
Refugio Reach - Mile 3.4-7.8

Alisal Reach - Mile 7.8-9.5  
Wister Reach - just downstream of Buellton  
Cargasachi Reach = Mile 22-24

Year	Study	Type of data	Stream Reach						
			Hwy 154 Reach (Stilling basin d/s to Long pool)	San Lucas Ranch down to Hwy 154	Refugio Reach (Hwy 154 d/s to near Quiota Cr.)	Alisal Reach (betw Quiota & Alisal Cr)	Buellton d/s to Lompoc	Lompoc and d/s	
1988	DWR study	PHABSIM data (6 sites, 40 transects. Have data sheets & report)		1 site, n transects	1 site, n transects	3 sites, n transects	1 site @ Buellton, n transects		
1989	??	Aerial Photos (have color copies)	X	X	X	X	X		
1990	TR Payne study	Habitat mapping			<del>X</del>	<del>X</del>	X		
1993	Cachuma Contract Renewal Fisheries	Fish distribution n (surveys Apr-Nov, @ 10, 5, and 1 cfs)	4 sites	11 sites					
		Habitat mapping	X (entire)	X (entire)	X (entire)	X (entire)	X (entire)	X (2 mi)	
Aug-Oct 1994	Study (ENTRIX)	IFIM transects (revised the DWR model, added transects. Have report)	1 sites		2 sites	1 site			
1994	Cachuma Project Authority	Aerial Photos (don't have copies)	?	?	?	?	?	?	

Year	Study	Type of data	Stream Reach					Buellton d/s to Lompoc	Lompoc and d/s
			Hwy 154 Reach (Stilling basin d/s to Long pool)	San Lucas Ranch down to Hwy 154	Refugio Reach (Hwy 154 d/s to near Quiota Cr.)	Alisal Reach (betw Quiota & Alisal Cr)	1 site near Solvang		
1994	SYRTAC studies	Habitat monitoring during WR 89-18 release	1 site d/s of stilling basin				1 site near Solvang	1 site near Lompoc	
			Habitat mapping (July @ 5-10 cfs)	X		X (2.5 mi)	X (3 mi)	X (Cargasachi 1.5 mi)	
			Habitat monitoring (monthly Aug-Dec)	X		X	X	X (Cargasachi)	
1995	SYRTAC studies	Fish use (monthly snorkel ing Aug-Dec)	X		X	X	X (Cargasachi)		
			Habitat monitoring (monthly)	X		X	X	X (Cargasachi all yr, Wister since summer)	
			Habitat monitoring during WR 89-18 releases	X		X	X	X (Cargasachi and maybe Wister)	
1996	Jones & Stokes	Riparian vegetation	X	X	X	X	X (Cargasachi all yr, Wister since summer)	X	
			Fish use (monthly snorkel surveys)	X		X	X	X (Cargasachi all yr, Wister since summer)	