



**APPLICATION FOR PANEL MEMBER LIST
FOR HYDROPOWER LICENSING STUDY DISPUTE RESOLUTION**

Applicant: **SCOTT D. WILCOX**
Docket No. **AD04-4-000**

Contact Information: Exhibit E Manger/Senior Fisheries Biologist
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Expertise: Aquatic Resources: Instream Flows, Threatened and Endangered Species, General

Education: M.Ed.; Natural Resource Management, University of California, Davis, 1989

B.S.; Wildlife and Fisheries Biology, University of California, Davis, 1979

Experience: See attached resume

References: (1) Dave Hanson
Sacramento Municipal Utility District (SMUD)
(916) 732-6703

(2) Mike Glaze
South Feather Water and Power Agency (SFWPA)
(530) 533-4578

(3) Mike Meinz
California Department of Fish and Game (Retired)
(530) 677-3818

Scott Wilcox

Exhibit E Manager/Senior Fisheries Biologist

Mr. Wilcox is responsible for development, implementation, evaluation, and management of environmental studies, particularly fisheries and aquatic ecology studies associated with hydroelectric and other water resource projects. He has 25 years of professional experience that includes project management; FERC licensing and compliance studies; environmental impact analysis for fish, wildlife, and water quality; computer modeling of stream hydraulic and temperature conditions; instream flow data collection and analysis; and technical aquatic studies. He has worked on hydro and other water resource projects throughout the western United States.

Education **M.Ed.;** *Natural Resource Management*, University of California, Davis, 1989

B.S.; *Wildlife and Fisheries Biology*, University of California, Davis, 1979

Training U.S. Fish and Wildlife Service Instream Flow Incremental Method Training: Study Design, Physical Habitat Simulation, Problem Solving, Hydraulics, Temperature Modeling, 1984-1986
 Project Manager Training, 1995, 1997
 Swiftwater Rescue Training, 1984
 First Aid and CPR, 1998

Registrations/ Certified Fisheries Scientist, American Fisheries Society (No. 1986)

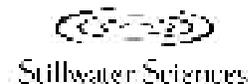
Certifications: Secretary, Cal-Neva Chapter of the American Fisheries Society (1998-2000)

Professional Affiliations American Fisheries Society

1. TECHNICAL EXPERTISE

Aquatic Resources Mr. Wilcox has managed fisheries, instream flow, and aquatic ecology tasks for FERC licensing studies on numerous hydroelectric projects, where responsibilities included study planning, field work, data analyses, and Exhibit E report writing.

Mr. Wilcox has managed numerous technical aquatic studies for South Feather Water and Power Agency (formerly Oroville-Wyandotte Irrigation District) and Pacific Gas and Electric in northern California related to FERC license compliance. Responsibilities included study planning, field crew supervision, data analysis, FERC correspondence, and project management



of habitat enhancement evaluations, fish population monitoring, instream flow studies, water temperature studies, and sediment and water quality investigations. Mr. Wilcox managed studies of fish populations, periphyton growth, and sediment transport for Northern California Power Agency in central California for a new FERC license application and existing license compliance. Responsibilities included study design, field crew coordination, report preparation, coordination of environmental and engineering contractors, and client liaison.

Mr. Wilcox's technical aquatic study experience for both resource agencies and utilities includes study plan development for fisheries and aquatic habitat investigations, instream flow and habitat preference studies, temperature monitoring and modeling investigations, fish population studies, periphyton analyses, and sediment transport and flushing flow evaluations.

Mr. Wilcox has conducted instream flow studies at over 60 sites in the western United States, including study site selection, agency consultation and coordination, field crew leadership for PHABSIM and microhabitat studies, field data collection and data analysis, and report writing. He is experienced in the use of a variety of hydraulic models and habitat preference criteria, including computer simulation of stranding potential for salmon during flow fluctuations. Mr. Wilcox has modeled streams using IFG4, HABTAT, SNTMP, SSTEMP, and other PHABSIM programs, and has provided expert testimony during State Water Resources Control Board and California Energy Commission hearings. Mr. Wilcox has also provided technical review of instream flow studies on behalf of FERC staff.

2. KNOWLEDGE OF HYDROELECTRIC OPERATION EFFECTS

Mr. Wilcox has over twenty-years of aquatic resource experience, including preparation of First Stage Consultation Documents (FSCD) or Initial Consultation Packages (ICP), and Initial Information Packages (IIP) for FERC licensing of eight hydroelectric projects in California, Idaho, and Utah; technical studies for FERC licensing of over 20 projects in the western United States; and engineering exhibits, Exhibit E, or NEPA document preparation responsibilities for more than a dozen hydroelectric project licenses. Current projects include the relicensing of the Upper American River Project, South Feather Project, and Chili Bar Project in California. Mr. Wilcox recently completed FERC relicensing of three hydroelectric projects on the Wasatch Front of eastern Utah, assisted with preparation of the FSCD for FERC relicensing of three hydro projects on the Bear River in Idaho and Utah, and coordinated the Exhibit E preparation and FERC

license application production for the Griswold Creek Hydroelectric Project in the western Sierra Nevada.

While under contract as a FERC staff extension, Mr. Wilcox managed preparation of aquatic sections of three environmental assessments for eastern Sierra hydroelectric project licensings, and prepared FERC license conditions, reviewed instream flow studies, assessed alternative flow regimes, and/or determined project impacts on behalf of FERC staff for six projects.

3. WORKING KNOWLEDGE OF APPLICABLE LAWS

Mr. Wilcox has been able to support his clients to ensure regulatory compliance with the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), FERC license requirements and has developed strategies to address proposed or listed aquatic species under the federal Endangered Species Act (ESA). Mr. Wilcox maintains a high level of technical skill combined with the strategic ability to identify potential protection and mitigation measures that address ecological problems, while minimizing the impacts on hydro project economics and power generation. Mr. Wilcox's experience has required a clear understanding of the effects of various hydro project operating schemes on the affected aquatic systems, and allowed for successful completion of the permit processes for related agency requirements, such as Section 401 Water Quality permits, Section 404 Permits, and CDFG Streambed Alteration Permits. Mr. Wilcox has worked with representatives of the U.S. Forest Service, California Department of Fish and Game, U.S. Fish and Wildlife Service, and the California State Water Resources Control Board on many of these hydro projects, and is well-known and respected by state and federal resources agency staff in northern California. His project experience described below provides numerous examples of Mr. Wilcox's expertise.

4. ABILITY TO PROMOTE CONSTRUCTIVE COMMUNICATION

Mr. Wilcox serves as a technical expert and project manager representing utilities, resource agencies, or regulators in a variety of public forums. In this capacity he interacts with a wide range of stakeholders involved in hydro relicensing and water resource issues. Many of the forums are technical work groups or stakeholder oversight groups who are trying to work collaboratively toward resolving conflicting aquatic resource management concerns. In these environments, Mr. Wilcox promotes constructive communication by helping participants focus on what the central issues are, what the ultimate objective of any studies or analyses should be, and what

the scientific data are to support a particular course of action. He has successfully assisted many stakeholder groups in achieving their study planning or study implementation objectives by maintaining a professional demeanor and advocating a scientifically based approach to addressing the issues. He further encourages the parties involved in these proceedings to negotiate any agreements from an interest-based standpoint (e.g., what are their concerns and how can they be addressed?) rather than a positional posture (e.g., “this is our position and we don’t care what the data indicate”).

Professional Experience

2001-Present: Upper American River Project Relicensing; Sacramento Municipal Utility District—Managing aquatic studies for SMUD’s relicensing of the Upper American River Project in California.

Responsibilities include development of Initial Information Package sections, study plan development for approximately a dozen aquatic studies, liaison with the collaborative aquatic resource stakeholder group as part of the Alternative Licensing Procedures process, management of technical studies, preparation of technical reports and Environmental Assessment sections, negotiation of PM&E measures, client and resource agency communications, and budget management.

2002-Present: Chili Bar Project Relicensing; Pacific Gas and Electric Company —Managing aquatic resource studies for PG&E’s Chili Bar Project. Responsibilities include development of study plans, cost development, liaison with the aquatic resource stakeholder group, management of technical studies, and preparation technical reports, public presentations, client and resource agency communications, and budget management.

2002-Present: South Feather Project Relicensing; Oroville-Wyandotte Irrigation District (now South Feather Water and Power Agency) — Managing Exhibit E preparation for the District’s 100 MW South Feather Project in the Feather River basin. Responsibilities include development of FSCD and associated study plans, strategic planning for license development, management of all Exhibit E studies, technical oversight of all biological and geomorphic studies, client and resource agency communications, and budget management.

1996-2001: Wasatch Front Hydro Projects Relicensing; PacifiCorp—Managed FERC relicensing of three hydroelectric projects on the Wasatch Front of eastern Utah. Responsibilities included management of technical studies, compliance with FERC regulations, preparation and publication of

license applications, and client and resource agency communications.

1999-2000: Mokelumne River Basin Instream Flow Studies; Pacific Gas and Electric Company—Managed three instream flow studies for PG&E on Cole Creek, East Panther Creek, and the Bear River in the Mokelumne River basin in support of a settlement agreement for the Mokelumne Project FERC license. Responsible for study planning, agency consultation, field studies, oversight of hydraulic modeling, and project management.

1993-2000: South Fork Feather River Basin Fish Population Monitoring; Oroville-Wyandotte Irrigation District (now South Feather Water and Power Agency)—Monitored fish populations at 13 sites in the South Feather Project area to assess changes in biomass, density, and species composition in order to provide baseline information for FERC license compliance and renewal. Prepared reports presenting current and historical status of fisheries resources in the project area, analyses of fish population trends, and correlation of fish populations to hydrologic events.

1986-1987: South Fork Feather River Basin Habitat Enhancement Project; Oroville-Wyandotte Irrigation District (now South Feather Water and Power Agency)—Evaluated fisheries resources in the South Fork Feather River basin as part of a FERC license compliance action. Studies included temperature monitoring, fish population estimates, evaluation of sediment and water quality problems, characterization of habitat, and assessment of enhancement potential. Results were presented in a report to the District for use in evaluating enhancement opportunities in the basin.

1992-1994: Lost Creek Fisheries Study; Oroville-Wyandotte Irrigation District (now South Feather Water and Power Agency)—Managed an analysis of fisheries requirements below Lost Creek Reservoir in the Feather River basin in response to FERC license compliance actions. Studies included habitat assessment using the IFIM, temperature modeling, and algae and sediment analyses. Responsibilities included client communications, FERC correspondence, budget management, field crew supervision, data analysis, and report production.

1997-1999: Hydroelectric Project Assessments; Pacific Gas and Electric Company—Provided analysis and documentation of potential environmental impacts associated with altered operation and ownership of

over 20 hydroelectric projects as part of PG&E's planned divestiture of their hydroelectric projects. Responsibilities included document review, CEQA process compliance, and environmental impact analysis.

1995: Bear River Hydro Projects Relicensing; PacifiCorp—Assisted with preparation of First Stage Consultation Document for FERC relicensing of three hydro projects in the Bear River drainage of Idaho and Utah. Responsibilities included management of literature reviews, development of a project area database, preparation of study plans, and writing of FSCD sections.

1993-1994: Griswold Creek Diversion Project; Northern California Power Agency—Served as the environmental liaison for this diversion project on a tributary to the Stanislaus River. Consulted and negotiated with agencies, coordinated activities of environmental and engineering contractors, reviewed environmental documents, and incorporated Exhibit E into the FERC license application.

1992-1993: Mono Basin Hydroelectric Project Environmental Assessments; Federal Energy Regulatory Commission (FERC)—Prepared aquatic sections of Environmental Assessments for two hydroelectric projects in the Mono Basin as part of the FERC licensing process. Responsibilities included review of instream flow studies, assessment of alternative flow regimes, determination of project impacts, and preparation of license conditions. Supervised development of a basin hydrologic model.

1992-1993: Ramsey-French Meadow Hydroelectric Project; Northern California Power Agency—Coordinated environmental studies for FERC license preparation: managed development of First Stage Consultation Document, prepared aquatic study plans, coordinated public meetings and agency contacts, managed subcontractors' work, and supervised fish population studies and analyses.

1992: Shelley Hydroelectric Project; Federal Energy Regulatory Commission—Conducted a technical review of the Exhibit E instream flow and fisheries studies for the Shelley Hydroelectric Project EIS. Ran hydraulic and habitat simulation programs, interpreted results, and assessed accuracy of PHABSIM model.

1985-1987: Devil's Nose/Cross-County Hydroelectric Project;

Department of Water Resources, Amador County—Conducted fisheries investigations for Exhibit E of the FERC license application. Studies included instream flow analysis, fish population censusing, temperature monitoring and habitat characterization. Completed Exhibit E sections on fisheries resources, and assisted with production of all other Exhibit E reports.

1991-1994: Mono Basin Aquatic Habitat Studies; California

Department of Fish and Game—Responsible for instream flow studies at ten sites throughout the Mono Lake Basin and upper Owens River. Developed a study plan, selected study sites, coordinated with agencies, supervised field crews, conducted PHABSIM modeling, and prepared the study reports. Provided support for testimony during State Water Resource Control Board hearings.

1998: Minnesota River Instream Flow Study; Army Corps of

Engineers—Provided field data collection services for an instream flow study of the Minnesota River. The project required specialized techniques for safely collecting data under difficult field conditions, including wide (500 ft.) transects, high flows, and a hazardous site associated with a spillway. Technical and logistical arrangements were made to utilize staff and equipment from across the country to meet strict flow and schedule constraints.

1992: Platte River Hydroelectric Project; Federal Energy Regulatory Commission (FERC)—Conducted technical review of Exhibit E instream flow and habitat preference studies for the Platte River in Nebraska for the FERC EIS. Ran hydraulic and habitat simulation programs, interpreted results, and wrote portions of the EIS.

1986-1988: Lower Mokelumne River Fisheries Study; California

Department of Fish and Game—For this large river instream flow study downstream of Camanche Reservoir, selected study sites, coordinated with agencies, led field crews for PHABSIM and microhabitat studies, analyzed data, and wrote reports. Used a variety of hydraulic models and habitat preference criteria, including computer simulation of stranding potential for salmon during flow fluctuations. Provided expert testimony during State Water Resource Control Board hearings.

1985-1986: Little Cow Creek and Burney Creek Instream Flow Studies; Mega Renewables—Collected field data for an instream flow study,

analyzed all data, and modeled the streams using the Instream Flow Group's IFG4 and HABTAT programs. Prepared the draft fisheries report for Exhibit E of the FERC license application.

1984: Ponderosa Project; Modesto and Turlock Irrigation Districts— Conducted a major FERC licensing related fisheries study on the Tuolumne River and its tributaries, including the middle and south forks of the Tuolumne, and the Clavey River. Determined appropriate study sites, supervised 6-9 fisheries technicians in the collection of all instream flow data, microhabitat data, and population studies; analyzed and managed all data from the study; and carried out administrative tasks. Analyzed the data on microcomputers and prepared it for IFG4 and HABTAT analysis. Developed original techniques for conducting instream flow, microhabitat, and population studies on large rivers with rapids and turbulent flow.

1990: Pine River Instream Flow Study; Southern Ute Indian Tribe— Conducted an instream flow study of the Pine River in southwest Colorado as part of hydroelectric feasibility investigations prior to FERC licensing. Designed an instream flow study plan, consulted with agencies, collected field data, performed physical habitat simulations, and presented and interpreted results. Reviewed existing fisheries and water use and quality data and incorporated them in an Exhibit E formatted report.

1991: Clearwater River Instream Flow Study; Nez Perce Indian Tribe— Collected instream flow data on the Clearwater River for use in modeling habitat areas for native steelhead and chinook salmon. Used large-river field techniques to make hydraulic measurements at velocities of up to 11 fps and flows of 12,000 cfs on cross-sections 700 feet wide.

1980: Carmel River Instream Flow Study; U.S. Fish and Wildlife Service— Conducted an instream flow study on the Carmel River to assess impacts on anadromous fish resources. Surveyed streams and used PHABSIM computer models. Conducted impact analysis for water diversions, dredge spoil disposal, and hydro development.

*Technical
Reports*

Wilcox, S.D. 2001. South Fork Power Project Fish Population Monitoring 2000. Report prepared for Oroville-Wyandotte Irrigation District by EA Engineering, Science, and Technology. January.

Wilcox, S.D. 1994. Slate Creek Sediment and Water Quality Sampling. Final Report prepared for Oroville-Wyandotte Irrigation District by Ebasco

Environmental (currently Foster Wheeler Environmental). April.

Wilcox, S.D. 1992. Lost Creek Fisheries Study. Final Report prepared for Oroville-Wyandotte Irrigation District by Ebasco Environmental (currently Foster Wheeler Environmental). February.

Wilcox, S.D. and P. Johnson. 1993. Analysis of tributary habitat typing data. Report prepared by Ebasco Environmental for the United States Bureau of Reclamation/United States Fish and Wildlife Service, Trinity River Restoration Program. Sacramento, CA.

Wilcox, S.D., J.R. Martini, and E.J. Koford. 1994. Periphyton growth in the North Fork Stanislaus River Basin. Draft report for Northern California Power Agency by Ebasco Environmental. Sacramento, CA.

*Selected
Publications
and
Presentations*

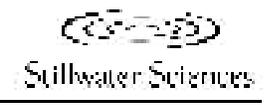
Wilcox, S. D. 2004. Fish Populations as Indicators of Ecosystem Health in the South Fork Feather River Watershed: Do trout go with the flow? Presented at the Annual Meeting of the Cal-Neva Chapter of the American Fisheries Society, Redding, California, April 23.

Wilcox, S.D., J. Perrochet, and F. Smith. 1998. Prioritization of watershed restoration activities using channel type data: An example from the Klamath River Basin. Proceedings of the Water Environment Federation Specialty Conference on Watershed Management, Denver, Colorado, May 3-6.

Wilcox, S.D. 1998. Beaver Slough Habitat Restoration: The Intersection of Planning and Reality. Presented at the Annual Meeting of the Cal-Neva Chapter of the American Fisheries Society, Sacramento, California, April 23-25.

Wilcox, S.D. and T.M. Frink. 1993. A raft system for large river hydraulic measurements. Proceedings of the 20th Anniversary Conference, Water Resources Planning and Management Division of the ASCE, Seattle, WA, May 1-5; K. Hon (ed.), pp. 850-853. ASCE, New York.

Wilcox, S.D. and P. Johnson. 1993. Differential use of stream habitat types by anadromous salmonids in the Trinity and Klamath River basins: Implications for stream restoration. Presented at the annual conference of the American Fisheries Society, Western Division, Sacramento, California, July 22-29. Western Proceedings, 73rd Annual Conference, Western Association of Fish and Wildlife Agencies.



Submission Contents

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