

## **Paul Cylinder, Ph.D.**

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### **Highlights of Experience/Expertise**

Has over 30 years of experience as an executive, manager, consultant, educator, and author. He has provided environmental consultant services across a wide range of federal, state, local, and private customers. Has held leadership positions at three environmental and engineering companies.

Has served as principal-in-charge, program manager, project manager, senior advisor, and technical lead for a wide range of multi-disciplinary and natural resources-related environmental planning and compliance projects, including leading large teams of environmental professionals on large complex projects. He has served as the consultant team leader in the development of highly complex and publicly visible habitat conservation plans for terrestrial, wetland, and aquatic systems, including the Fort Ord Installation-wide Multi-species Habitat Management Plan, East Contra Costa County HCP/NCCP, Bay Delta Conservation Plan, Butte Regional Conservation Plan, Yolo Natural Heritage Program, Lower Colorado River Multi-Species Conservation Program, CALFED Bay Delta Program Multispecies Conservation Strategy, and Beale Air Force Base Habitat Conservation and Management Plan.

Recognized expert in compliance with environmental regulations under the Endangered Species Act (ESA), Section 404 of the Clean Water Act, California Endangered Species Act (CESA), Natural Community Conservation Planning Act (NCCPA), and various Fish and Game Code regulations. Experienced in leadership and technical roles for compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), particularly with regard to biological resources.

Lead Author of three technical books: "Wetlands, streams, and other waters: regulation, conservation, mitigation planning" published by Solano Press; "Understanding the habitat conservation planning process in California: a guidebook for project and regional conservation planning" published by the Institute for Local Self Government; and "Wetlands regulation: a complete guide to federal and California programs" published by Solano Press.

### **Education**

Ph.D. in Botany from the University of California, Berkeley in December 1987

B.A. in Biological Sciences from the University of Chicago in June 1980

### **Work History**

2014-present. **American River College**

- Adjunct Faculty Department of Natural Resources. Courses:
  - The Forest Environment
  - Field Methods in Vegetation Sampling
  - Energy and Sustainability

2014-2017. **ECORP Consulting, Inc**

- Vice President and Chief Marketing Officer

2005-2014. **Leidos, Inc.** - formerly Science Applications International Corporation (SAIC)

- Western Director for Natural Resources Planning
- Office and Team Manager – Sacramento Natural Resources Team

1988-2005. **Jones & Stokes Associates**

- Principal and Member of Board of Directors
- Director for Key Client Management
- Director for Business Development
- Business Group Leader Natural Resources
- Marketing Leader Conservation Planning
- Technical Team Leader
  - Natural Resources Team
  - Land Conservation and Management Team
  - Geographic Information Systems Team
  - Botanical/Wetlands Services Team
- Project Manager/Botanist

1988. **University of California, Berkeley, Department of Botany**

- Lecturer
  - Ecology of Plants

## Professional Workshops Taught

Dr. Cylinder has taught professional workshops multiple times on **Habitat Conservation Planning, Endangered Species Regulations and Compliance, and Wetlands Regulations and Compliance**. These workshops were taught for variety of organizations, including: University of California, Davis Extension; University of California, Los Angeles Extension; University of California, Santa Barbara Extension; University of California, Irvine Extension; California State University, Chico; Pacific Gas & Electric Company; AT&T Company; California State Water Resources Control Board; Continuing Legal Education (CLE); Santa Clara Valley Water District; Association of Bay Area Governments.

## Conferences Chaired and Conference Presentations

Dr. Cylinder has served four times as co-chair of University of California, Davis Extension's Annual Conference on the Endangered Species Act. Dr. Cylinder has presented at numerous professional conferences on topics related to wetlands regulation, planning, and conservation; regional habitat conservation planning; and endangered species regulation, planning, and conservation. Conference organizers include: Continuing Legal Education (CLE); University of California, Davis Extension; The Lao Niu Foundation and The Paulson Institute; California Construction and Industrial Materials Association (CalCIMA); California North State Building Industry Association; California League of Cities; Surveyors, Architects, Geologists, and Engineers (SAGE) El Dorado County; Ecological Society of America.

## Publications

Cylinder, P.D., K. Bogdan, D. Zippin. 2004. *Understanding the Habitat Conservation Planning Process in California: A Guidebook for Project and Regional Conservation Planning*. Institute for Local Self Government, Sacramento, California.

Cylinder, P.D., K. Bogdan, A. Zohn, J. Butterworth. 2004. *Wetlands, Streams, and Other Waters: Regulation, Conservation, Mitigation Planning*. Solano Press, Point Arena, California.

Cylinder, P.D. 1997. *Monterey Pine Forest Conservation Strategy*. *Fremontia* 25(2):21–26.

Cylinder, P.D. 1995. *The Monterey Ecological Staircase and Subtypes of Monterey Pine Forest*. *Fremontia* 23(1):7–13.

Cylinder, P., K. Bogdan, E. Davis, A. Herson. 1995. *Wetlands Regulation: A Complete Guide to Federal and California Programs*. Solano Press, Point Arena, California.

Cylinder, P.D. 1987. *Competition for Pollination in a Montane Meadow*. Ph.D. dissertation. University of California, Berkeley, California.

Additionally, Dr. Cylinder has led the production of dozens of technical documents for compliance with federal and state environmental regulations and special studies for projects as an environmental consultant. See the list of projects under the section *Representative Professional Experience* (many of these projects included multiple technical documents).

## Awards

- 2005. Special recognition from the U.S. Bureau of Reclamation and U.S. Fish and Wildlife Service for outstanding performance on the Lower Colorado River Multi-Species Conservation Program.
- 2005. Certificate of Merit from the California Association of Environmental Professionals for the book *Understanding the Habitat Conservation Planning Process in California*.
- 2003. Honor for Excellence in Teaching and Outstanding Service in Continuing Education, University of California, Davis Extension
- 1995. Outstanding Environmental Resource Document from the California Association of Environmental Professionals for Fort Ord Installation-wide Multi-Species Habitat Management Plan
- 1985-1986. Outstanding Graduate Student Instructor, Committee on Teaching of the Berkeley Division of the Academic Senate.
- 1984-1985. Distinguished Teaching Assistant, Committee on Teaching of the Berkeley Division of the Academic Senate.

## Sample of Environmental Consulting Project Experience

The following is a sample of projects in regional habitat conservation and mitigation planning and environmental compliance projects within Monterey County for which Dr. Cylinder served as principal-in-charge, program manager, project manager, senior advisor, or technical task leader.

### Regional Habitat Conservation Planning

#### **Bay Delta Conservation Plan – California Department of Water Resources (2006-2011).**

Consultant Team Leader for multispecies HCP/NCCP providing endangered species compliance for 65 species including endangered salmon and smelt in the Sacramento-San Joaquin Delta for new conveyance construction and water exports servicing 25 million people and 2.5 million acres of farmland. Program participants included the Natural Resources Agency, Department of Water Resources, Bureau of Reclamation, Fish and Wildlife Service, National Marine Fisheries Service, Department of Fish and Game, State Water Contractors, Federal Water Contractors, U.S. Army Corps of Engineers, environmental groups, Farm Bureau. \$14 million in contracts.

#### **Butte Regional Conservation Plan (BRCP) – Butte County Association of Governments (2006-2016).**

Consultant Team Leader (2006-2014) and Senior Advisor (2014-2016) for regional multispecies habitat conservation plan (HCP) and natural community conservation plan (NCCP) covering over 500,000 acres and addressing the growth of four cities in Butte County and Caltrans/BCAG transportation projects. Plan addresses 38 species of wildlife, fish, and plants. Also includes regional Clean Water Act section 404 compliance for wetlands and other waters. Participants include Butte County, City of Chico, City of Oroville, Caltrans, Farm Bureau, Agricultural Commissioner, development interests, environmental groups, Chico State University. \$2.6 million in contracts.

**Yolo Natural Heritage Program – Yolo County Joint Powers Agency (2008-2013).** Consultant Team Leader for multispecies HCP/NCCP for regional conservation plan covering 650,000 acres and addressing the growth of the cities of Davis, West Sacramento, Woodland, and Winters and unincorporated areas in Yolo County. Plan addresses 34 species of wildlife and plants. Includes a unique approach to the conservation of agricultural lands that provide important habitat for endangered wildlife species. Participants include Yolo County, four cities, Farm Bureau, development interests, environmental groups, landowners, University of California Davis. \$1.7 million in contracts

**East Contra Costa County HCP/NCCP and EIS/EIR — Habitat Conservation Association (2000-2005).** Principal-in-charge for multi-species regional HCP/NCCP, EIR/EIS, and regional CWA Section 404 compliance for 174,000 acres of eastern Contra Costa County. Participants included cities of Brentwood, Clayton, Oakley, Pittsburg, regional park district, and water district. Plan covers 27 species of plants and wildlife. Permits issued 2007. \$1.3 million contract.

#### **Lower Colorado River Multi-Species Conservation Program — Colorado River Board of California (2000-2005).**

Principal-in-Charge for a multi-species HCP, Section 7 biological assessment, and California ESA permit covering 400 miles of river, 720,000 acres of floodplain, and 31 species of fish, wildlife, and plants from Lake Mead to the Mexican border. Program participants included Bureau of Reclamation; Fish and Wildlife Service; Bureau of Indian Affairs; National Park Service; water, power, and fish and game agencies from Arizona, Nevada, and California; and five tribal governments. Final ESA and CESA permits signed in April 2005. \$1.8 million contract.

#### **CALFED Program Multi-species Conservation Strategy — CALFED Bay-Delta Solutions**

**Program (1997-2000).** Principal-in-Charge for unique multi-species conservation strategy document that served as a programmatic Section 7 ESA biological assessment for both NMFS and USFWS covered species and NCCP for California Fish and Game covered species for the entire CALFED

program of water supply, flood control, habitat conservation, and other activities. Document covered the Sacramento–San Joaquin River Delta (700,000 acres), north San Francisco Bay, Sacramento and San Joaquin River systems, and 12 potential water storage sites and evaluated 243 species of fish, wildlife, and plants including salmonids, sturgeon, and smelt. Final ESA Programmatic Biological Opinions and Programmatic NCCP Determination were signed in August 2000. \$750,000 contract.

**Beale Air Force Base Habitat Conservation and Management Plan—U.S. Army Corps of Engineers.** Principal-in-Charge for base-wide (23,000 acres) habitat conservation and management plan (HCMP) providing mitigation for long-term implementation of base general plan and all endangered species and wetlands compliance under ESA and CWA Section 404.

**Installation-wide Multispecies Habitat Management Plan for Fort Ord—U.S. Army Corps of Engineers (1992-1994).** Task Manager for habitat conservation and management plan for 28,000-acre military installation that covered 18 species wildlife and plants, provided ESA and NEPA compliance, and allowed for the disposal and reuse of closed Army installation. Final plan signed in 1994. Award winning document – 1995 Outstanding Environmental Resource Document from the California Association of Environmental Professionals.

**Carmel River Habitat Conservation Plan—Carmel River Joint HCP Steering Committee.** Principal-in-Charge for multispecies HCP for major water diverters and landowners along the lower Carmel River that focused on steelhead, red-legged frog, and other wetland and riparian species.

**Pine Forest NCCP Work Program—Association of Monterey Bay Area Governments.** Principal-in-Charge for preparation of a work program to prepare an NCCP for native Monterey pine forest and associated habitats at Monterey, Cambria, and Ano Nuevo, California.

**Monterey Pine Forest Conservation Strategy—California Native Plant Society and California Department of Fish and Game.** Prepared a method for resource valuation and recommended approach to conservation of 9,400 acres of indigenous Monterey pine forest at Monterey.

**Eastern Alameda-Contra Costa Biodiversity Conservation Study—Contra Costa County.** Principal-in-Charge and Project Manager for project to develop and apply GIS and ecological and land use models to identify opportunities and constraints for conservation of biodiversity in 227,000-acre study area in eastern Alameda and Contra Costa Counties.

### Projects in Monterey County

**Del Monte Forest Development and Preservation Plan EIR, Vegetation Section—Monterey County (2003-2004).** Served as lead ecologist for impact and mitigation assessment for the Pebble Beach Company's proposed 524-acre development on the Monterey Peninsula, including a new golf course, driving range, equestrian center, residential development, and trails (2.4 miles) and 362-acre forest preserve. Final EIR released in January 2005.

**Salinas River Seawater Intrusion EIR/EIS Vegetation Resources Section—Monterey County Water Resources Agency (1989-1990).** Served as lead botanist for NEPA/CEQA impact analysis for vegetation resources affected by water supply facilities construction including evaluation of a new inflatable dam and cut-off wall and the effects of operations of Nacimiento and San Antonio Reservoirs on 170 miles of the Salinas River. The project also included a dispersed well system of twelve new wellheads to support urban water supplies for Marina and Fort Ord. The project purpose was to use surface water to supplement irrigation water and hence decrease groundwater withdrawals near the coast. The federal lead agency was the Bureau of Reclamation and state lead agency was Monterey County Water Resources Agency. The final EIR/EIS was completed in 1990.

**Fort Ord Disposal and Reuse EIS Vegetation and Wetlands Resources Sections and Section 7 Biological Assessment—U.S. Army Corps of Engineers (1992-1993).** Served as lead botanist for NEPA and ESA compliance for botanical resources and federally listed species for disposal and reuse

of 28,000-acre Fort Ord. Prepared the Flora and Fauna Baseline Study addressing 22 species of special-status plants and 27 special-status wildlife species, EIS vegetation and wetlands impacts and mitigation sections, and ESA Section 7 Biological Assessment. Supported Section 7 consultation process addressing 26 species of plants and wildlife.

**California Central Coast Veterans Cemetery CEQA/NEPA and ESA Compliance – California Department of General Services Real Estate Services Division (2014).** Senior Advisor on regulatory compliance for the construction of a new veterans' cemetery at the former Fort Ord Army installation for CalVet and the Veterans Administration. Project included compliance with ESA Section 7 using the 1993 Biological Opinion pursuant to the Fort Ord Base-wide Habitat Management Plan, created by Dr. Cylinder, that greatly accelerated the consultation process.

**Forest Management Plan for Asilomar State Park and Conference Center—California Department of Parks and Recreation.** Principal-in-Charge for project to prepare plan for management and replacement of Monterey pine dying from pine pitch canker at Asilomar Conference Center.

**Recovery Strategies for Six Rare Plant Species of the Monterey Peninsula—California Department of Fish & Game.** Project Manager and Principal-in-Charge for rare plant surveys, habitat characterization, and recommended recovery strategies for Monterey clover, Pacific Grove clover, coastal dunes milkvetch, Gowen cypress, Hickman's cinquefoil, and Yadon's rein orchid.

**Presidio of Monterey Flora and Fauna Baseline Study—U.S. Army Corps of Engineers.** Managed project. Conducted surveys and prepared report describing vegetation and wildlife resources of the installation.

**Monterey Pine Ecological Assessment—The Nature Conservancy and California Department of Fish and Game.** Principal-In-Charge and Project Manager. Prepared several reports, based on field surveys, personal communications, and literature review, on the ecology, history, and current status of Monterey pine.

**Fort Ord Interpretive Signs and Brochure—U.S. Army Corps of Engineers.** Managed project for development and installation of 12 ecological and cultural interpretive signs at rare plant reserves at Fort Ord and development of associated interpretive brochure.

**Ecological and Cultural Park Interpretive Signs—Monterey Peninsula Regional Park District.** Principal-in-Charge. Prepared layout, edited text, and produced finished product for eight interpretive signs.

**Mitigation and Monitoring Plan for Fort Ord Ammunition Supply Point—U.S. Army Corps of Engineers.** Managed project for vegetation management, fire management, and erosion control plan for maritime chaparral and oak woodland surrounding Fort Ord ammunition supply facility.

**Environmental Sensitive Habitat Areas Study—City of Carmel-by-the-Sea.** Principal-in-Charge for conducted field surveys and prepared report identifying environmental sensitive habitat areas under the California Coastal Act in Carmel.

**Moss Landing Harbor District North Harbor Wetland Delineation and Mitigation Plan —Gilchrist Associates.** Served as botanist conducting delineation of wetlands at site of proposed improvements in Moss Landing. Assisted in preparation of tidal salt marsh restoration plan for CWA Section 404 compliance.