

## TESTIMONY OF JOYCE AMBROSIUS

I, Joyce Ambrosius, declare as follows:

### **1. Statement of Qualifications.**

I am a Team Leader, Fishery Biologist in the Protected Resources Division of the United States Department of Commerce, NOAA's National Marine Fisheries Service (NMFS). My primary responsibility is to protect and restore habitats for salmonids listed under the Endangered Species Act (ESA). I have worked as a fishery biologist for over 16 years, and during the past nine years have focused on the protection and recovery of steelhead populations in coastal streams of San Mateo, Santa Cruz, and Monterey counties. A true and correct copy of my Statement of Qualifications is attached. I have personal knowledge of the information contained herein and, if called as a witness, I could and would testify competently thereto.

### **2. The NMFS Interests in this Proceeding.**

The NMFS is responsible for protecting and recovering Pacific salmonid species and their habitats that have been listed under the ESA. Under its Federally-mandated responsibilities, if a marine or anadromous species may need protection under the ESA, NMFS first determines whether the species qualifies for listing as either endangered or threatened. NMFS must also determine the extent of critical habitat necessary to sustain the survival of each species and to provide for its recovery.

### **3. Status of Listing Actions and Critical Habitat Designation in the Carmel**

## **River**

The NMFS designated South-Central California Coast steelhead as a Federally listed threatened species on August 18, 1997, and it reasserted that listing on January 5, 2006 (71 FR 834). The NMFS designated South-Central California Coast steelhead Critical Habitat in the Carmel River on September 5, 2005.

### **4. Protective Regulations.**

Protective regulations prohibiting “take” of steelhead by all persons, including Federal agencies and private entities, were published on July 10, 2000 (65 FR 42422). These regulations, which went into effect on September 8, 2000, extend the section 9 prohibitions of the ESA to South-Central California Coast steelhead, making their take unlawful. “Take” as defined in the ESA, includes, in part, to kill, injure, harm, or harass the species. The protective regulations describe certain activities that are very likely to injure or kill salmonids, or that may injure or kill salmonids, resulting in a violation of the ESA (64 FR 73481). These activities include, in part:

*...Physical disturbance or blockage of the streambed where spawners or redds are present concurrent with the disturbance, .... Blocking fish passage through fills, dams, or impassable culverts, .... Water withdrawals that impact spawning or rearing habitat....*

### **5. Status of Steelhead and its Critical Habitat in the Carmel River.**

Nehlsen *et al.* (1991) listed the Carmel River steelhead stock as being at a high risk of extinction. The decline in this population is the result of blocked access to historic

spawning and rearing areas upstream of dams, and extensive water diversion (Titus *et al.* 1999). Of all the streams in this Evolutionary Significant Unit (ESU), the Carmel River presently maintains the largest adult run compared to any other single stream.

Historically, over 90% of the river's production occurred upstream of the San Clemente Dam (Snider 1983). The California Advisory Committee on Salmon and Steelhead cited an estimate of 20,000 steelhead in the Carmel River in 1928. Total run sizes have been estimated in the low thousands as recently as the mid 1960's to mid 1970's using a combination of ladder counts, spawning redd surveys and angler surveys. Recently, the steelhead population has begun to recover from the effects of the 1987-1991 drought. The 1997 and 1998 totals were the highest counts at San Clemente Dam since 1975 (775 and 856, respectively) (Jones and Stokes, 1998). In 1999, 405 steelhead adults returned to the dam (Entrix, 2000). In 2000 and 2001, adult steelhead returns to the dam totaled 472 and 804 fish, respectively. The last three years (2003-2006) the adult steelhead returns to the dam totaled only in the mid-300's (388, 328, 368 fish, respectively) (Monterey Peninsula Water Management District, unpublished data).

After completion of San Clemente Dam in 1921, a portion of the Carmel River downstream from the dam adjusted to the loss of bedload material by deepening its channel. In the river reach immediately downstream from the dam, fine riverbed materials were washed out, leaving only coarse materials, which prevented further erosion of the riverbed except during the largest floods. This phenomenon, which commonly occurs downstream from dams, is called armoring. Through the process of armoring many habitat functions necessary to sustain salmonids are lost. These functions include recruitment of spawning gravels, maintenance of pool/riffle complexes and production and subsequent drift of invertebrates. In some reaches of the river, there has

been up to 13 feet of incision (Jones and Stokes, 1998).

As a result of direct diversions of water, the Carmel River goes dry downstream from the Narrows (River Mile 9.5) usually by July of each year. From July until the winter rains begin, the only water remaining in the lower river is in isolated pools that gradually dry up as the groundwater table declines in response to pumping. Surface flow from the Carmel River into the lagoon normally recedes after the rainy season in late spring, and ceases in summer as rates of water extraction from the river and alluvial aquifer exceed baseflow discharge (Denise Duffy, 1998). While large numbers of steelhead spawn below the San Clemente Dam, the actual production of juveniles is low because survival depends upon streamflows continuing throughout the entire summer, fall, and following winter. Dettman and Kelley (1986) estimated the total population of age 0+ steelhead between the Narrows and San Clemente Dam was 138,874. Most of these fish were subsequently eaten by predators or died as the stream dried up later in the year.

Due to the lowered ground water levels from excessive water withdrawal, the riparian vegetation has incurred stress and die-offs. This loss of riparian vegetation has contributed to bank erosion and destabilization of the river channel, which has endangered riverside properties which were developed after the river incised. Multiple sites along the length of the Carmel River have been hardened for bank protection, resulting in a loss of critical habitat for steelhead.

The loss of sustaining flows has had a significant adverse effect on South-Central California Coast steelhead and its critical habitat in the Carmel River. Summer flow

releases from San Clemente Dam are negotiated annually, but generally remain at about 5 cubic feet per second (cfs) during late summer. There is also an agreement between dam operators and Department of Fish and Game (DFG) to provide at least 5 cfs below Los Padres Dam. In spite of the presence of releases from the two dams, the lower Carmel River is dry in summer and fall during normal rainfall years and sometimes year-round in drought years.

## **6. Restoring Flow Related Habitat in the Carmel River through Modifications of Water Diversion Practices.**

State Water Resources Control Board (SWRCB) Order 95-10 concluded that California American Water's (CAW) diversions are having an adverse effect on the riparian corridor along the river below San Clemente Dam and upon steelhead which spawn in the river. Order 95-10 ordered CAW to diligently implement one or more of the following actions to terminate its unlawful diversions from the Carmel River: (1) obtain appropriate permits for water being unlawfully diverted from the Carmel River, (2) obtain water from other sources of supply and make one-for-one reductions in unlawful diversions from the Carmel, and/or (3) contract with another agency having appropriate rights to divert and use water from the Carmel River. Complete solution to the problem of excessive diversions from the Carmel River cannot be reached until CAW finds new water sources. There are currently several active, alternate plans for addressing CAW's need to obtain new water rights. There are alternative plans for constructing a desalination facility that would produce potable water that would offset direct diversions from the Carmel River during the period of seasonal low flows (*e.g.*, May through November). Complementing or supplementing a desalination facility is a plan to develop an Aquifer Storage and Recovery (ASR) project that would divert flows from the Carmel River during the winter and storing them in an aquifer from which water could then be withdrawn during the period of seasonal low flows. The ASR project would likewise provide a water supply that would help offset unauthorized diversions from the Carmel River and help

conserve natural flows in the Carmel River during summer and fall.

**7. NMFS' Position on Monterey Peninsula Water Management District's (MPWMD) and CAW's Petitions for Change to Water Right Permits 7130B and 20808 for Aquifer Storage and Recovery (ASR) Project**

NMFS is supportive of MPWMD and CAW's plan to develop an ASR project for 2,426 acre-feet of water if 1) the diversions are operated with bypass flows consistent with recommendations identified in Table 9 of NMFS (2002)<sup>1</sup>, and 2) the project is operated so water developed by that project would be used to offset the unauthorized diversions from the Carmel River by CAW, especially during the low flow season. In other words, the ASR project would not be used to supplement CAW's water supply so long as CAW conducts unauthorized diversions from the Carmel River to the detriment of steelhead and other aquatic resources as previously identified in SWRCB Order 95-10.

In our letter, dated August 31, 2005, NMFS stated these were the conditions needed to be addressed in order for us to withdraw our protest.

In our discussions with MPWMD and CAW concerning the resolution of our protest, we had reached agreement on many of the Permit Conditions (see attached). These should be included in the Permits issued by the SWRCB. We are especially concerned about two outstanding issues, 1) the need to include NMFS' (2002) minimum instream flow requirements into the Permit, and 2) inclusion of some wording into the Permit that will promote the offsetting of the unauthorized diversions from the Carmel River by CAW, especially during the low flow season. With respect to these issues, 1) MPWMD and

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<sup>1</sup> Instream Flow Needs for Steelhead in the Carmel River, Bypass Flow Recommendations for Water Supply

CAW have agreed to operate the diversions consistent with minimum flow recommendations identified in NMFS (2002). In previous annual permits for experimental diversions of water from the Carmel River to the Seaside aquifer, SWRCB provided annual permits to MPWMD that specifically required conformance with minimum flows recommended in NMFS (2002). The original Permits 7130B and 20808 had a similarly structured bypass flow regime for a complex project involving the release of waters from the New Los Padres Reservoir. However, these original bypass terms were for a new reservoir. The bypass terms recommended in NMFS (2002) are appropriate for future diversions under a limited ASR project or other moderate or small diversions. Therefore, we request NMFS (2002) minimum flow terms and conditions be included as terms and conditions within the water right permits for this project; and 2) in order to provide benefits to listed steelhead in the Carmel River, the recovered water from the ASR project needs to offset the illegal pumping by CAW. SWRCB Order 95-10 states CAW must “diligently implement one or more of the following actions to terminate its unlawful diversions from the Carmel River: (1) obtain appropriate permits for water being unlawfully diverted from the Carmel River, (2) obtain water from other sources of supply and make one-for-one reductions in unlawful diversions from the Carmel, and/or (3) contract with another agency having appropriate rights to divert and use water from the Carmel River.” NMFS believes the Phase I ASR project is a method of obtaining water from other sources of supply and CAW is entering into an agreement with MPWMD (via this Permit) to divert and use water from the Carmel River. Therefore, CAW should make one-for-one reductions in their unlawful diversions from the Carmel River. In previous annual permits for experimental diversions of water from the Carmel River to the Seaside aquifer, SWRCB provided annual permits to MPWMD that

specifically required conformance with Order 95-10. We believe the SWRCB should require MPWMD and CAW to be in conformance with Order 95-10 under this Permit.

Suggested language for a term and condition would read:

“The water produced by MPWMD and CAW from the ASR wells will be used to offset production from the Carmel River that would otherwise occur during the low-flow season. In any year that ASR water is recovered and delivered to the CAW distribution system, CAW shall, to the maximum extent operationally feasible, reduce water diversion from its Carmel River sources. The actual amount of ASR water that is recovered each year will be subtracted from CAW’s total annual diversion allowance from its Carmel River sources for that year (*e.g.*, Order No. WR 95-10, as amended, so long as it is in effect).”

In summary, the aforementioned changes to the Permit Conditions should be included in the Permits. The ASR project needs minimum flow requirements. MPWMD, CAW, DFG, and NMFS agree the minimum flow requirements identified in NMFS (2002) are protective of steelhead and reasonable for the ASR project. We believe the SWRCB should include minimum bypass requirements for the proposed ASR project into the Permits. In addition, Permits for the ASR project should include terms and conditions to conform to Order 95-10 and offset CAW’s unauthorized diversions by subtracting the actual amount of ASR water recovered each year from CAW’s total annual diversion allowance from its Carmel River sources.

## **10.0 Literature Cited**

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Dettman D.H., and D.W. Kelley. 1986. Assessment of the Carmel River Steelhead



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NMFS. 2002. Instream flow needs for steelhead in the Carmel River, Bypass Flow Recommendations for Water Supply Projects using Carmel River Waters. National Marine Fisheries Service, Southwest Region, Santa Rosa Area Office, June 3, 2002.

Titus, R.G., D.C. Erman, and W.M. Snider. 1999. History and status of steelhead in California coastal drainages south of San Francisco Bay. California Department of Fish and Game, draft manuscript, July 21, 1999.