

State of California
Regional Water Quality Control Board
San Diego Region

Revised Executive Officer Summary Report
May 21, 1997

Item No. 14

Subject: Tentative Resolution No. 97-25. Consideration of an Amendment to the Water Quality Control Plan for the San Diego Region (9) (Basin Plan) to Update Beneficial Use Designations for Spawning/Reproduction and/or Early Development (SPWN) and Cold Freshwater Habitat (COLD) in the following water body segments of watersheds:

- San Juan Creek Watershed - Oso Creek in the Oso Hydrologic Subarea (HSA 901.21); La Paz Creek in the Oso Hydrologic Subarea (HSA 901.21); Arroyo Trabuco Creek in the Lower San Juan Hydrologic Subarea (HSA 901.27); San Juan Creek in the (1) Upper San Juan Hydrologic Subarea (HSA 901.25), (2) Middle San Juan Hydrologic Subarea (HSA 901.26), (3) Lower San Juan Hydrologic Subarea (HSA 901.27), and (4) Ortega Hydrologic Subarea (HSA 901.28).
- Santa Margarita River Watershed - Santa Margarita River in the Gavilan Hydrologic Subarea (HSA 902.22), (2) DeLuz Creek Hydrologic Subarea (HSA 902.21), (3) Upper Ysidora Hydrologic Subarea (HSA 902.13), (4) Chappo Hydrologic Subarea (HSA 902.12), and (5) Lower Ysidora Hydrologic Subarea (HSA 902.11).
- San Luis Rey River Watershed - San Luis Rey River in the Pala Hydrologic Subarea (HSA 903.21), and (2) Pauma Hydrologic Subarea (HSA 903.22).

Discussion: The Regional Board held a public hearing on March 12, 1997 for the purpose of receiving testimony on Resolution No. 97-04, a Basin Plan amendment to Update Beneficial Use Designations for Spawning/Reproduction and/or Early Development (SPWN) and Cold Freshwater Habitat (COLD). The Regional Board closed the public hearing, adopted the noncontroversial beneficial use designations, and rescheduled the controversial beneficial use designations for discussion and consideration of adoption at today's meeting. The March 12, 1997 Regional Board agenda package contained letters received from interested parties, a written staff response to the comments and a staff report describing proposed deletions and additions of the COLD/SPWN beneficial use. These items will not be included in this agenda package. A report summarizing responses to testimony received at the March Board meeting is included in this package. The report contains the following recommendations regarding COLD/ SPWN designations in the subject water body segments:

Remove Cold Freshwater Habitat (COLD) beneficial use designations in the following water body segments of watersheds:

- San Juan Creek Watershed - Oso Creek in the Oso Hydrologic Subarea (HSA 901.21) and La Paz Creek in the Oso Hydrologic Subarea (HSA 901.21).

Retain Cold Freshwater Habitat (COLD) beneficial use designations in the following water body segments of watersheds:

- San Juan Creek Watershed - Arroyo Trabuco Creek in the Lower San Juan Hydrologic Subarea (HSA 901.27); San Juan Creek in the (1) Upper San Juan Hydrologic Subarea (HSA 901.25), (2) Middle San Juan Hydrologic Subarea (HSA 901.26), (3) Lower San Juan Hydrologic Subarea (HSA 901.27), and (4) Ortega Hydrologic Subarea (HSA 901.28).
- Santa Margarita River Watershed - Santa Margarita River in the Gavilan Hydrologic Subarea (HSA 902.22), (2) DeLuz Creek Hydrologic Subarea (HSA 902.21), (3) Upper Ysidora Hydrologic Subarea (HSA 902.13), (4) Chappo Hydrologic Subarea (HSA 902.12), and (5) Lower Ysidora Hydrologic Subarea (HSA 902.11).
- San Luis Rey River Watershed - San Luis Rey River in the Pala Hydrologic Subarea (HSA 903.21), and (2) Pauma Hydrologic Subarea (HSA 903.22).

Add Beneficial Use Designations for Spawning/Reproduction and/or Early Development (SPWN) in the following water body segments of watersheds:

- San Juan Creek Watershed - San Juan Creek in the Upper San Juan Hydrologic Subarea (HSA 901.25), and
- Santa Margarita River Watershed - Santa Margarita River in the Gavilan Hydrologic Subarea (HSA 902.22).

Recommendation: Adopt tentative Resolution No. 97-25.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

RESOLUTION NO. 97-25

A RESOLUTION ADOPTING AMENDMENTS
TO THE WATER QUALITY CONTROL PLAN
FOR THE SAN DIEGO REGION
FOR THE DESIGNATION OF COLD AND SPWN BENEFICIAL USES

WHEREAS, in accordance with Section 13240 et seq. of the CALIFORNIA WATER CODE, the California Regional Water Quality Control Board, San Diego Region, caused to be developed a *Water Quality Control Plan for the San Diego Water Quality Control Region*; and

WHEREAS, the Regional Board, acting in accord with Section 13244 of the CALIFORNIA WATER CODE, on September 8, 1994, adopted the *Water Quality Control Plan, San Diego Basin (9)* (hereinafter Basin Plan) which was subsequently approved by the SWRCB on December 13, 1994; and

WHEREAS, the Regional Board has adopted amendments to the Basin Plan for the San Diego Region from time to time since March 17, 1975, all of which modified beneficial uses protected and/or water quality objectives and/or policies of the Regional Board; and

WHEREAS, a Staff Report entitled, "*A Resolution Adopting Amendments to the Water Quality Control Plan for the San Diego Region for the Designation of COLD and SPWN Beneficial Uses*" dated January 9, 1997 describing the proposed amendment and containing environmental documentation functionally equivalent to the California Environmental Quality Act requirements was transmitted to interested individuals and public agencies for review and comment; and

WHEREAS, a Staff Report entitled, "Staff Report for Resolution No. 97-25, an amendment to the Water Quality Control Plan for the San Diego Region (Basin Plan) to update beneficial use designations for "*Spawning/ Reproduction and /or Early Development*" (SPWN) and "*Cold Freshwater Habitat*" (COLD) dated March 21, 1997 describing the proposed amendment was prepared; and

WHEREAS, Section 13240 of the California Water Code specifies that Basin Plans be periodically reviewed and, if appropriate, revised; and

WHEREAS, the Regional Board periodically considers changes to this Basin Plan as necessary; and

WHEREAS, the Regional Board has determined that the proposed amendments will not have a significant adverse effect on the environment; and

WHEREAS, the Regional Board held a public hearing on November 14, 1996 for the purpose of receiving testimony on the Basin Plan amendment described in the October 4, 1996 Regional Board Staff Report, "*The Basin Plan Amendment of Chapter 2 (Beneficial Uses) regarding Spawning, Reproduction and Early Development (SPWN) and Cold Freshwater Habitat (COLD) Beneficial Uses*"; and

WHEREAS, the Regional Board held a public hearing on March 12, 1997 for the purpose of receiving testimony on the Basin Plan amendment described in the January 9, 1997 Regional Board Staff Report, "*A Resolution Adopting Amendments to the Water Quality Control Plan for the San Diego Region for the Designation of COLD and SPWN Beneficial Uses*"; and

WHEREAS, a copy of the Notice of Filing was sent to the following agencies and persons: (1) those federal, state and local agencies who have jurisdiction by law or expertise with respect to the subject of the proposed basin plan amendment; (2) anyone who has requested notification or who the staff believes would be interested in the proposed amendment; and(3) the Resources Secretary; and

WHEREAS, the Regional Board has reviewed and carefully considered all comments and testimony received relative to the proposed amendments; and

WHEREAS, the Regional Board has determined that the proposed amendments would be consistent with the State Board's Resolution No. 68-16, "*Statement of Policy with Respect to Maintaining High Quality of Waters in California*", and the Federal Antidegradation Policy.

RESOLVED, that the Water Quality Control Plan for the San Diego Water Quality Control Region be amended as follows:

1. Table 2-2, "*Beneficial Uses of Inland Surface Waters*" appearing in Chapter 2, Beneficial Uses, is modified as shown in Attachment 1 to this Order; and

I, John Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, San Diego Region, on May 21, 1997.

JOHN ROBERTUS
Executive Officer

Attachment 1. Table 2-2, Beneficial Uses of Inland Surface Waters

Inland Surface Waters	Hydrologic Unit Basin Number	Beneficial Use	
		COLD	SPWN
San Juan Creek Watershed			
San Juan Creek	1.25	•	Add SPWN
San Juan Creek	1.26	•	
San Juan Creek	1.28	•	
San Juan Creek	1.27	•	
Arroyo Trabuco Creek	1.27	•	
Oso Creek	1.21	Remove COLD	
La Paz Creek	1.21	Remove COLD	
Santa Margarita River Watershed			
Santa Margarita River	2.22	•	Add SPWN
Santa Margarita River	2.21	•	
Santa Margarita River	2.13	•	
Santa Margarita River	2.12	•	
Santa Margarita River	2.11	•	
San Luis Rey River Watershed			
San Luis Rey River	3.22	•	
San Luis Rey River	3.21	•	

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Staff Report
for Resolution No. 97-25, an amendment to the
Water Quality Control Plan for the San Diego Region (Basin Plan)
to update beneficial use designations for
"Spawning/ Reproduction and /or Early Development" (SPWN) and
"Cold Freshwater Habitat" (COLD)

INTRODUCTION

The Regional Board held a public hearing on March 12, 1997 for the purpose of receiving testimony on Resolution No. 97-04, a Basin Plan amendment to Update Beneficial Use Designations for Spawning/Reproduction and/or Early Development (SPWN) and Cold Freshwater Habitat (COLD). The Regional Board closed the public hearing, adopted the noncontroversial beneficial use designations for COLD and SPWN and rescheduled the remaining controversial beneficial use designations for discussion and consideration of adoption at today's meeting.

This summary begins with an overview of the state and federal laws and regulations governing the designation and deletion of beneficial uses such as COLD and SPWN for surface waters. The remainder of the report summarizes staff's criteria for adding and deleting the COLD and SPWN beneficial uses, staff's responses to the testimony considered at the March 12, 1997 meeting and recommendations for the following water body segments of watersheds:

- San Juan Creek Watershed - Oso Creek in the Oso Hydrologic Subarea (HSA 901.21); La Paz Creek in the Oso Hydrologic Subarea (HSA 901.21); Arroyo Trabuco Creek in the Lower San Juan Hydrologic Subarea (HSA 901.27); San Juan Creek in the (1) Upper San Juan Hydrologic Subarea (HSA 901.25), (2) Middle San Juan Hydrologic Subarea (HSA 901.26), (3) Lower San Juan Hydrologic Subarea (HSA 901.27), and (4) Ortega Hydrologic Subarea (HSA 901.28).
- Santa Margarita River Watershed - Santa Margarita River in the Gavilan Hydrologic Subarea (HSA 902.22), (2) DeLuz Creek Hydrologic Subarea (HSA 902.21), (3) Upper Ysidora Hydrologic Subarea (HSA 902.13), (4) Chappo Hydrologic Subarea (HSA 902.12), and (5) Lower Ysidora Hydrologic Subarea (HSA 902.11).
- San Luis Rey River Watershed - San Luis Rey River in the Pala Hydrologic Subarea (HSA 903.21), and (2) Pauma Hydrologic Subarea (HSA 903.22).

OVERVIEW

Beneficial use designations such as COLD, adopted by the Regional Board pursuant to California Water Code Sections 13050(f) and 13241 also serve as water quality standards for purposes of compliance with Clean Water Act Section 303. The United

States Environmental Protection Agency has adopted detailed regulations in 40 CFR 131 on the formulation and maintenance of water quality standards by the Regional Board . These regulations establish minimum requirements governing Regional Board actions in designating beneficial uses.

The federal regulations define two distinct categories of beneficial uses for surface waters: (1) existing uses and (2) designated uses. The regulations define *"existing uses"* as *"those uses actually attained in the water body on or after November 28, 1975"*. *"Designated uses"* consist of *"those uses specified in water quality standards for each waterbody or segment whether or not they are being attained"* [40 CFR 131.3(e) and (f)]. An example of *"designated beneficial uses"* are beneficial uses classified by the Regional Board as *"potential"* for a variety of reasons, including:

- (1) Plans are proposed to put the water to a future use;
- (2) Potential exists to put the water to a future use;
- (3) The public desires to put the water to a future use;
- (4) The Regional Board has designated a beneficial use as a regional water quality goal.

In general, the California Water Code does not permit the removal of *"existing beneficial uses"* from protection. This conclusion may be inferred from the statutory policy that *"the quality of all waters of the state shall be protected for use and enjoyment by the people of the state"* and that *"the state must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the state from degradation originating inside or outside the boundaries of the state."* (See Water Code Section 13000). In addition the prescription in State Board Resolution No. 68 - 16 against changes in water quality which unreasonably affect present and anticipated beneficial uses indicates that existing beneficial uses and some potential beneficial uses should be protected.

The applicable USEPA regulations contained in 40 CFR 131 essentially prohibit the removal of *"existing beneficial uses"* (i.e., beneficial uses actually attained in the water body on or after November 28, 1975) [See 40 CFR 131.10(h)(1) and 131.12(a)(1)]. The USEPA antidegradation policy contained in 404 CFR 131.12(a)(1) further requires that existing instream water uses (e.g., beneficial uses such as COLD and the level of water quality necessary to protect the existing uses shall be maintained and protected.)

The federal regulations do allow the Regional Board to remove a designated beneficial use, which is not an existing beneficial use; however the Regional Board must first demonstrate through a *"use attainability analysis"* that attainment of the use is not feasible because of one of the following six factors pursuant to [40 CFR 131.10(g)]:

- (1) naturally occurring pollutant concentrations prevent the attainment of the use; or
- (2) natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; or

- (3) human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
- (4) dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
- (5) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
- (6) controls more stringent than the controls for effluent limitations in Clean Water Act Sections 301 (b) and 306 would result in substantial and widespread economic and social impact.

Beneficial Use Designation by Water Body Segment

Prior to 1994, beneficial uses were designated by hydrologic subareas. If a particular hydrologic subarea segment of a stream, creek, river or waterbody was identified as having the COLD beneficial use, then the hydrologic subarea was designated as having the COLD beneficial use.

As an initial step towards shifting to a watershed based approach for managing water quality, the Regional Board modified the Basin Plan during the 1994 update to designate surface water beneficial uses by individual water bodies or segments thereof. Beneficial use designations for a particular hydrologic subarea (HSA) were transferred to each waterbody segment in that particular HSA. This resulted in some water body segments being incorrectly designated with a particular beneficial use. In order to obtain more accurate beneficial use designations the Regional Board can amend the Basin Plan to subdivide surface water bodies, retaining beneficial use designations in certain segments and deleting it in others. If the Regional Board deletes beneficial use designations for a surface water body segment then the Regional Board must comply with applicable federal regulations described above governing deletion of "*designated uses*".

The San Diego Region's Basin Plan stipulates on page 2 - 6 that designated beneficial uses are not always present throughout the entire reach of a particular water body segment. Designated beneficial uses may not be present throughout the year. The extent of specific beneficial uses areas within a waterbody segment may be evaluated by the Regional Board at the time the uses are designated or at a later time when the Regional Board makes regulatory decisions pertaining to discharges which could affect the beneficial use designation. For example, the applicability of beneficial use designations for a water body segment near or below proposed discharges is evaluated by the Regional Board during the development of waste discharge requirements.

Designation of Cold Freshwater Habitat (COLD)

Water bodies with a "Cold Freshwater Habitat" (COLD) beneficial use designation are water bodies which support cold freshwater ecosystems. The Basin Plan defines the COLD beneficial use as "includes uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates."

For the San Diego Region, the COLD beneficial use designation was added to water body segments where the following conditions are met:

- There is evidence that cold freshwater fish regularly occur now or have historically occurred within the water body; or
- There currently exists a high quality cold freshwater aquatic habitat suitable for cold freshwater fish.

In the San Diego Region, the cold freshwater fish most likely to be encountered is the rainbow trout. The rainbow trout, *Oncorhynchus mykiss*, is native to the Region. Rainbow trout which migrate from fresh water to the ocean are known as steelhead and those which remain in fresh water are known as a resident population. Other cold freshwater fish are also found in the San Diego Region. [For instance, the Chambers Group report presented at the March 12, 1997 public hearing provides evidence of the occurrence of partially armored threespine stickleback in the San Diego Region. The partially armored threespine stickleback is a fish that prefers water temperatures of 61° F (16° C)].

Certain species of cold freshwater fish (i.e., rainbow trout) are known to survive high temperatures in the summer for short periods, especially when gradually acclimated to the warmer temperatures. The San Diego Region is near the southern extreme of the natural range of rainbow trout, thus environmental conditions here are often near the limits of the species tolerance. The physiological, behavioral and dispersal mechanisms of rainbow trout allow populations to persist in the San Diego Region. For instance, the temperature tolerance for rainbow trout is reported to be from about 32° F to the mid-80's depending on the oxygen content of the water, size of fish, and the degree of acclimation.

It is not necessary for a waterbody to contain cold water temperatures all year round to be designated as "Cold Freshwater Habitat" (COLD). In the San Diego Region, all of the water body segments designated with the COLD beneficial use are also designated with the WARM beneficial use. This is basically because cold fresh water habitats periodically warm up. For instance, in the winter a water body may provide cold fresh water habitat, and in the late summer, the same waterbody may provide warm fresh water habitat. Another example is that a water body may provide cold fresh water habitat during the night, and warm fresh water habitat in the day. Many species are supported by both cold and warm fresh water ecosystems (e.g., western pond turtle, arroyo chub...).

Populations of largemouth bass and other warmwater fish species can and do survive when introduced to cold freshwater habitats. Therefore, the presence of warm freshwater species does not preclude the presence of cold freshwater habitat.

Southern California water temperatures need not be a limiting factor for the presence and survival of steelhead. Malibu Creek and Gaviota Creek are examples of streams with temperatures exceeding northern California stream temperature norms that support steelhead populations (DFG testimony).

It is not necessary for a waterbody to contain year round flow to be designated as "Cold Freshwater Habitat" (COLD). In the semi-arid San Diego Region, there are times when stream flow may be quite minimal to non-existent during dry weather conditions. The occurrence of appreciable quantities of flow may be limited to periods following storm events during wet weather periods. The COLD designation can and does apply to those waterbodies which contain intermittent water flows that support cold freshwater habitat. As, the Basin Plan points out, "*designated beneficial uses may not be present throughout the year.*" Water bodies with intermittent water flows do support cold fresh water habitats suitable for cold freshwater fish.

Southern steelhead rainbow trout

Southern steelhead show adaptations to southern California's semi-arid climate (McEwan, 1996). Southern steelhead populations currently and/or historically exist in rivers with intermittent or interrupted flow. The hydraulic connection in a river does not have to be continuous throughout the winter months to have an anadromous migration. Observations from the Santa Clara River and the Vern Freeman Diversion show that a hydraulic connection during flood flows and during several months of the Spring are adequate to maintain a viable steelhead run (DFG, testimony). Southern steelhead are an opportunistic species able to take advantage of storm events that allow for access to inland spawning areas, and are not dependent on stream flows throughout the drainage year-round.

Steelhead rainbow trout migrations have historically occurred in San Juan Creek, Arroyo Trabuco Creek, Santa Margarita River, and the San Luis Rey River. The abundance of steelhead has declined in these waters due to habitat destruction, construction of dams and roads, placement of structural impediments and water diversion structures and poor land use management practices. Currently, Malibu Creek (Ventura County) is the most southern location where steelhead migration is known to be successful.

The National Marine Fisheries Service (NMFS) has proposed listing the steelhead (*Oncorhynchus mykiss*) as a federally endangered species. As of this time, the Evolutionarily Significant Unit (ESU) that has been identified for southern California stops at Malibu Creek in Los Angeles County. The California Department of Fish and Game (DFG) has petitioned NMFS to expand the ESU to the south.

The California Department of Fish and Game testified to the Regional Board at the March 12, 1997 public hearing that removal of the COLD beneficial use designation has the potential for adversely affecting historical steelhead habitats. The DFG letter dated March 10, 1997 summarizing their testimony, states, "*The consideration of the steelhead listing makes remaining coldwater habitats in southern California especially important to the continuity of aquatic habitats in an arid geographic region that has few of these resources.*" According to DFG testimony and the Department of Fish and Game's *Steelhead Restoration and Management Plan for California* "It is DFG's position that all streams that historically supported steelhead populations have the potential for restoration or reintroduction, and future land use planning decisions should not preclude that potential."

The DFG is currently in the process of conducting stream surveys to evaluate San Juan and Trabuco Creeks, and the Santa Margarita and San Luis Rey Rivers to determine their potential for recovery of the steelhead population in the San Diego Region (DFG, testimony). Appropriate watershed restoration efforts are being considered for San Juan and Trabuco Creeks, and the Santa Margarita and San Luis Rey Rivers so that steelhead could recolonize these and other water bodies in the San Diego Region. The U. S. Army Corps of Engineers (USACOE) has recently completed a watershed management study for San Juan Creek contained in the report "*San Juan and Aliso Creek Watershed Management Study, Orange County California*". The USACOE study concluded that abundance of steelhead declined in these waters in the 1950's due to habitat destruction, construction of dams and roads, placement of structural impediments and water diversion structures and poor land use management practices. The study also concluded that there is a potential for reestablishing suitable habitat in these waters for the steelhead from riparian and aquatic watershed restoration projects.

Removal of a COLD Beneficial Use Designation

Regional Board staff has recommended deletion of COLD beneficial use designations where the following conditions occur:

- The COLD beneficial use is not an "existing" use; and
- Attaining the designated COLD beneficial use is not feasible for one of the following reasons:
 - Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use; or
 - Physical conditions related to the natural features of the waterbody, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses.

There are four other reasons which could support deletion of a surface water beneficial use pursuant to [40 CFR 131.10(g)] . The six reasons under which surface water beneficial uses may be deleted are discussed in greater detail in the "Overview" section of this report.

***San Juan Creek Watershed -
Oso Creek in the Oso Hydrologic Subarea (HSA 901.21) and
La Paz Creek in the Oso Hydrologic Subarea (HSA 901.21)***

The COLD beneficial use designation for the Oso Creek in the Oso Hydrologic Subarea (HSA 901.21); La Paz Creek in the Oso Hydrologic Subarea (HSA 901.21) were first adopted by the Regional Board as an existing use in their February 27, 1978 amendments to the *Comprehensive Water Quality Control Plan for the San Diego Basin* (Basin Plan). The COLD beneficial use designations for these water body segments in San Juan Creek were most recently reaffirmed by the Regional Board in their adoption of the revised Basin Plan in September, 1994.

Regional Board staff is recommending the deletion of the COLD Beneficial Use Designation for Oso Creek in the Oso Hydrologic Subarea (HSA 901.21) and deletion of the COLD Beneficial Use Designation for La Paz Creek in the Oso Hydrologic Subarea (HSA 901.21). This recommendation comes after reconsideration of the COLD beneficial use designations in the San Juan Creek watershed. It is apparent to Regional Board staff that the COLD beneficial use designation was incorrectly designated during the 1994 Basin Plan update and that these designations should be removed.

Oso Creek originates in the foothills of the Santa Ana mountains and flows for a distance of approximately 13.5 miles to enter Trabucco Creek just upstream of its confluence with San Juan Creek. It drains an area of approximately 16 square miles. La Paz Creek is a tributary of Oso creek which drains an area of 3.3 square miles along a distance of about 4 miles. There are few parcels of native vegetation remaining in the Oso Creek and La Paz Creek watersheds. These areas are almost entirely developed. The COLD beneficial use designation is not known to be an "existing" use in either of these waterbody segments. The fish that are present are warm water fishes. Due to the lack of overall vegetation, structural impediments in the creek channels and nature of the overall urbanized development existing in the area staff does not believe Oso Creek and La Paz Creek support a cold beneficial use designation.

***Designation of San Juan Creek in the
Upper San Juan Basin (HSA 901.25) as COLD and SPWN***

The COLD beneficial use designation for San Juan Creek in Hydrologic Subarea (HSA) 901.25 was adopted by the Regional Board as an existing use in their February 27, 1978 amendments to the *Comprehensive Water Quality Control Plan for the San Diego Basin* (Basin Plan). Staff is proposing to designate the segment of San Juan

Creek located in HSA 901.25 as spawning habitat. For the San Diego Region, the SPWN beneficial use designation is designated for waters where the following conditions are met:

- There is evidence that cold and/or marine fish spawning and reproduction regularly occurs now or has historically within the water body; or
- There currently exists a high quality aquatic habitat suitable for cold freshwater and/or marine fish spawning, reproduction and/or early development.

Mr. John Clune of McCormick, Kidman & Behrens representing the Capistrano Beach Water District; Mr. John Holland of the Law Offices of Martha Lennihan representing the San Juan Basin Authority, which is a joint powers authority comprised of Capistrano Valley Water District, Moulton Niguel Water District and Santa Margarita Water District; and Mr. Ray Auerbach, General Manager of Capistrano Valley Water District did not submit specific evidence demonstrating that the existing COLD and/or the proposed SPWN designation in the Upper San Juan Basin (HSA 901.25) of San Juan Creek are not applicable. Staff believes that at this time these parties are not concerned with the existing COLD or the proposed SPWN beneficial use designation.

The SPWN beneficial use should be added and the COLD beneficial use retained in the Upper San Juan Basin (HSA 901.25) of San Juan Creek. The segment of San Juan Creek in HSA 901.25 should be designated as an existing SPWN beneficial use because it clearly supports a high quality habitat suitable for spawning, reproduction and/or early development of trout. The segment of San Juan Creek located in HSA 901.25 has areas with gravel and cool, free-flowing well-oxygenated water.

According to the California Department of Fish and Game (DFG), Fisheries Biologist for Orange County, Mr. Juan Hernandez (personal communication), rainbow trout were sampled by electrofishing near the lower San Juan Creek picnic area in the Cleveland National Forest area on February 25, 1997 (HSA 901.25). On the sample date of February 25, 1997, Mr. Hernandez found that stream temperature measured 52 F, and appeared to be well-oxygenated, well shaded by trees, with little algae. Mr. Hernandez also found that San Juan Creek contained coarse gravel appropriate for rainbow trout nesting substrate, as well as habitat suitable for rainbow trout fry on February 25, 1997. During sampling on February 25, 1997, he observed an abundance of aquatic insects, (the forage for the rainbow trout), and deep pools approximately two feet deep (where trout could seek refuge). Anglers who regularly fish San Juan Creek have reported to Mr. Hernandez that these pools sustain the rainbow trout throughout the year.

***COLD designation in the Middle San Juan Basin (HSA 901.26),
Lower San Juan Basin (HSA 901.27), and
Ortega Basin (HSA 901.28) of San Juan Creek; and in the
Lower San Juan Basin (HSA 901.27) of Arroyo Trabuco Creek***

The COLD beneficial use designation for the Middle San Juan Basin (HSA 901.26), Lower San Juan Basin (HSA 901.27), and Ortega Basin (HSA 901.28) of San Juan Creek; and in the Lower San Juan Basin (HSA 901.27) of Trabuco Creek were first adopted by the Regional Board as an existing use in their February 27, 1978 amendments to the *Comprehensive Water Quality Control Plan for the San Diego Basin* (Basin Plan). The COLD beneficial use designation for these water body segments in San Juan Creek were most recently reaffirmed by the Regional Board in their adoption of the revised Basin Plan in September, 1994.

Mr. John Clune of McCormick, Kidman & Behrens, representing the Capistrano Beach Water District; Mr. John Holland of the Law Offices of Martha Lennihan representing the San Juan Basin Authority, which is a joint powers authority comprised of Capistrano Valley Water District, Moulton Niguel Water District and Santa Margarita Water District; and Mr. Ray Auerbach, General Manager of Capistrano Valley Water District have submitted documents and/or testimony in opposition to the retention of the COLD designation in the Middle San Juan Basin (HSA 901.26), Lower San Juan Basin (HSA 901.27), and Ortega Basin (HSA 901.28) of San Juan Creek; and in the Lower San Juan Basin (HSA 901.27) of Trabuco Creek.

The San Juan Basin Authority's documents included a report of investigations done by Dr. Noel Davis of the Chambers Group, Inc. entitled, "*Investigation of COLD Freshwater Habitat in the Lower Portions of Trabuco Creek and San Juan Creek in the San Juan Creek Watershed, Orange County*" and technical information on stream flow. Regional Board staff has reviewed these documents.

Dr. Noel Davis concluded in her report and testimony Trabuco Creek in HSA 901.27 is channelized, lacks any vegetation, and has a natural substrate composed of sand and pebbles. She states that Trabuco Creek in HSA 901.27 does not provide "*high quality trout habitat*".

However, for the Regional Board to remove a COLD beneficial use designation, it must be shown that the use is not an existing use, and it must be demonstrated with sufficient supporting technical information that attaining the designated use is not feasible for one of the reasons pursuant to [40 CFR 131.10(g)], already listed.

Trabuco Creek in HSA 901.27 still retains a potential migratory corridor for cold freshwater fish during the winter and/or spring runoff period. Staff believes it is still feasible for cold freshwater fish to migrate through Trabuco Creek in HSA 901.27 in order to reach more natural sections upstream and ultimately their spawning grounds. An adult steelhead rainbow trout could be expected to migrate upstream through the channelized section of Trabuco Creek in less than a day. These cold freshwater fish

could also easily migrate downstream through this section to the sea. The channel still has a natural bottom and the substrate is composed of sand and cobble. The upstream section of Trabuco Creek and its tributary of Holy Jim Canyon in HSA 901.22 still contain existing cold freshwater fish populations and spawning habitat.

Dr. Noel Davis also concludes in her report that San Juan Creek in HSAs 901.27, 901.28 and 901.26 do not contain "*high quality coldwater habitat*". She indicates that there is a lack of cover and shade, that in most places the bottom consisted of loose cobbles and gravel with little structure and no deep pools.

Staff has retained the COLD beneficial use designations for the San Juan Creek in HSAs 901.27, 901.28 and 901.26 based on evidence that cold freshwater fish regularly occur now or have historically occurred within this water body segment; or that there currently exists a high quality cold freshwater aquatic habitat suitable for cold freshwater fish. The following is provided as an example, and should not be interpreted as a complete listing of evidence supporting the COLD beneficial use designation:

- (1) San Juan Creek beginning at the mouth and proceeding 2.5 miles upstream is identified as habitat for partially armored threespine stickleback (Swift, 1990). The presence of partially armored threespine stickleback indicates cold freshwater habitat exists. Partially armored threespine stickleback prefer cold freshwater temperatures of 61° F and clear water. Stickleback are considered to be a cold freshwater fish (HSA's 901.27 and 901.28)
- (2) Partially armored threespine stickleback were found by in several locations on San Juan Creek from near the confluence of Canada Chiquita upsteam to Hot Springs Creek in Swift (1975)(HSA's 901.26 and 901.25).
- (3) San Juan Creek in HSAs 901.27, 901.28 and 901.26 still retains a potential migratory corridor for cold freshwater fish during the winter and/or spring runoff period. San Juan Creek, though intermittent, has historically provided migratory passage for southern steelhead rainbow trout. Dr. Carl Hubbs (1946), wrote that DFG employees have recorded trout runs in San Juan Creek, Orange county. Dr. Carl Hubbs reported that, "*Carl I. Johnson and other anglers, as well as E.H. Glidden, local warden, tell of steelhead catches in the estuary of San Juan Creek in Orange County ...*" (HSA 901.27).
- (4) The lower 15.5 mile section of San Juan Creek from the mouth to San Juan Hot Springs is where steelhead were reported to DFG (HSAs 901.27, 901.28, 901.26 and 901.25 respectively) (October 9, 1946, DFG stream survey from Mr. Willis A. Evans to files).
- (5) In 1982 the California Department of Fish and Game, Orange County Unit Biologist observed a steelhead in San Juan Creek near the former Cal Mat Sand and Gravel Operation, below Caspers Wilderness Park (DFG, Mike Giusti,

testimony). This is the lower portion of HSA 901.25. (In order for steelhead to migrate up to the lower portion of HSA 901.25, steelhead migration up through HSAs 901.27, 901.28, 901.26 of San Juan Creek is required.)

San Juan Basin Authority believes that the COLD beneficial use designation should be removed from San Juan Creek because flows under 50 cubic feet per second (cfs) occur on many days during the migratory time period for steelhead. San Juan Basin Authority hired Mr. John Thornton of Psomas & Associates to examine U.S. Geologic Survey records for San Juan Creek. Mr. Thornton calculated that a flow of 50 cfs would achieve a minimum stream depth of eight inches in San Juan Creek. The San Juan Basin Authority submitted evidence on the number of days streamflow is under 50 cfs on San Juan Creek.

Staff understands streamflow may be under 50 cfs on San Juan Creek the majority of each year. However, staff has studied the technical information submitted by San Juan Basin Authority and believes that the flows in San Juan Creek provide more than adequate depths to support the migration of a southern California steelhead population in wet and normal water years.

Staff believes that the minimum stream depth required for successful migration of adult steelhead from the ocean to spawning grounds is about six or seven inches, rather than eight inches. Even the San Juan Basin Authority's report submitted at the March 12, 1997 public hearing and entitled, *"Investigation of Cold Freshwater Habitat in the Lower Portions of Trabuco Creek and San Juan Creek in the San Juan Creek Watershed, Orange County"* by Dr. Noel Davis (on the last sentence of page 2) states that the minimum depth for steelhead migration is seven inches. The actual stream depth required for migration depends on a variety of factors, such as the size of the fish, distance and availability of resting areas. In general, the depth should be sufficient to cover the fish, thus large steelhead would require slightly deeper water depths than smaller steelhead. Staff believes that if six or seven inches, are used as a minimum migration depth, flows suitable to support adult steelhead migration on San Juan Creek would be found for a greater number of days.

Mr. Thornton's calculations clearly show that flows necessary to support adult steelhead migration in San Juan Creek exist. Mr. Thornton looked at flow records dating from 1954 to 1993. Staff generated a bar graph for the time period between 1975 and 1993 based on the data he provided (see chart 1). Chart 1 shows the days when flows exceeded 50 cfs, which is more than sufficient stream flow to support adult steelhead migration to spawning grounds in San Juan Creek. Flows providing at least eight inches of depth and exceeding 50 cubic feet per second (cfs) occurred in 73 percent of the years during the period 1975 to 1993 on San Juan Creek.

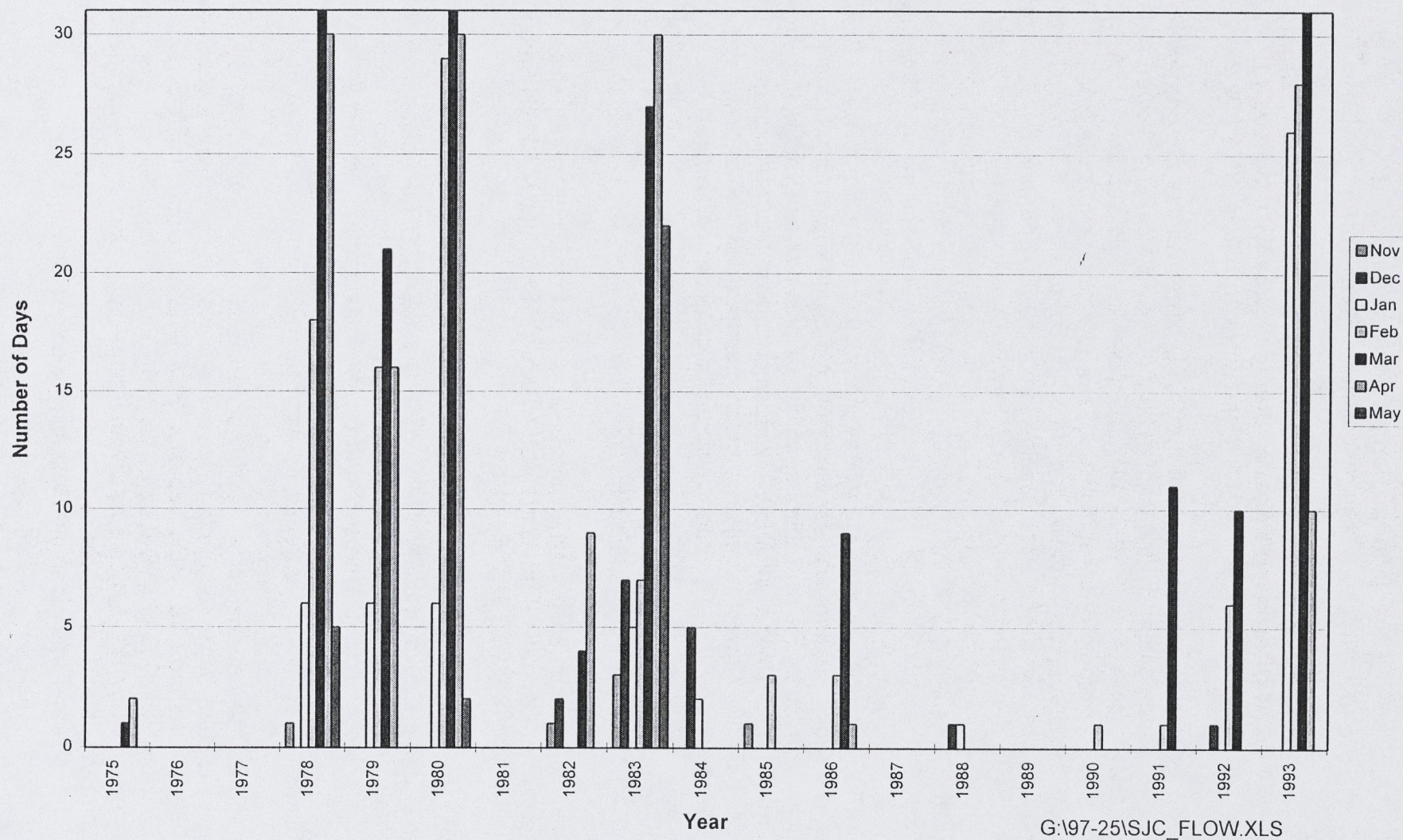
Next, staff looked at the migration distance and the travel time necessary for steelhead to reach spawning grounds. Southern steelhead would most likely travel from one to three and a half miles in a day, however daily travel distances vary and can be much greater. Based on this travel rate, steelhead would need an average of 7.1 days

(with a range of 4.6 to 16 days) to reach the Cleveland Forest. The following years had at least 8 days with depths over eight inches and probably several more days with flows supporting depths of at least six inches for the period between 1975 and 1993: 1978, 1979, 1980, 1982, 1983, 1986, 1991, 1992 and 1993.

Therefore, in general, water depth would not normally hinder adult migration in San Juan Creek because southern steelhead rainbow trout would normally migrate shortly after the high winter flows, such as occur during normal and wet years. Staff believes that during times of drought, southern steelhead migration on San Juan Creek was probably not successful. In times of drought, southern steelhead might remain at sea or spawn in other nearby streams where stream depths are greater. This flexibility in behavior is considered to be characteristic of southern steelhead. Southern steelhead migration is contingent upon streamflow, streamflow is subject to rainfall.

In summary staff recommends that the Regional Board retain the cold beneficial use designation in the subject segments of Arroyo Trabucco and San Juan Creeks based on their continued potential to provide a migratory corridor for cold freshwater fish during the winter and/or spring runoff period. Retention of the COLD beneficial use is also supported by the existence of a resident population of partially armored threespine stickleback which were found by in several locations on San Juan Creek from near the confluence of Canada Chiquita upstream to Hot Springs Creek in Swift (1975) (HSAs 901.26 and 901.25).

Number of Days in Months of November through May with
Flows of 50 CFS or Greater in San Juan Creek



**Santa Margarita River Watershed -
Santa Margarita River in the**

**Lower Ysidora Hydrologic Subarea (HSA 902.11), Chappo Hydrologic Subarea
(HSA 902.12), Upper Ysidora Hydrologic Subarea (HSA 902.13), DeLuz Creek
Basin (HSA 902.21) and Galivan Basin (HSA 902.22)**

The Regional Board first adopted the COLD beneficial use designation as an "existing use" for the segments of the Santa Margarita River located in Lower Ysidora Hydrologic Subarea (HSA 902.11), Chappo Hydrologic Subarea (HSA 902.12), Upper Ysidora Hydrologic Subarea (HSA 902.13), De Luz Basin (HSA 902.21) and Galivan Basin (HSA 902.22) in their adoption of the *Comprehensive Water Quality Control Plan for the San Diego Basin* (Basin Plan) in 1975. Thus the COLD beneficial use has been designated in the San Luis Rey River watershed by the Regional Board for over 22 years since 1975. The COLD beneficial use designation for Santa Margarita River (HSAs 902.11, 902.12 and 902.13) was most recently reaffirmed by the Regional Board in their adoption of the revised Basin Plan in September, 1994.

Mr. Bob Lemons, Director of Engineering at Rancho California Water District; Mr. James Jenks, Watermaster for the Santa Margarita River; Mr. Mark Wills of the Riverside County Flood Control and Water Conservation District; and Ms. Claire Harrison of Eastern Municipal Water District oppose the retention of the COLD designation in Lower Ysidora Hydrologic Subarea (HSA 902.11), Chappo Hydrologic Subarea (HSA 902.12); Upper Ysidora Hydrologic Subarea (HSA 902.13), De Luz Basin (HSA 902.21), and the Galivan Basin (HSA 902.22) of Santa Margarita River. There is also opposition to the addition of the SPWN designation in the Galivan Basin (HSA 902.22) of Santa Margarita River.

The main reason cited for the opposition is that conditions in these HSA's are inconsistent with the conditions used to apply COLD and/or SPWN beneficial uses in the January 9, 1997 Staff Report.

Staff disagrees. Staff is proposing to designate the segment of the Santa Margarita River in the Galivan Basin (HSA 902.22) with the SPWN beneficial uses because it clearly supports a high quality habitat suitable for spawning, reproduction and/or early development of trout. The segment of Santa Margarita River in the Galivan Basin (HSA 902.22) has areas with gravel and cool, free-flowing well oxygenated water suitable for spawning, reproduction and/or early development of trout.

Staff has retained the current COLD beneficial use designations for the segments of the mainstem Santa Margarita River in the Lower Ysidora Hydrologic Subarea (HSA 902.11), Chappo Hydrologic Subarea (HSA 902.12), Upper Ysidora Hydrologic Subarea (HSA 902.13), DeLuz Basin (HSA 902.21), and Galivan Basin (HSA 902.22) based on evidence that cold freshwater fish regularly occur now or have historically occurred within these water body segments; or that there currently exists a high quality cold freshwater aquatic habitat suitable for cold freshwater fish.

Information regarding the presence of steelhead, rainbow trout and/or the presence of habitat suitable for "*Cold Freshwater Fish*" in the Santa Margarita River can be found in California Department of Fish and Game (DFG) files, the literature, and the hearing testimony. The following is provided as an example, and should not be interpreted as a complete listing of historical sightings and accounts of steelhead and/or rainbow trout and/or indicators of their habitat:

- (1) In May 1987, Mr. Bruce Campbell caught and released a small rainbow trout from a pool just below the old culvert at Sandia Creek Road (Bruce Campbell, letter dated November 14, 1996). (The Santa Margarita River at Sandia Creek Road is in HSA 902.22.)
- (2) According to Mr. Bruce Oppenheim, United States Fish and Wildlife Service (USFWS), Arcata (personal communication November 27, 1996), an angler caught a 15 inch steelhead rainbow trout on the Santa Margarita River near Fallbrook in 1967 (probably HSA 902.22, possibly HSA 902.21).
- (3) According to Mr. Bruce Oppenheim, USFWS, Arcata (personal communication), the DFG, Mohave River Hatchery stocked rainbow trout in Santa Margarita River at Willow Glen Road from 1961 to 1984 (HSA 902.22).
- (4) Steelhead were collected at mouth of DeLuz Creek in 1939, and 27 fry are contained in the museum collection in Michigan (testimony of James Jenks, Watermaster for Santa Margarita River). The mouth of DeLuz Creek (HSA 902.21) is a tributary to the Santa Margarita River (HSA 902.21). In order for steelhead fry to be collected in the mouth of DeLuz Creek, adult steelhead would have to migrate through the mainstem Santa Margarita River in HSA 902.21.
- (5) According to Mr. Bruce Oppenheim, USFWS, Arcata (personal communication), the Santa Margarita River at the DeLuz Road bridge (HSA 902.21) was stocked with trout from 1983 to 1984 (HSA 902.21).
- (6) On June 29, 1986, Mr. Bruce Campbell found juvenile rainbow trout in the Santa Margarita River downstream of the DeLuz Road crossing (Testimony of Bruce Campbell, Conservation Director of San Diego Flyfishers at March 12, 1997 public hearing). (Santa Margarita River in HSA 902.21 and/or 902.13.)
- (7) According to Mr. Bruce Oppenheim, United States Fish and Wildlife Service, Arcata (personal communication), large steelhead were found in the Santa Margarita River in the 1940's.
- (8) According to Mr. Allen Greenwood, of San Diego Trout (August 28, 1996 letter to Mr. Craig Wingert, National Marine Fisheries Service): In the late 1940's, steelhead were reported to be so thick near the original rancho adobe on Camp Pendleton, that one could walk across the river!

- (9) In 1938, the Santa Margarita River near the general's quarters contained "a run of steelhead bank to bank" (testimony of Michael Pottorff). (The Santa Margarita River flows through Camp Pendleton within HSA's 902.11, 902.12, 902.13, and 902.21.)
- (10) Warden Eddy Gibbs (of the California Department of Fish and Game) reported steelhead in the Santa Margarita River in 1930's and 1940's (information can be found in the library of Scripps Institute of Oceanography) (testimony of Allen Greenwood).
- (11) According to Mr. Robert Titus, Associate Biologist, DFG, (letter to Linda Pardy dated May 14, 1996): The Santa Margarita River drainage has historically been used as a production area by both steelhead and resident rainbow trout. In a general sense, the drainage would then be regarded as a cold-water aquatic system. Under unimpaired conditions, steelhead probably spawned in perennial waters in the upper drainage, where the young reared until ready to smolt and emigrate to the Pacific Ocean. These juvenile steelhead likely occurred sympatrically with their resident rainbow trout "siblings" and "cousins". The alluvial portion of the river probably went dry in summer except in wet years. A lagoon at the mouth may also have provided high quality rearing habitat for juvenile steelhead.
- (12) According to Mr. Bruce Oppenheim, USFWLS, Arcata (personal communication November 27, 1996) Silver salmon were planted at the Santa Margarita River estuary in 1970's (HSA 902.11).
- (13) The Santa Margarita River is listed as a stream section that has held rainbow trout since about 1975. The section with trout begins at the mouth and proceeds 7.5 miles upstream (Swift, C., Hagland, and Ruiz, 1990)(HSAs 902.11, 902.12).

Mr. James Jenks, the Watermaster for the Santa Margarita River provided temperature data to support his contention that the river is not suitable habitat for rainbow trout. Staff has reviewed the temperature data, and realizes the river warms up considerably during warm summer days. The Staff Report dated January 9, 1997 provides a summary of the reasons why Regional Board staff believes water temperatures found in the Santa Margarita River need not be a limiting factor for the presence and survival of cold fresh water fish.

It was also mentioned that there is a sandbar at the mouth of the Santa Margarita River which may preclude fish passage. Staff believes that the sandbar does not limit "Cold Freshwater Habitat" beneficial use. In fact, the formation of the sandbar is an integral part of the ecological health of the Santa Margarita River and historically provided nursery habitat for juvenile steelhead. Flood flows periodically breach the sandbar so that the river periodically opens to the ocean (for further details, see Staff Report dated January 9, 1997).

Several people mentioned that the lower Santa Margarita River is intermittent. Staff acknowledges that the lower Santa Margarita River is intermittent. The Santa Margarita River in the lower sections (HSAs 902.11, 902.12, and 902.13) provides intermittent cold freshwater habitat during winter streamflows which is suitable as a migration corridor for southern steelhead rainbow trout. As previously discussed, it is not necessary for a waterbody to contain year round flow to provide intermittent cold freshwater habitat which supports cold freshwater fish. The COLD designation can and does apply to those waterbodies which contain intermittent water flows that support cold freshwater habitat.

According to Mr. Bob Lemons, Director of Engineering at the Rancho California Water District (RCWD), the RCWD, is required during the summertime to ensure the maintenance of a minimum flow in the Santa Margarita River. Mr. Lemons reported that at times their discharge comprises 75% to 90% of the water in the stream. There are certain times of the year when they cannot produce enough ground water and they purchase imported water directly from Lake Skinner which is much warmer than ground water in the summertime. The temperature of the water at the gauge might range from 70°F to 80°F. In addition, the RCWD has just received a NPDES permit to discharge 2 MGD from their Santa Rosa Plant located near Murrietta Creek, about 2 -2 1/2 miles upstream of the confluence of Murrietta and Temecula Creek. Mr. Lemons reported that the creek is often dry or nearly so at that discharge point. Mr. Lemons expressed concern that as a point source discharger, the RCWD would have difficulty meeting the dissolved oxygen and temperature limitations of the COLD designation.

Staff understands Mr. Lemons concerns, but does not believe that retention of the COLD beneficial use downstream within the Santa Margarita River poses any threat of noncompliance to RCWD. Considerable temperature changes can occur within the water supply lines between Lake Skinner and the discharge point. Also, water temperatures can be further influenced by the vegetative shading and evaporation which occurs downstream in Murrieta Creek before the RCWD discharges enters the Santa Margarita River. Even if these additional influences did not cause any significant reduction in the temperature of either of the RCWD discharges, staff does not believe that RCWD discharges pose any serious threat to the cold water habitat of the downstream river. The limited size of the two RCWD discharges, the natural surfacing of ground water downstream in both Murrieta and Temecula Creeks, and the shading and turbulence of the downstream Santa Margarita River can all be expected to reduce the influence of the RCWD discharges on both stream temperature and dissolved oxygen concentrations within the Santa Margarita River. Even if the downstream river periodically had water temperatures as high as those reported to be in the RCWD discharge or source water, temperatures ranging from 70°F to 80°F do not by themselves prohibit the survival of most cold water aquatic life. In summary, staff does not believe that RCWD discharges pose a serious threat to cold water aquatic life within the Santa Margarita River.

**San Luis Rey River Watershed;
San Luis Rey River in the
Pala (HSA 903.21) and Pauma Basin (HSA 903.22)**

The Regional Board first adopted the COLD beneficial use designation as an "existing use" for the segment of the San Luis Rey River located in the Pala (HSA 903.21) and Pauma Hydrologic Subarea (HSA 903.22) in their February 27, 1978 amendments to the *Comprehensive Water Quality Control Plan for the San Diego Basin* (Basin Plan). Thus the COLD beneficial use has been designated in these waterbody segments of the San Luis Rey River watershed by the Regional Board for over 21 years since 1975. The COLD beneficial use designations for the San Luis Rey River in HSAs 903.21 and 903.22 were most recently reaffirmed by the Regional Board in their adoption of the revised Basin Plan in September, 1994.

Ms. Michele Staples and Ms. Hillary Baker of the Law Offices of Susan M. Trager representing the Sierra Land Group and the San Luis Rey Municipal Water District; Dr. Noel Davis of the Chambers Group, Inc. hired by the Law Offices of Susan M. Trager; Mr. Robert Pankey, a property owner along the San Luis Rey River who is also the president of the San Luis Rey Municipal Water District; and Mr. Rodney Gild representing Pala Rey Ranch assert that the cold freshwater habitat (COLD) beneficial use was incorrectly designated for the San Luis Rey River in the Pala basin (HSA 903.21) and Pauma basin (HSA 903.22) because of insufficient flow and a lack of the natural features typical of a cold freshwater habitat.

Staff disagrees. Staff has retained the COLD beneficial use designations for the San Luis Rey River Watershed in the mainstem San Luis Rey River in the Pala (HSA 903.21) and Pauma Basin (HSA 902.22) based on evidence that cold freshwater fish regularly occur now or have historically occurred within this water body segment; or that there currently exists a high quality cold freshwater aquatic habitat suitable for cold freshwater fish.

The following is provided as an example, and should not be interpreted as a complete listing of evidence supporting the COLD beneficial use designation:

COLD FRESHWATER HABITAT USE SINCE 1975

- (1) There is evidence of cold freshwater habitat in the Pauma Basin of the San Luis Rey River at Wilderness Gardens County Park (HSA 903.22). According to the testimony of Mr. Mike Giusti, of the Department of Fish and Game (DFG), Mr. Dennis McEwan, DFG steelhead expert, and other DFG staff visited the San Luis Rey River (HSA 902.22) at Wilderness Gardens Park during 1997. Mr. Dennis McEwan concurs that it is suitable Cold Freshwater Habitat for trout.
- The stream within Wilderness Gardens Park is not necessarily suitable for spawning habitat, but it does contain Cold Freshwater Habitat. The stream at Wilderness Gardens Park contains shady pools, tree root wads, logs, boulders,

and gravels and is suitable habitat for rainbow trout (DFG testimony at March 12, 1997 public hearing).

- (2) Mr. Bruce Campbell (in a letter dated May 13, 1995 to Mr. Tom Palenscar and students) identified seven aquatic insect specimens, including mayflies and stoneflies collected from the San Luis Rey River in 1995. He indicates the mayflies included the genus *Baetis*, which are called "Little Blue Winged Olives"; and also the subfamily *Caeninae*, species *Tricorhithodes fallax* or "Tricos". The stoneflies included the genus *Isoperla*, Family *Perlidae*, Order *Plecoptera*, also known as "Yellow Sallies" or "Little Yellow Stone". He states that the presence of these insects; which include *Isoperla*, *Baetis* and *Tricorhithodes* provide signals that the pH and temperature range are suitable for restoring resident rainbow trout populations (Letter submitted by Tom Palenscar during testimony at March 12, 1997 public hearing).
- (3) Mr. Allen Greenwood, of San Diego Trout, has observed several rainbow trout varying between 9 and 12 inches in Pauma Creek below the highway bridge downstream into the Pauma Basin of the San Luis Rey River (HSA 903.22) (letter and testimony). Mr. Allen Greenwood testified that on one day he counted more than 20 trout and several of the rainbow trout were found in the mainstem of the San Luis Rey River.
- (4) Rainbow trout fry are planted in San Luis Rey River at Wilderness Gardens (HSA 903.22) in the winter months by children as part of educational experience with the Nature School which is coordinated by Dr. Robert LaRosa. (See letter dated February 14, 1997, and newspaper clippings of children planting rainbow trout during 1990's as submitted by Dr. Robert LaRosa). Wilderness Gardens is located in the Pauma basin (HSA 903.22), about a half mile upstream of the Pala basin (HSA 903.21) boundary.
- (5) According to the DFG *STEELHEAD RESTORATION AND MANAGEMENT PLAN FOR CALIFORNIA*, "*streams that historically supported steelhead populations have the potential for restoration or reintroduction*" of steelhead. Since some Pauma Creek (HSA 902.22) rainbow trout have been found to exhibit migratory behavior anadromy may be re-established by emigration of these resident rainbow trout.
- (6) There is evidence of an upstream rainbow trout population (in the La Jolla Amago Basin of the San Luis Rey River (HSA 903.23). For example, California Department of Fish and Game staff collected rainbow trout ranging in size from 4.7 inches (115 mm) to over 12 inches (300+mm) total length at the "Picnic Area" (personal communication, February 1997, Mr. Alex Vejar, California Department of Fish and Game, Fisheries Biologist, San Diego County). Since rainbow trout are well known for their ability to migrate downstream, it is very possible that rainbow trout could migrate downstream into the Pauma Basin of the San Luis Rey River during high winter flows (HSA 903.22).

- (7) Rainbow trout currently inhabit Pauma Creek (903.22), a tributary to the Pauma Basin (903.22) of the San Luis Rey River. With adequate flows, these rainbow trout will attempt to migrate downstream. There is known migration of trout into the Pauma Basin (HSA 903.22) of the San Luis Rey River .
- (8) In addition to the native population of trout, the headwaters of Pauma Creek have also been stocked with hatchery rainbow trout. The unique appearance of the Pauma Creek rainbow trout distinguish them from the hatchery stock and indicates they represent the native trout of this area (Behnke, 1992). From the photos shown at the March 12, 1997 hearing, it can be seen that these trout are not hatchery trout, they are self sustaining and healthy. The occurrence of these unique rainbow trout confirms the "*historical*" occurrence of trout in the Pauma and Pala basins of the San Luis Rey River.

HISTORICAL ACCOUNTS OF STEELHEAD RUNS PRIOR TO 1975

- (1) The San Luis Rey River historically supported a steelhead population. In written testimony before the Indians Claims Commission (Docket 80 A), Dr. Florence Shipek stated that through her ethnographic research she showed that the San Luis Rey River did support steelhead runs prior to the construction of Henshaw Dam, and that Native Americans caught steelhead from the San Luis Rey River (DFG testimony and letter, submitted at March 12, 1997 public hearing).

Dr. Florence Shipek, has done extensive work on the cultural history of the Pauma, Rincon and La Jolla Indian tribes and interviewed members of these tribes to learn of their cultural history. Dr. Florence Shipek (personal communication with Linda Pardy of the Regional Board staff) explained that she personally interviewed members of these tribes who were youngsters in the 1890's and 1900's during her research in the 1950's and 1960's. These tribe members told her that a major part of the food supply for the Luiseno Indians came from the fish in the San Luis Rey River and that the fish were an important part of their religious ceremonies. The ceremonies to celebrate the arrival of these fish were discontinued in about the 1870's because the Christian missionaries forbade these religious ceremonies. The fish were caught by various methods including nets, weirs, and hook and line. The fish were distributed in the San Luis Rey River upstream to the area occupied by the La Jolla Indian tribe. [Note: The fish being referred to are considered to be steelhead rainbow trout for the following reasons: (1) the fish were large enough to be caught with hook and line, nets, and or weirs; (2) the fish periodically arrived at the River and gave the Indians cause for ceremonial celebrations; and (3) the only native fish which fits both of these descriptions in the San Diego Region in recent times is the steelhead rainbow trout.]

- (2) Mr. Orville P. Ball (personal communication) has communicated to Regional Board staff that the Pala Indians remember when their ancestors used to net

large "silver" fish along Pauma Valley in the Spring months. [The large 'silver' fish are believed to be steelhead rainbow trout.] The qualifications of Mr. Orville P. Ball are the following: he has completed graduate studies at the University of Montana dealing with the lacustrine ecology of Kokanee sockeye salmon in Flathead Lake, Montana; has worked as a graduate student at Scripps Institute of Oceanography under Dr. Carl Hubbs and Dr. E.H. Allstrom; has conducted research work on cutthroat trout and grayling; has worked as Lakes Superintendent for the City of San Diego; and in the 1960's served two terms as member of the Regional Water Quality Control Board (Municipalities).

- (3) G. Brown Goode, Ph.D. LL.D. (1903), in "*American Fishes, A Popular Treatise upon the Game and Food Fishes of North America with Especial Reference to Habits and Methods of Capture*", wrote that the rainbow trout (known as *Salmo irideus* in 1903) "*is found in streams west of the Sierra Nevada, from near the Mexican line to Oregon, and is said to occur in the northern part of Lower California. The southernmost seen by Jordan were from San Luis Rey River.*"
- (4) David Starr Jordan, Ph.D. (1923), in "*American Food and Game Fishes. A Popular account of all the Species found in America North of the Equator, with Keys for Ready Identification, Life Histories and Methods of Capture*" wrote that, "*The original rainbow trout, the so-called S. irideus, is found only in the small brooks of the Coast Ranges in California, from the Klamath River to the San Luis Rey in San Diego County.*"
- (5) Dr. Carl Hubbs (1946) wrote that in 1915 he examined a specimen from the collection of the San Diego Society of Natural History collected from the San Luis Rey River near Pala (HSA 903.21). He wrote that the rainbow trout then known as *Salmo gairdneri* was no doubt a native species in southern California. The fish was deep-bodied and unusually coarse-scaled and may have represented a slightly differentiated fresh-water race.
- (6) A historical account of Dr. Carl Hubbs investigations was found in the Scripps Institute of Oceanography library, archives. In 1947, Dr. Carl Hubbs along with Dr. Brody and Carl Johnson traced steelhead in the San Luis Rey river up to the Mission San Luis Rey (HSA 903.21).
- (7) Ms. Rosa Smith found rainbow trout in fresh water streams at Pala, and near Smith's Mountain, San Diego County and published their occurrence in (Rosa Smith, 1880), "*A List of Fishes of San Diego, California*". Pala is next to Pala Mission on Pala creek at the confluence with the San Luis Rey River (HSA 903.21). Smith's Mountain is known today as Palomar Mountain.
- (8) Dr. Carl H. Eigenmann (1892), a Professor of Zoology at Indiana University researching in San Diego county compiled a list of fishes. In an article entitled, "*The Fishes of San Diego California*" he wrote the following about *Salmo Irideus Gibbons*, which is now considered to be the rainbow trout, "*This is one of three*

or four species of fresh water fishes known from the western slope of San Diego county. It is abundant in the streams arising in Smith Mountain and emptying into the San Luis Rey river."

- (9) Native trout were abundant in the upper San Luis Rey drainage in the nineteenth century before introductions of hatchery trout (details in Swift et al. 1993) [Information found from the Chambers Group report (page 6) which mentions the published documentation]

POTENTIAL AS A MIGRATORY CORRIDOR

Technical documents, included two Chambers Group, Inc. reports by Dr. Noel Davis which were submitted by Ms. Michele Staples of the Law Firm of Susan M. Trager in opposition to the COLD designation on the San Luis Rey River in HSAs 903.21 and 903.22. The Chambers Group, Inc. reports stated that flows necessary to support steelhead migration on the Santa Clara river would be generally applicable to the San Luis Rey river.

The Chambers Group, Inc. reports also states that the distance between the ocean and potentially suitable spawning habitat in the upper regions of the San Luis Rey River is greater than for most southern California rivers that currently support steelhead runs. Steelhead would have a longer and more arduous journey to reach potentially suitable spawning habitat in the San Luis Rey River than in other southern California rivers where they currently spawn.

Staff disagrees. The flow requirements to support trout in the Santa Clara River are not necessarily the same as those flows necessary to support trout in the San Luis Rey River. The geologic formations of the San Luis Rey River are different than the Santa Clara River. The Santa Clara river floodplain is much broader than the San Luis Rey river. Streamflow requirements for a particular river system and rainbow trout population should be considered on a case-by-case basis. The distance that steelhead would need to migrate on the San Luis Rey River (25 miles) would not necessarily be limiting. The Chamber's Group, Inc. report fails to mention that the Santa Clara River in Ventura county, (which is also in southern California) has a migratory run of steelhead. According to Carpanzano (1996), these fish migrate up to 35 miles to reach their spawning grounds. Steelhead will migrate up a river system for as many miles as it takes to reach their spawning grounds (Dr. Camm Swift, personal communication). In some rivers, the migration distance is short, in other rivers the steelhead migrates great distances to reach spawning grounds.

According to DFG, prior to the construction of Bradbury Dam on the Santa Ynez River, steelhead spawned in the mainstem of the river and nearly all of the tributaries up to Gibraltar Dam, seventy two miles above the mouth of the river. The construction of Bradbury Dam eliminated all migration upstream, but as recently as 1994, several pairs of adult steelhead were observed spawning in Hilton Creek immediately below Bradbury Dam. This is a run of more than forty seven miles from the sea. In addition,

according to Dr. Behnke (1992) there were steelhead runs that migrated over 1122 miles from the ocean on the Columbia River system. Presently, steelhead still migrate about 750 miles to headwaters of the Salmon River.

Another point brought out in various documents and the public hearing was that the San Luis Rey River is an intermittent stream. Staff realizes that the flow in San Luis Rey River may at times be intermittent and/or interrupted. However, when sufficient rainfall occurs, there is cold fresh water flowing in the San Luis Rey River. The cold freshwater streamflow provides instream habitat for aquatic life. At times, the streamflow in the San Luis Rey River is significant. The Chambers Group, Inc. report clearly stated that in three years (1978, 1980, and 1983) the San Luis Rey River supported flows exceeding 50 cubic feet per second (cfs) for most of the spring. According to DFG, these are the conditions that provide for a migration corridor for steelhead (DFG letter, submitted at March 12, 1997 public hearing). Staff has retained the Cold Freshwater Habitat beneficial use designation in HSAs 903.21 and 903.22 because the San Luis Rey River during wet weather streamflows provides intermittent cold freshwater habitat and the river is a migration corridor for cold freshwater fish. As pointed out earlier, it is not necessary for a waterbody to contain year round flow to provide intermittent cold freshwater habitat which supports cold freshwater fish. The COLD designation can and does apply to those waterbodies which contain intermittent water flows that support cold freshwater habitat.

Some persons testified that the streamside habitat along the San Luis Rey River does not support high quality trout habitat. Staff realizes that the river substrate currently contains much sand and that the existing streamside vegetation like young willows and mulefat do not provide dense shade in HSAs 903.21 and 903.22. However, there are stretches of river which do contain older and larger trees like sycamore and cottonwood that do provide shade. Also, the existing sandy substrates do not preclude the presence of cold freshwater habitat. According to DFG testimony, the steelhead occur on the Santa Clara River system where substrates are fairly sandy and shoreline vegetation is sparse.

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