

1
2
3
4 **BEFORE THE STATE WATER**
5 **RESOURCES CONTROL BOARD**
6
7

8 In the Matter of the State Water Resources)
9 Control Board (State Water Board))
10 Hearing to Determine whether to Adopt a)
11 Draft Cease & Desist Order against)
12 California American Water Regarding its)
13 Diversion of Water from the Carmel River)
14 in Monterey County under Order WR 95-10)
15 _____)

Hearing Date: July 23-25, 2008

Carmel River in Monterey County

16
17 **EXHIBIT MPWMD-KU2**

18 **MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**

19
20 **RESUME OF KEVAN URQUHART**

21 **SENIOR FISHERIES BIOLOGIST**

22 **MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**
23
24
25
26

KEVAN A. F. URQUHART
P.O. Box 2612, Carmel-by-the-Sea, California 93921-2612
(831) 649-2882/624-2745 xt 499

EMPLOYMENT

2/04 - current

SENIOR BIOLOGIST SUPERVISOR (MARINE/FISHERIES), DFG, Central Coast Region: *Fisheries Management Supervisor for all of CCR*. [7 staff] *Acting Supervising Biol. for Fisheries and Aquatic Issues/Policy from 6/04-4/05.*
A) Oversee 3 Associate Biologists doing all on-the-ground fisheries and aquatic environmental management activities for 15.5 counties [as outlined in the job below]. **B)** Oversee 4 research and monitoring biologists: 2-Associate and 1-Range B Biologists for Coho Salmon and Steelhead Research/Management who monitor trends in abundance and distribution, and assess habitat quality from Mendocino to San Luis Obispo Counties. 1 Assoc. Biologist for the RAP=Resource Assessment Program for non-game listed species, and species of special concern.

3/01 - 1/04

SENIOR BIOLOGIST SUPERVISOR (MARINE/FISHERIES), DFG, Central Coast Region: *Southern Fisheries Management Units*. [6-8 staff] **A)** Oversee 3 Associate Biologists doing all on-the-ground fisheries and aquatic environmental management activities for 9 counties [CEQA, CESA, ESA, SAAs, Stocking Permits/Coop. Stocking Agreements, harvest management, fishing regulation changes, fish rescues, reptile & amphibian management, watershed councils/CRMPs, water rights, water project operations MOUs, fish passage and screening, coordinate with WP on enforcement issues, land use planning, watershed planning, fish kills, pollution incident response/impact evaluation]. **B)** Oversee 3 research and monitoring biologists: 1-Associate Biologist for Coho Salmon and Steelhead Research/Management who monitors trends in abundance and distribution, and assesses habitat quality; 1-Range B Biologist for the Wild Trout Program who monitors steelhead angling effort, and also trends in abundance and distribution, and assesses habitat quality for resident rainbow trout, looking for opportunities to enhance/expand natural resident trout fisheries; 1-Assoc. Bio. Acting as the Coho Recovery Coordinator for the Region. **C) From 3/01-5/02:** Supervise 1-Assoc. & 1-Range B Biologist doing Anadromous Fisheries Restoration Grant contract management and watershed restoration consultations.

12/00 - 2/01

SENIOR BIOLOGIST SUPERVISOR (MARINE/FISHERIES), DFG, Central Valley/Bay-Delta Branch: *Long Term Monitoring Program* (14+ Staff ; \$1,743,000). Led: **A)** the *S.F. Bay Study* (\$546,000) monitors fisheries of the S. F. & Suisun Bays, evaluates trends in abundance in relationship to flow, environmental factors, and State and Federal water project operations, prepares SWRCB testimony for water rights hearings; staffed by 1 Assoc. Fishery Biologist, 1.5 Range B Fishery Biologists, and 2 post-Doctoral Researchers. **B)** the *Zooplankton Study* (\$174,000) monitors the long-term status and trends in zooplankton abundance and their relationship to environmental variables and water project operations; staffed by one Range B Biologist. **C)** the *Fall & Spring Midwater Trawl Survey* (\$348,000)

EMPLOYMENT (continued)

monitors long-term status and trends in the abundance of juvenile striped bass, American shad, splittail, Delta smelt, and other resident estuarine fish, and their relationship to environmental variables or water project operations; staffed by one Range B Biologist. **D)** the Summer Tow-net Survey (\$171,000) monitors long-term status and trends in the abundance of sub-adult striped bass, American shad, splittail, Delta smelt, and other resident estuarine fish, and their relationship to environmental variables or water project operations; staffed by one Range B Biologist. **E)** the Field Support Unit (\$504,000) composed of a Fish Habitat Asst., 5 Mates, a Deckhand, and 2 F&W Tech, Range Bs, and Scientific/Seasonal Aides who repair, maintain, and operate a fleet of 14+ boats to 42' for all types of Delta & estuarine sampling. Member of the Interagency Ecological Program (IEP) Management Team, oversee two IEP-Project Work Team Committee Chairpersons. Coordinate with other State & Federal Agencies.

4/99 - 11/00

SENIOR BIOLOGIST SUPERVISOR (MARINE/FISHERIES), DFG, CVBDB: Estuary Monitoring & Support Program (19+ year-round staff/seasonally 30+ Interagency Staff ; \$1,582,000). Led: **A)** the S.F. Bay Study Project (\$555,400) monitor fisheries of the S. F. & Suisun Bays, oversee DFG lead on mitten crabs; staffed by 3 Assoc. Fishery Biologists, a Range-B Fishery Biologist, and 2+ Scientific Aides. **B)** the Branch's Computer Support Unit (\$169,700) staffed by a Staff Programmer Analyst, Key Data Operator, and 2-6 Student Assts. who provide data entry, network, Internet, programming, and PC system/software/hardware support to the Branch. **C)** the Field Support Unit (\$503,690) composed of a Fish Habitat Asst., 5 Mates, a Deckhand, and 2 F&W Tech, Range Bs, and Scientific/Seasonal Aides who repair, maintain, and operate a fleet of 14+ boats to 42' for all types of Delta & estuarine sampling. **D)** the Real Time Monitoring Program (\$352,900; 30+staff), a springtime IEP special study of the movement of T&E fish species within/through the Delta in relationship to CVP & SWP operations utilizing 10+ boats and interagency staff, with data reported to Interagency managers within 24 hours. Member of the Interagency Ecological Program (IEP) Management Team, oversee two IEP-Project Work Team Committee Chairpersons; member of DFG's Central Valley Fisheries & Water Management Team. Coordinate with other State & Federal Agencies.

4/99 - 8/99

Covered two Senior Supervisor positions for both the Estuary Monitoring & Support Program above and Delta Fish Facilities Operations & Laboratory Support Programs below.

3/95 - 8/99

SENIOR BIOLOGIST SUPERVISOR (MARINE/FISHERIES), DFG, CVBDB: Delta Fish Facilities & Laboratory Support Programs (42+ total staff, \$1,890,000), led **A)** 3/95-12/98 - the Fish Facilities Research Unit (\$701,000; 8+ staff: one Associate & three Range B Fishery Biologists, a F&W Technician, & 3-9 Scientific Aides/Student Asst./Seasonal Clerks) which plans for and evaluates fish passage and large scale diversion screening projects in the

EMPLOYMENT (continued)

Sacramento-San Joaquin Delta/San Francisco Bay-Estuary. **B) 6/96 on** - the Division's Laboratory Support Program (\$500,000; 19+staff) that includes 2 Supervising Lab Assistants, 8 Senior Lab Assistants, and 9+ Scientific Aides. **C) 1/99- on** the Delta Fish Facilities Operations Program (\$689,000, 15+ staff) to monitor T&E species and conduct salvage at large scale diversion, and screening projects in the Sacramento-San Joaquin Delta, composed of two units: Monitoring Operations, staffed by an Assoc. Fishery Biologist, one Range-B Fishery Biologist, and Salvage Operations staffed by one Fish Hatchery Manager 1, two Fish and Wildlife Asst. IIs, 5 F&W Asst. I's, and 5+ Scientific Aides and Seasonal Clerks. Member of the IEP Management Team, oversee two IEP-Project Work Team Committee Chairpersons. Coordinate with other State & Federal Agencies; member CALFED 'Diversion Effects on Fish Populations', 'Interagency Fish Facilities Technical', 'Comprehensive Monitoring and Research Program', & 'Data Analysis and Review' Teams. State-certified Divisional Safety Coordinator.

4/93 - 2/95

ENV. SPECIALIST III, D.F.& G., Env. Svcs. Div.: Stream Flow & Habitat Evaluation Program. Data analysis and report writing for a group conducting Instream Flow Evaluations for various watersheds statewide. Conduct PHABSIM modeling. Alternate field crew leader. Coordinate with other State & Federal Agencies. Write Technical Reports & SWRCB Water Rights Hearing documents. Alternate State technical representative for the Truckee River Operating Agreement negotiations.

3/91 - 3/93

ASSOC. FISHERY BIOLOGIST, D.F.& G., Inland Fish. Div.: Klamath-Trinity River Basin Salmon & Steelhead Program. USBR funded field evaluations of the impacts of water and hydropower development on anadromous fisheries resources. Technical editing, advise field program leadpersons on sampling design and biostatistics. Computer hardware & software procurement & support, wrote 5-year computer FSR.

10/88 - 2/91

ASSOC. WATER QUALITY BIOLOGIST, D.F.& G., Bay-Delta Pgm.: Project Leader - Selenium Verification Study. A statewide program to identify the distribution, severity, and sources of selenium contamination in the fish, wildlife & invertebrate fauna of California. Sole responsibility for annual reports, study design, data analysis, budgeting, procurement, contract proposals, and supervision of a Wildlife Biologist and 5 Scientific Aides. Evaluate the impact of selenium contamination on fish & wildlife, design & execute studies to evaluate the efficacy of water quality regulations in preventing impacts to fish & wildlife. Evaluate mitigation & monitoring proposals and represent DFG at hearings and public meetings. Member of the St. & Federal Ag. Drainage Task Force and Evaporation Pond Working Group. Coordinate with other State & Federal Agencies.

EMPLOYMENT (continued)

- 6/85 - 9/88 **FISHERY BIOLOGIST**, D.F.& G., Bay-Delta Pgm.: Sturgeon, Adult Striped Bass and Resident Fishes Study. Field sampling & statistical analysis of research data on population & community ecology of various species impacted by water development. Field crew supervisor. Analysis of relationship between pollutants and striped bass health. Technical writing & presentation of research (testimony to state agencies/legislative bodies). Interagency coordination. Co-authored successful BCP for 5-year expansion of Sturgeon studies. Represented the Division on the IEP Data Management Committee.
- 8/84 - 6/85 **MARINE BIOLOGIST I & II**, City of San Diego, Water Utilities Dept. - Ocean Monitoring Program. Sort & I.D. marine benthic invertebrates. Collect ocean water quality & benthic grab samples. Fish faunal surveys. Marine microbiology: MPN & MF analysis for total fecal coliforms; QA/QC. Represent lab at interagency meetings & conferences (i.e. SCAMIT). Statistical analysis of environmental data. Rotational supervision of field & lab staff.
- 1/78 - 7/84 Part time, technical/professional work history available upon request.

MISC. EXPERIENCE

Marine/estuarine/fresh-water research experience using gill nets, trammel nets, plankton & neuston nets, long lines; beach, purse, & minnow seines; IKMT, otter, Kodiak & tucker trawls; fyke nets & traps, electrofishing boats, misc. cores/water column samplers. Darkroom & graphic production, polaroid & 35mm photography. Divemaster (SSI), research diver (CSUF, UCB, USC, DFG).

EDUCATION

BASIC SAFETY CERTIFICATE, SAFETY CENTER INC., Sacramento (10/95)

CERTIFICATE IN LAND USE & ENVIRONMENTAL PLANNING, UC DAVIS
(6/95)

M.A., BIOLOGICAL SCIENCES, CSU FULLERTON (1/85)

Emphasis in Ichthyology & Marine Science.

Thesis: Digestive physiology & mechanisms of a temperate marine herbivore.

B.A., ZOOLOGY, UC BERKELEY (6/80)

PHYSICAL SCIENCE MAJOR, COLLEGE OF MARIN

REPORTS AND UNREFEREED PUBLICATIONS

Annual Contract Reports

- Nov. 1999 Fleming, K & K. Urquhart. Programmatic Review of the 1996-1999 Spring-time Real Time Monitoring Program in the Sacramento/San Joaquin Delta and Estuary. IEP Technical Report. Calif. Dept. Fish and Game, Central Valley/Bay-Delta Branch., 4001 N. Wilson Way, Stockton, Ca. 95205-2486. 37 pp.
- November 1996 Edwards, G., K. Urquhart, & T. Tillman. Adult Salmon Migration Monitoring During the Various Operational Phases of the Suisun Marsh Salinity Control Gates in Montezuma Slough, September-November 1994. IEP Technical Report #50. Calif. Dept. Fish and Game, Bay-Delta & Special Water Projects Div., 4001 N. Wilson Way, Stockton, Ca. 95205-2486. 27 pp.
- January 1996 Tillman, T., G. Edwards, & K. Urquhart. Adult Salmon Migration Monitoring During the Various Operational Phases of the Suisun Marsh Salinity Control Gates in Montezuma Slough, August-October 1993. Calif. Dept. Fish and Game, Bay-Delta & Special Water Projects Div., 4001 N. Wilson Way, Stockton, Ca. 95205-2486. 19 pp. + appendices.
- February 1995 Snider, B., K. Vyverberg, & K. Urquhart. Chinook Salmon Redd Survey of the Lower American River, Fall 1993. Calif. Dept. Fish and Game, Env. Svcs. Div., Sacramento, Ca. 95814. 34 pp. + appendices.
- February 1994 Urquhart, K., & R. Kano (eds.) Annual Report of the Trinity River Basin Salmon and Steelhead Monitoring Project, 1991-1992 Season. Calif. Dept. Fish and Game, Inland Fish. Div., Sacramento, Ca. 95814. 235 pp.
- 1993 Petersen, M., J. Carlson, & K. Urquhart. Evaporation Pond Intracellular Variability. A report to the DWR by the DFG. 14 pp + appendices.

Annual Contract Reports (continued)

- 1993 Petersen, M., J. Carlson, F. Wernette, & K. Urquhart. Selenium in Resident and Wintering Waterfowl from Evaporation Ponds in the Tulare Lake Basin. A report to the DWR by the DFG. 29 pp.
- 1993 Petersen, M., J. Carlson, F. Wernette, & K. Urquhart. Selenium in Wildlife from Agroforestry Plantations in the San Joaquin Valley. A report to the DWR by the DFG. 69 pp.
- September 1993 Snider, B., K. Urquhart, D. McEwan & M. Munos. Chinook Salmon Redd Survey of the Lower American River, Fall 1992. Calif. Dept. Fish and Game, Env. Svcs. Div., Sacramento, Ca. 95814. 30 pp.
- December 1992 Urquhart, K. & R. Carpenter (eds.) Annual Report of the Trinity River Basin Salmon and Steelhead Monitoring Project, 1990-1991 Season. Calif. Dept. Fish and Game, Inland Fish. Div., Sacramento, Ca. 95814. 184 pp.
- June 1992 Urquhart, K. (ed.) Annual Report of the Trinity River Basin Salmon and Steelhead Monitoring Project, 1989-1990 Season. Calif. Dept. Fish and Game, Inland Fish. Div., Sacramento, Ca. 95814. 140 pp.
- August 1991 Carpenter, R. & K. Urquhart (eds.) Annual Report of the Trinity River Basin Salmon and Steelhead Monitoring Project, 1988-1989 Season. Calif. Dept. Fish and Game, Inland Fish. Div., Sacramento, Ca. 95814. 51 pp.
- April 1991 Urquhart, K.A.F., K. Regalado, J.C. Carlson, P.S. Hofmann, L. Puckett, F. Wernette & J.R. White. Selenium Verification Study, 1988-89 & 1989-90. A report to the SWRCB by the DFG. 77 pp. + appendices.
- 1990 Knudsen, D.L. & K.A.F. Urquhart. Striped Bass Health Monitoring Program 1988 Final Report. Prepared for the SWRCB under Interagency Agreement #8-183-300-0. 47 pp. + appendices.
- April 1989 White, J.R., P.S. Hofmann, K.A.F. Urquhart, D. Hammond, & S. Baumgartner. Selenium Verification Study, 1987-1988. A report to the SWRCB by the DFG under Interagency Agreement #7-017-300-0. 81 pp. + appendices.
- April 1988 Urquhart, K.A.F. & D.L. Knudsen. Striped Bass Health Monitoring 1987 Final Report. Prepared for the SWRCB under Interagency Agreement #6-170-300-0. 68 pp. + appendices.
- January 1988 _____ & D.L. Knudsen. Striped Bass Health Index Monitoring 1986 Final Report. Prepared for the SWRCB under Interagency Agreement #5-183-120-0. 55 pp. + appendices.

CESA Biological Opinions

October 1996 DFG ' s CESA Biological Opinion for the Department of Water Resources ' 1996 Phase IV Georgiana Slough Acoustic (Underwater Sound) Behavioral Barrier Applied Research Project: Effects on Sacramento Winter-Run Chinook Salmon, Delta Smelt, and Swainson ' s Hawk. 24 pp. + Appendices.

September 1995 DFG ' s CESA Biological Opinion for the Department of Water Resources ' 1995 Phase III Georgiana Slough Acoustic (Underwater Sound) Behavioral Barrier Applied Research Project: Effects on Sacramento Winter-Run Chinook Salmon, Delta Smelt, and Swainson ' s Hawk. 24 pp. + Two Appendices.

SWRCB Water Rights Hearings Exhibits

September 1994 _____, B. Snider, & D. Marston. The Relationship between Instream Flow and Physical Habitat Availability for Coho Salmon and Steelhead in Scott Ck., Santa Cruz Co., Ca. Calif. Dept. Fish and Game, Env. Svcs. Div., Sacramento, Ca. 95814. 42 pp.

June 1994 _____, K. Vyverberg, & B. Snider. The Relationship between Instream Flow and Physical Habitat Availability for Fall-run Chinook Salmon in the Merced River, Merced Co., Ca. Calif. Dept. Fish and Game, Env. Svcs. Div., Sacramento, Ca. 95814. 35 pp.

August 1987 Urquhart, K. The Relationship Between Pollutants and Striped Bass Health as Indicated by Variables Measured from 1978 to 1985. 25 pp. + appendices.

July 1987 _____. Associations Between Environmental Factors and the Abundance and Distribution of Resident Fishes in the Sacramento-San Joaquin Delta. 49 pp. + App.

Dingell-Johnson (SFRA) Annual Program Reports

July 1985/6/7 Urquhart, K. Resident Fish Population Study: Largemouth Bass Population and Life History Studies.

July 1985/6/7 _____. Resident Fish Population Study: Population and Life History Studies of Resident Fishes.

July 1986 _____. Striped Bass Population Study: Evaluation of Mean Size of Striped bass in Commercial Passenger Fishing Boat Catch.

July 1986 _____. Sturgeon Population Dynamics and Life History Studies: Compilation of Sturgeon Commercial Passenger Fishing Boat Catch Records from California's Sacramento-San Joaquin Estuary.

Dingell-Johnson (SFRA) Annual Program Reports (continued)

- July 1985/6 _____ . Striped Bass Population Study: Exploitation and Survival Rates of Striped Bass in the Sacramento-San Joaquin Estuary.
- July 1985 Urquhart, K. Striped Bass Population Study: Relationship between Abundance of Young Striped Bass and Recruitment to the Adult Population.

SCIENTIFIC & PUBLIC PRESENTATIONS

- May 2005 Half Moon Bay Water Summit. Topic: Approaches to Restoring the Aquatic Resources of Pilarcitos Ck. Through Both Water Recycling and Conservation. [also member of two Q&A panels]
- April 2005 Eel & Russian River Commission, Fortuna, CA. Topic: Trends in the Anadromous Fisheries of the Eel & Russian Rivers - 2005
- January 2005 Ca. Legislative Advisory Committee on Salmon & Steelhead Trout, Ukiah, CA. Topic: Status of Anadromous Fisheries Monitoring & Staffing in the Central Coast Region - 2005.
- October 2002 Assoc. of Environmental Professionals - Central Coast Chapter, Castroville, CA. Topic: Central Coast Water Rights Issues: A Department of Fish and Game Perspective. [co-author Linda Hanson]
- June 2002 Monterey Co. Building & Planning Dept. Staff Training, Marina, CA. Topic: General Structure and Regulatory Role of the Ca. St. Dept. of Fish & Game in Land Use and Environmental Planning. [co-presenter Scott Wilson].
- April 2002 Ca.-Nevada Chapter AFS Annual Conference, Tahoe, CA. Topic: The Artificial Breaching of the Carmel River Lagoon: It's Potential Effects on Steelhead and Relationships to the Breaching of Other Central California Coast Lagoons.
- October 2000 1st CALFED Science Conference, Sacramento, Ca. Topics: 1- The Spring-time, Real Time Monitoring Program in the Sacramento/San Joaquin Delta and Estuary - A review of its application in 1995-2000. & 2- Biological Evaluations of the Georgiana Slough Experimental Acoustical Fish Barrier, Phases I-IV during 1993-1996. (Coauthors: Charles H. Hanson & Darryl Hayes)
- March 2000 12th Annual IEP Workshop, Asilomar/Pacific Grove, Ca. Topic: Status of the CY 2000 Spring-time, Real Time Monitoring Program in the Sacramento/San Joaquin Delta and Estuary.
- September 1997 6th Annual Western States Fish Screen Workshop, Salmon, Idaho. Sponsored by the Idaho Department of Fish & Game and the Columbia Basin Fish & Wildlife Authority; invited speaker. Topic: Biological Evaluations of the Georgiana Slough Experimental Acoustical Fish Barrier,

SCIENTIFIC & PUBLIC PRESENTATIONS (continued)

Phases I-IV during 1993-1996. (Senior Coauthors: Charles H. Hanson & Darryl Hayes).

- May 1997 The Fish Passage Workshop held May 6-8, 1997 in Milwaukee, Wisconsin. Sponsored by Alden Research Laboratory, Inc.; Conte Anadromous Fish Research Center, USGS-Biological Resources Div.; Electric Power Research Institute; and Wisconsin Electric Co.; invited speaker. Topic: same as above.
- March 1990 Selenium and Agricultural Drainage: Implications for San Francisco Bay and the California Environment (Selenium V). Berkeley, Ca. A symposium sponsored by the Bay Institute and U. C. Berkeley Dept. of Conservation and Resource Studies, invited speaker. Topic: California's Selenium Verification Study, Results from 1986 to 1988.
- February 1988 AFS California-Nevada Chapter Annual Meetings, Contributed Papers Session, Ventura, Ca. Topic: The Relationship between Pollutants and Striped Bass Health as Measured by the Striped Bass Health Monitoring Program from 1978 to 1986. (Coauthor: Diane L. Knudsen)
- February 1987 AFS Ca.-Nevada Chapter Annual Meetings Symposia, Sacramento, CA., invited speaker. "Fishery Resources of the Sacramento-San Joaquin Delta: Environmental Constraints and Management Implications". Topic: Resident Game Fishes.
- November 1986 Monthly Staff Seminar Series, CA.. St. Dept. of Fish & Game, Bay-Delta Project, Stockton, CA. Topic: The Use of Discriminant Function Analysis in Analyzing the Habitat Preferences of Resident Fish.
- February 1986 Annual Workshop of the Interagency Ecological Study Program for the Sacramento-San Joaquin Delta, Vallejo, CA. Topic: Habitat Utilization by Resident Fishes in the Sacramento-San Joaquin Delta.
- January 1986 AFS California-Nevada Chapter Annual Meetings Symposia, Fresno, Ca., invited speaker. "Wetland Habitats and their Management for Fishery Values in California". Topic: as above.
- August 1984 Annual Meetings of the American Society of Ichthyologists and Herpetologists, Oklahoma State University, Norman, OK. Topic: Macroalgal Digestion by Cebidichthys violaceus, a Temperate Marine Fish with Highly Acidic Stomach Fluids.
- April 1984 Annual Meetings of the Southern California Academy of Sciences, USC, L.A., CA. Topic: same as above.

AWARDS & GRANTS

Troop 127 Adult Leader of the Year, Monterey Bay Area Council, BSA, 2/2004
Commissioner of the Year, Ventana Dist., MBAC, BSA, 2/2003
Unit of the Year & Unit Leader of the Year, Pack 25, Big Valley Dist., Greater Yosemite Council, BSA, 2/2000
Special Recognition Award, Stockton Sportsmen's Club, 1/97
Discretionary Leave Award, City of San Diego, 5-85.
Stoye Award in General Ichthyology, ASIH, 7-84.
Dept. Assns. Council Travel Grant, CSUF, 6-84.
Departmental Service Award, CSUF, 1984.
Durham Award in Vertebrate Zoology, SCAS, 5-84.
Dept. Research Grants, CSUF, F/82-S/84.
Dept. Assns. Council Research Grant, F/82.
Ca. State Graduate Fellowship. Calif. State Scholarship (undergrad).
American Heart Assn. Research Fellowship, S/79.
AHA Citation for Research, 1979.
Miles McColm Memorial Scholarship.

MEMBERSHIPS

AEP, ASIH, AFS (Cert. Fishery Biol.), AIFRB (Member), SCAS, S.F. Bay & Estuarine Assoc., Cal-Neva AFS: Treasurer (89-91), Awards Comm. Chair (91-97); National AFS: Membership Concerns Comm. (91-98, Chair 98-99), Raffle Comm. (92-94), 1997 Annual Meeting Local Arrangements Committee's - Tours, Transportation & Information Sub-committee Chairman (96-97); PFB, Alpha Gamma Sigma Scholars, Grad. Ed. Comm.-Faculty Council-CSUF, CSUF Diving Control Board, President Bio. Sci. Students Assoc.-CSUF, Bio. Dept. Rep. to Dept. Assns. Council-CSUF, Site Rep.-Ca. St. Employees United Way Campaign, Site Rep. 87-94/Board of Dir. 91-93 - Ca. Association of Professional Scientists.

**POSTGRAD.
CLASSES**

DFG Management Leadership Academy, 10 days.
DFG Supervisor's Academy, 8 days.
Sci.&Tech. Report Writing, 5 days; Expert Witness Seminar, 2 days; Sampling Design and Analysis of Community Ecology, 5 days Cal-Neva AFS.
Applied Multivariate Statistics, 5 days, IPE. Advanced Data Analysis, 2 days, BMDP Inc.
SAS Basics (v5), 3 days; SAS Report Writing (v6+), 3 days; SAS Programming (v6+), 3 day, HWDC/SAS Inst.
Programming in PASCAL, 1 semester, SJDC.
Advanced MS-DOS; PC Utilities; Intro & Adv. Harvard Graphics; Int. Lotus 3+, Int. dBASE IV; 1 day courses, Computer Utilization.
Managing Multiple Priorities; Budgets, Contracts & Procurement; WordPerfect; dBASE IV; Time Management; PC Communications; Leadership Skills for the 90's; Team Building Techniques; Introduction to Project Management; Coaching and Counseling Skills; Maximum Performance Management;

POSTGRAD.

CLASSES (continued)

Discipline, Performance Appraisals & Employee Documentation; Contract Management; EEO, AA, ADA & Lawful Hiring Practices for Supervisors; Substance Abuse Program for Supervisors; Negotiations Skills; CESA, Workshop; CEQA Workshop; DFG as a CEQA Responsible Agency; Drafting Negative and Mitigated Negative Declarations; Preparing a Bill Analysis; Applied Mathematical Modeling; Water Rights, 1-3 day courses, DF&G. Dealing with the Public, 1 day, Univ. of Nebraska.

Introduction to CEQA; Intro. to NEPA; EIR/EIS Preparation & Review; Mitigation Program Development & Monitoring; EIR/EIS Project Management; Endangered Species (Law, Policies, Procedures); Water Resources Planning; Wetland Impacts & Mitigations; Community Participation in Planning; Integrating St. & Federal Env. Laws & Regulations; Thresholds of Significance in Env. Planning: 1 day courses, UCD.

Financial Aspects of Planning; Environmental Planning & Site Analysis; Professional Planning Practice & Communications; Planning in the 90's: An overview and update; Planning Law, 4 day core courses, UCD.

Mathematical Modeling, 1 semester, CSUS.

IFIM 200-Intro. to Instream Flow Incremental Methodology; IFIM 201-Problem Analysis & Negotiating Solutions Using IFIM; IFIM 305-Field Techniques for Stream Habitat Analysis; IFIM 310-PHABSIM; 5 days each, USFWS.

Leadperson Training; Intro to Basic Supervision (Week 1); Effective Listening; Dealing with Difficult People; Competency Based Interviewing; 1-5 day courses; three week Basic Safety Officer Training, DGS/STC.

1999 & 2001 CEQA Update, 1999 CESA Permit Update; 1 day courses, AEP.