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**BEFORE THE STATE WATER
RESOURCES CONTROL BOARD**

In the Matter of the State Water Resources)
Control Board (State Water Board))
Hearing to consider Monterey Peninsula)
Water Management District's (MPWMD))
Petitions to Change Permits 7130B and)
20808 (Applications 11674B and 27614))
)

Hearing Date: September 24, 2007
Carmel River in Monterey County

**TESTIMONY OF KEVAN URQUHART
SENIOR FISHERIES BIOLOGIST
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**

1 previous employer. My responsibilities at the District include knowledge of the general scientific
2 and ecological principles of fisheries management, and for the conservation of aquatic resources;
3 the federal, state, and local laws that affect fisheries management and water supply projects;
4 assessment of water supply alternatives; preparation and review of technical reports; oversight of
5 aquatic mitigation and monitoring programs; and coordination with many governmental agencies,
6 consultants and technical staff.

7 3. Due to the responsibilities enumerated above, I am knowledgeable about the aquatic
8 fauna, general hydrology, and stream conditions of the Carmel River which pertain to the ASR
9 Project. I am familiar with the contents of ASR Project EIR/EA, which I have carefully reviewed
10 for its scientific and analytical credibility. When working for my prior employer, I contributed to
11 the review of the flow standards developed by the National Marine Fisheries Service (NMFS),
12 which are being utilized to set the bypass flows for this water rights application, and helped develop
13 trustee agency comments on the Environmental Impact Report and Environmental Assessment
14 (EIR/EA) for the ASR Project that is the subject of this hearing.

15
16 **Q2. PLEASE DESCRIBE DOCUMENTS WHICH YOU HAVE REVIEWED TO**
17 **PREPARE YOUR TESTIMONY**

18
19 4. The key documents I have reviewed to prepare this testimony include: (1) Draft
20 EIR/EA for Phase 1 ASR Project, March 2006 (Exhibit SWRCB-1); (2) Final EIR/EA for Phase
21 1 ASR Project, August 2006 (Exhibit SWRCB-1); (3) Instream Flow Needs for Steelhead in the
22 Carmel River, National Marine Fisheries Service, June 2002. (Exhibit KU-2); (4) Assessment
23 of the Carmel River Steelhead Resource. Volume 1. Biological Investigations. Prepared for the
24 MPWMD by Dettman and Kelly, 1986. (Exhibit KU-3); and (5) Chapter IX. Steelhead
25 Mitigation Measures in the 2005-2006 Mitigation Program Annual Report, MPWMD, June
26

1 2006. (**Exhibit KU-4**). The Draft EIR/EA addresses the operational impacts of the proposed
2 ASR Project on the aquatic resources of the Carmel River.

3
4 **Q3. PLEASE DESCRIBE THE IMPACTS OF THE ASR PROJECT ON THE**
5 **AQUATIC RESOURCES OF THE CARMEL RIVER AND ANY MITIGATIONS**
6 **PROPOSED TO ADDRESS THEM**

7
8 5. Put simply, ASR entails diversion of winter flow from the Carmel River, which is
9 treated and injected into ASR wells in the Seaside Basin, for recovery during the dry season, in
10 lieu of direct subsurface diversions from the Carmel River aquifer. The ASR Project's
11 diversions to storage are designed in compliance with the National Marine Fisheries Service
12 (NMFS) 2002 bypass flow guidelines in order to avoid impacts to steelhead. The following
13 paragraphs summarize MPWMD's evaluation of the environmental benefits and impacts of the
14 ASR Project, and proposed mitigations to minimize the few impacts the project has. Details of
15 the project description and operations are provided in the testimony of Joe Oliver and Darby
16 Fuerst.

17 6. **Overall Benefits for Adult Upstream Migration (EIR/EIS Impact "AR-1"):**
18 The ASR Project's operational protocols are predicted to improve adult upstream migratory
19 conditions, by slightly increasing the duration of attraction flows and the length of the migration
20 season, in comparison to the CEQA baseline of the No Project conditions (**Exhibit SWRCB-1**,
21 Chapter 5, Figures 5-6 & 5-7). Minimum attraction flows for adults would occur for one or two
22 more days each year in all water year types, except Critically-Dry years, where there would be
23 no difference. Minimum transportation flows for the upstream migration of adults would be
24 increased by one to three days in Dry and Critically Dry years, but not in wetter year types.
25 Overall the benefits for adult immigration are most apparent in Dry or Critically Dry years, when
26 the steelhead migratory season is very short, so that any expansion of migratory access is very

1 significant. As a result of these slight improvements over current conditions, the project is
2 considered to provide beneficial impacts, and no mitigation is required. Despite the benefit of
3 the project in some water year types, and the lack of any predicted impacts to adult migration in
4 the rest of the water year types, we have included a protective mitigation measure in the FEIR
5 [EIR/EIS Mitigation Measure "AR-1"] in response to comments from the Carmel River
6 Steelhead Association (CRSA) and NMFS. We will survey the river channel below RM 5.5 at
7 the beginning of each diversion season and identify five potential sites that might become low
8 flow impediments to upstream adult passage. If any of those sites become impediments to
9 upstream adult migration while we are diverting for ASR, we will either modify them so they
10 cease to be an impediment, or cease diverting for ASR until the natural increase in flows renders
11 these sites no longer an impediment to adult upstream migration.

12 7. **Benefits for Juvenile Rearing in the Lower Carmel River (EIR/EIS Impact**
13 **"AR-2")**: The ASR Project's operational protocols are predicted to reduce the number of days
14 that juvenile steelhead are subject to a high risk of stranding in the lower Carmel River, below
15 the Narrows, by from nine to fifty-five days per year, depending on water year type (**Exhibit**
16 **KU-5**: Figure 5-8 from **Exhibit SWRCB-1**, Chapter 5). This operational benefit of the project
17 could be diminished over the years by silt accumulation behind Los Padres Dam (LPD) that
18 would reduce reservoir storage used to maintain instream flows in the summer and fall. Thus,
19 despite the benefit of the project, we have included a mitigation measure [EIR/EIS Mitigation
20 Measure "AR-2", as revised in the FEIR] to cooperate with our co-Water right holder, California
21 American Water (CAW), to seek ways to develop a project to maintain, recover, or increase
22 storage capacity at Los Padres Reservoir (LPR). CAW is currently investigating the cost to
23 resurvey LPR's volume, which will be the first step in identifying the magnitude of the problem.
24 The District will also continue to operate its Rescue Program and the Sleepy Hollow Steelhead
25 Rearing Facility to rear steelhead rescued from the Carmel River below the Narrows.

1 8. **Benefits to Late Fall/Winter Flows for Emigrating Steelhead (EIR/EIS**

2 **Impact "AR-3")**: The ASR Project's operational protocols are predicted to reduce the number
3 of days that downstream emigrant steelhead are at risk of being stranded by either zero, three,
4 ten, or thirteen days, depending on water year type (**Exhibit KU-6**: Figure 5-11 from **Exhibit**
5 **SWRCB-1**, Chapter 5). So, downstream migrating juvenile steelhead would be better off with
6 the operation of the ASR Project in three out of four water year types, and no worse off in the
7 last water year type. As a result of these slight improvements over current conditions, the project
8 is considered to provide beneficial impacts, and no mitigation is required.

9 9. **Effects on Spring Flows for Steelhead Smolt Emigration (EIR/EIS Impact**

10 **"AR-4")**: The ASR Project's operational protocols are predicted to only slightly reduce mean
11 April-May flows, reducing them only an average of from one to six cubic feet per second (cfs) in
12 the three wetter water year types, but also increasing average flow in the two driest water year
13 types (**Exhibit KU-7**: Figures 5-12 & 5-13 from **Exhibit SWRCB-1**, Chapter 5). In every water
14 year type the ASR project will be operated in compliance with the protective bypass flow
15 requirements set out in the NMFS' 2002 report, such that no significant additional impacts to
16 spring smolt emigration are expected to occur in the three wetter water year types, while a small
17 benefit is expected to occur in the two driest water year types. Additionally, the ASR Projects
18 operational protocols are predicted to reduce the number of days that steelhead smolts are at risk
19 of being stranded during the peak emigration season, due to low flows below the Narrows, by
20 one or two days in Dry or Critically Dry years (**Exhibit SWRCB-1**, Chapter 5, Figure 5-14).
21 As a result of complying with the NMFS bypass flows for steelhead, and the slight
22 improvements over current conditions in the two driest water year types, the project is
23 considered to provide beneficial impacts, and no mitigation is required.

24 10. **Effects on Habitat for California Red Legged Frog (EIR/EIS Impact "AR-**
25 **5")**: The ASR Project's operational protocols create such a minimal diminution of river flow,
26 only below the Narrows and just during the high flow diversion season (December-May), that

1 ASR's impacts are assumed to be less than significant (Exhibit SWRCB-1, Chapter 5, Figure 5-
2 12). In consequence of the ASR Projects operations, stream flows are enhanced during the low
3 flow season of June through November via reduced diversions in the lower river, due to
4 switching to production of water recovered from ASR in lieu of higher diversions from the wells
5 in the lower Carmel River aquifer than would occur under No-Project conditions. The small
6 expansion that is predicted in the area that remains wetted in the low flow season below the
7 Narrows will be a result of reductions in the pumping of CAW's production wells, and will be a
8 small but beneficial expansion in the amount of California red-legged frog habitat that is
9 available for year-round rearing. Thus, the ASR Project is considered to have a slight beneficial
10 impact for California red-legged frog, and no mitigation is required.

11 **11. Effects on Habitat for All Other Aquatic Species (EIR/EIS Impact "AR-6"):**

12 For the same reasons outlined above, the small expansion that is predicted in the area that
13 remains wetted in the low flow season below the Narrows, as a result of reductions in the
14 pumping of CAW's production wells, will be a small but beneficial expansion in the amount of
15 overall habitat that is available year-round for all aquatic species. As a result, the ASR Project
16 is considered to have a slight beneficial impact for all aquatic species, and no mitigation is
17 required.

18
19 **Q4. HOW DOES THE ASR PROJECT RELATE TO OTHER ONGOING WATER**
20 **SUPPLY MITIGATION AND MONITORING EFFORTS BY MPWMD?**

21
22 **12. Spring and Summer Juvenile Steelhead Stranding and Rescues:** To the extent
23 that additional habitat remains wetted below the Narrows and Robinson Canyon Road as a result
24 of the ASR Project, it will reduce the number of fish that need to be rescued.

25 **13. Rescued Fish Reared at the SHSRF:** To the extent that additional habitat
26 remains wetted below the Narrows and Robinson Canyon Road as a result of the ASR Project, it

