

**Marcin Whitman**

9051A Mill Station Road, Sebastopol, CA 95472

**EDUCATION**

M.S., Agriculture Engineering, specializing in aquaculture engineering  
University of California at Davis, CA, March, 1989

B.A., Biology with marine emphasis  
University of California at Santa Cruz, CA, June, 1985

B.S., Naval Architecture and Marine Engineering  
Webb Institute of Naval Architecture, Glen Cove, NY, June, 1981

**PROFESSIONAL EXPERIENCE**

*Associate Hydraulic Engineer*, California Department of Fish and Game  
June, 1998 to present

Hydraulic Engineer for coastal fish passage and river restoration projects. Projects include road crossings, fish passage facilities at dams and debris basins, dam removals, passage facility refurbishing and modification. Aid Department in development of methods for assessment and design of fish passage at road crossings. Serve on a national task force on dam removal policy. Publish and present case studies in professional journals and at professional conferences. Perform dive inspections on submerged fish passage structures, mainly fish screens.

*Hydraulic Engineer*, National Marine Fisheries Service (NMFS)  
August, 1989 to June, 1998

Personally founded the engineering department for the NMFS Southwest Regional Office. Excelled in same capacity as position currently sought on dozens of projects in throughout California working with various federal, state and local agencies, advocacy groups and private citizens. Received several performance awards and two promotions for same. Published and presented case studies in professional journals and at professional conferences. Performed dive inspections on submerged fish passage structures, mainly fish screens. Also helped craft policy, select and train other engineers for the Region, served as expert witness and represented agency in state and national forums.

*Test Engineer/Naval Architect*, Westinghouse Marine Division  
June, 1985 to June, 1986

Designed and analyzed custom equipment and implemented tests to develop specialized submarine components. This required not only computational engineering and computer interface skills but also management skills when executing tests of sensitive equipment involving over fifty staff ranging from executives to engineers to scuba divers and video crews to vessel and dry

dock crews. Received commendable informal performance reviews and promotions.

*Naval Architect/Marine Engineer*, Earl & Wright, Consulting Engineers, San Francisco, CA  
October, 1981 to June, 1983

Executed studies, analysis, design in Naval Architecture and Marine Engineering supporting offshore oil development. Contributed to several state-of-art designs including for deep water and arctic exploration.

#### **EXPERT WITNESS EXPERIENCE:**

Testified at United States Senate briefing as fish passage expert at presentation on dams and rivers for the Aspen Institute, July, 2003.

Participated in United States Congressional Office of Technological Assessment discussion and report on experimental technology in fish passage.

Testified on behalf of NMFS in litigation regarding new fish screens for the Glenn-Colusa Irrigation District.

#### **HONORS AND AWARDS:**

*Member*, Alpha Epsilon, Agricultural Engineering academic honors society at UC Davis

Received repeated Regents' Scholarships in both New York and California for academic achievement

Received numerous performance awards for general work and special projects at NMFS

#### **KNOWLEDGE, SKILLS, AND ABILITIES:**

- *Knowledge of basic engineering principles, including civil, environmental, geotechnical, or water resources engineering.*

General engineering knowledge demonstrated by excelling in academic and employment history above. Graduate coursework at UC Davis was almost entirely in Environmental Engineering in water and wastewater, Division of Civil Engineering Department. Water resource engineering skills also learned on the job at NMFS and CDFG.

- *Knowledge of fish passage requirements (specifically a working engineer knowledge of fishery management principles including river hydraulics, swimming and migration behaviors of fish, and latest engineering and fish passage principles)*

Demonstrated by successful completion of dozens of projects with NMFS and CDFG where I

was either in the lead role on conceptual design and/or reviewing design work of others for compliance with fish passage requirements, guidelines and criteria. Projects include: Potter Valley (FERC 77), DeSabala - Centerville (FERC 108), Red Bluff Diversion Dam - Fish passage and experimental pumping station, GCID, RD108, Keswick Stilling Basin, ACID dam, Bonnyview Fish Screens, Maxwell Fish Screens, Harvey Dam, Freeman Dam. Keswick Stilling Basin represented taking knowledge of fish passage requirements and applying them to a unique situation (periodic fish entrapment) rather than the usual design of a fish ladder or fish screen.

- *Ability to assess relative habitat conditions and requirements and draw valid conclusions based on available data (i.e., having examined complex stream hydraulics data and prepared engineering assessments for making habitat restoration decisions)*

This skill has been demonstrated by numerous fish passage projects. First, fish holding at Red Bluff ladder intakes. This undesirable condition was investigated by a matrix of velocity entrances at the fish ladder weirs and diffusers. Some diffuser velocities were found to be excessive, causing false attraction. Recommendations for retrofitting diffusers to remedy problem were given to the Bureau of Reclamation. Second, newly installed fish screens at Potter Valley were showing fish leakage although fish screens appeared tight. Observed hydraulic conditions on site did not conform to those in model testing. This led PG&E to discover that a linkage was broken on a bypass valve allowing fish to pass into intake unscreened.

#### **ADDITIONAL QUALIFICATIONS AND ACCOMPLISHMENTS:**

- *Fish Passage*

Major participant in design or design review team for dozens of fish passage projects in California including Red Bluff Drum Screens and Experimental Pumping Plant, Pottery Valley fish screens and bypass pump, Robles fish ladder and screens, Harvey dam screens and ladder and fish screens at GCID, RD108, ACID Bonnyview and other locations in Central Valley and coastal watersheds. International work at Kali Gandaki Dam in Nepal.

- *Fluvial Geomorphology*

Coursework at UC Berkeley, Rosgen workshop and in-field channel modification/restoration experience at various sites in California including Santa Paula Creek, Mill Creek, Logan Creek, Lydell Creek, Wilder Creek, Butte Creek.

- *Other Areas of Experience*

Design and analysis experience in the following areas: teleost, mollusk and algal rearing and production tanks, fish handling and transportation facilities, depuration facilities, fishing, research and offshore oil vessels, water and wastewater treatment facilities, fountains, irrigation facilities. Experience includes conceptual design, detailed design, modeling, construction oversight, post-construction evaluation, trouble-shooting and modifications.

- *Policy*

Drafted or initiated state, regional or national policy/criteria in the following areas: fish screens, gravel mining, experimental fish passage, road crossings, dam removal. This has included participation in forums including Congressional Office of Technology and Assessment, the Aspen Institute and National American Fisheries Society Committees.

- *Training/Instructing*

Designed and led short course in fish screens for NRCS engineers. Brought on and trained NMFS Southwest engineering staff to form an Engineering Team. Helped teach Fish and Wildlife Academy course in Fish Passage and Diversions.

- *International*

International work assignments include China, Japan, Nepal and the Netherlands. Last overseas project was fish passage mitigation on a major power dam in central Nepal.

#### **PROFESSIONAL MEMBERSHIPS:**

*Member, American Fisheries Society (AFS), Bioengineering Section*

*Member, World Aquaculture Society*

*Member, Aquaculture Engineering Society*

#### **CERTIFICATES AND LICENSES:**

California Civil Engineering License

NAUI, NOAA and CDFG certified SCUBA diver (including drysuit diving)

NAUI Rescue Diver and Advanced Diver certified

#### **TRAINING COURSES:**

*Fish and Wildlife Academy, Fishways and Diversions Course*

*UC Berkeley, graduate coursework in Fluvial Geomorphology*

*Rosen Introductory Course, Fluvial Geomorphology*

*California Department of Fish and Game, Training Courses in Wilderness First Aid, Media Skills*