
ATTACHMENT F: CURRICULA VITAE

Robert A. Hamilton

President, Hamilton Biological, Inc.

Expertise

Endangered Species Surveys
General Biological Surveys
CEQA Analysis
Population Monitoring
Bird Banding
Vegetation Mapping
Noise Monitoring
Open Space Planning
Natural Lands Management

Education

1988. Bachelor of Science degree
in Biological Sciences,
University of California,
Irvine

Professional Experience

1994 to Present. Independent
Biological Consultant,
Hamilton Biological, Inc.
1988 to 1994. Biologist, LSA
Associates, Inc.

Permits

Federal Permit No. TE-799557 to
survey for the Coastal
California Gnatcatcher and
Southwestern Willow
Flycatcher (expires 3/5/12)
Federal Bird Banding Subpermit
No. 20431 (expires 1/31/11)
MOUs with the California Dept.
of Fish and Game to survey
for the San Diego Cactus
Wren (expires 12/31/11), and
the Coastal California
Gnatcatcher and SW Willow
Flycatcher (expires 5/31/12)
California Scientific Collecting
Permit No. SC-001107 (expires
11/5/11)

Robert A. Hamilton has been providing biological consulting services in southern California since 1988. He spent the formative years of his career at the firm of LSA Associates in Irvine, where he was a staff biologist and project manager. He has worked as a full-time independent consultant since 1994, incorporating the enterprise as Hamilton Biological, Inc., in 2009. His consultancy specializes in the practical application of environmental policies and regulations to land management and land use decisions in southern California.

A recognized authority on the status, distribution, and identification of birds in California, Mr. Hamilton is the lead author of two standard references describing aspects of the state's avifauna: *The Birds of Orange County: Status & Distribution* and *Rare Birds of California*. Mr. Hamilton has also conducted extensive studies in Baja California, and for seven years edited the Baja California Peninsula regional reports for the journal *North American Birds*. He served ten years on the editorial board of *Western Birds* and regularly publishes in peer-reviewed journals. He is a founding member of the Coastal Cactus Wren Working Group and is presently updating the Cactus Wren species account for *The Birds of North America Online*. Mr. Hamilton's expertise includes floral identification and vegetation mapping. He served for a decade as Conservation Chair for the Orange County chapter of the California Native Plant Society and has a working knowledge of native plant restoration. He is a current member of the Los Angeles County Significant Ecological Areas Technical Advisory Committee (SEATAC).

Mr. Hamilton conducts general and focused biological surveys of small and large properties as necessary to obtain various local, state, and federal permits, agreements, and clearances. He also conducts landscape-level surveys needed by land managers to monitor songbird populations. Mr. Hamilton holds the federal and state permits and MOUs listed to the left, and he is recognized by federal and state resource agencies as being highly qualified to survey for the Least Bell's Vireo. He also provides nest-monitoring services in compliance with the federal Migratory Bird Treaty Act and California Fish & Game Code Sections 3503, 3503.5 and 3513. Mr. Hamilton has the capability of

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Board Memberships, Advisory Positions, Etc.

Los Angeles County Significant
Ecological Areas Technical
Advisory Committee
(SEATAC) (2010–present)

Coastal Cactus Wren Working
Group (2008–present)

American Birding Association:
Baja Calif. Peninsula Regional
Editor, *North American Birds*
(2000–2006)

Western Field Ornithologists:
Associate Editor of *Western
Birds* (1999–2008)

California Bird Records
Committee (1998–2001)

Nature Reserve of Orange
County: Technical Advisory
Committee (1996–2001)

California Native Plant Society,
Orange County Chapter:
Conservation Chair
(1992–2003)

Professional Affiliations

American Ornithologists' Union
Cooper Ornithological Society
Institute for Bird Populations
California Native Plant Society
Southern California Academy of
Sciences
Western Foundation of
Vertebrate Zoology

Insurance

\$3,000,000 professional liability
policy (Axis)
\$2,000,000 general liability
policy (The Hartford)
\$1,000,000 auto liability policy
(State Farm)

monitoring noise as it relates to nesting or roosting birds using an advanced Quest SoundPro unit that can provide second-by-second logging of noise levels at the nest; this allows documentation of the varying sound pressure levels that nesting birds are exposed to during construction and evaluation of any effects associated with different levels. He is also an expert photographer, and typically provides photo-documentation and/or video documentation as part of his services.

Drawing upon a robust, multidisciplinary understanding of the natural history and ecology of his home region, Mr. Hamilton works with private and public land owners, as well as governmental agencies and interested third parties, to apply the local, state, and federal land use policies and regulations applicable to each particular situation. Mr. Hamilton has amassed extensive experience in the preparation and critical review of CEQA documents, from relatively simple Negative Declarations to complex supplemental and recirculated Environmental Impact Reports. In addition to his knowledge of CEQA and its Guidelines, Mr. Hamilton understands how each Lead Agency brings its own interpretive variations to the CEQA review process.

Representative Project Experience

From 2007 to present, have reviewed biological resources sections of CEQA documents submitted to the County of Los Angeles Department of Regional Planning. Work includes evaluating the accuracy and adequacy of consultants' biological reports, developing impact analyses and mitigation measures, and recommending findings of significance. Under the same contract, prepared a list of drought-tolerant native plants, hyperlinked to web-based information, for use in landscaping in Los Angeles County. The County later revised the list, with some loss of information, but the original list and accompanying map of seven planting zones in the county are available [here](#) and [here](#).

In 2009, under contract to the Palos Verdes Peninsula Land Conservancy, surveyed for the California Gnatcatcher and Cactus Wren across nine habitat reserves that constitute nearly all of the Portuguese Bend Natural Preserve in coastal Los Angeles County. The services provided included mapping and classifying all cactus scrub resources in the areas surveyed.

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Other Relevant Experience

Field Ornithologist, San Diego Natural History Museum Scientific Collecting Expedition to Central and Southern Baja California, October/November 1997 and November 2003.

Field Ornithologist, Island Conservation and Ecology Group Expedition to the Tres Mariás Islands, Nayarit, Mexico, 23 January to 8 February 2002.

Field Ornithologist, Algalita Marine Research Foundation neustonic plastic research voyages in the Pacific Ocean, 15 August to 4 September 1999 and 14 to 28 July 2000.

Field Assistant, Bird Banding Study, Río Nambi Reserve, Colombia, January to March 1997.

References

Provided upon request.

Under contract to the Conservation Biology Institute in San Diego County, conducted 2008 reconnaissance of those portions of the San Dieguito River Valley that were unburned or only partially burned during the massive Witch Fire, which consumed nearly 200,000 acres in October 2007. Three-pass surveys conducted at 14 sites between Lake Hodges and the San Pasqual Valley determined the presence or absence of Cactus Wrens and California Gnatcatchers. Work products included maps of all unburned and partially burned scrub communities, maps of weed infestations, and complete lists documenting the numbers of each vertebrate wildlife species detected during the surveys.

Under contract to the City of Orange, prepared the Biological Resources section of a hybrid Supplemental EIR/Draft EIR for the 6,900-acre Santiago Hills II/East Orange Planned Community project in central Orange County. This complicated document covered one proposed development area that already had CEQA clearance, but that required updating for alterations to the previously approved plan, and a much larger area that was covered under an existing Natural Communities Conservation Plan (NCCP). The SEIR/EIR was certified in November 2005.

During the 1990s and 2000s, worked with study-design specialists and resource agency representatives to develop the long-term passerine bird monitoring program for the 37,000-acre Nature Reserve of Orange County, and directed its implementation from 1996 to 2001 with additional contract work since then. Tasks have included 1) annual monitoring of 40 California Gnatcatcher and Cactus Wren study sites, 2) oversight of up to 10 constant-effort bird banding stations from 1998 to 2003 under the Monitoring Avian Productivity and Survivorship (MAPS) program, and 3) focused surveys for the Cactus Wren, and detailed mapping of cactus scrub habitat, across the NROC's coastal reserve in 2006 and 2007.

Third-Party CEQA Review

Under contract to cities, conservation groups, homeowners' associations, and other interested parties, have reviewed EIRs and other project documentation for the following projects:

- ▶ The Ranch Plan (residential/commercial, County of Orange)

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- ▶ Southern Orange County Transportation Infrastructure Improvement Project (Foothill South Toll Road, County of Orange)
- ▶ Sunset Ridge Park (proposed city park, City of Newport Beach)
- ▶ Gregory Canyon Landfill Restoration Plan (proposed mitigation, County of San Diego)
- ▶ Montebello Hills Specific Plan EIR (residential, City of Montebello)
- ▶ Cabrillo Mobile Home Park Violations (illegal wetland filling, City of Huntington Beach)
- ▶ Newport Hyatt Regency (timeshare conversion project, City of Newport Beach)
- ▶ Lower San Diego Creek “Emergency Repair Project” (flood control, County of Orange)
- ▶ Tonner Hills (residential, City of Brea)
- ▶ The Bridges at Santa Fe Units 6 and 7 (residential, County of San Diego)
- ▶ Villages of La Costa Master Plan (residential/commercial, City of Carlsbad)
- ▶ Whispering Hills (residential, City of San Juan Capistrano)
- ▶ Santiago Hills II (residential/commercial, City of Orange)
- ▶ Rancho Potrero Leadership Academy (youth detention facility/road, County of Orange)
- ▶ Saddle Creek/Saddle Crest (residential, County of Orange)
- ▶ Frank G. Bonelli Regional County Park Master Plan (County of Los Angeles)

Contact Information

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Long Beach, CA 90803
562-477-2181
562-433-5292 fax
robb@hamiltonbiological.com
<http://hamiltonbiological.com>

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Selected Presentations

- Hamilton, R. A., and Cooper, D. S. 2009-2010. Conservation & Management Plan for Marina del Rey. Twenty-minute Powerpoint presentation given to different governmental agencies and interest groups.
- Hamilton, R. A. 2008. Cactus Wren Conservation Issues, Nature Reserve of Orange County. One-hour Powerpoint presentation for Sea & Sage Audubon Society, Irvine, California, 25 November 2008.
- Hamilton, R. A., Miller, W. B., Mitrovich, M. J. 2008. Cactus Wren Study, Nature Reserve of Orange County. Twenty-minute Powerpoint presentation given at the Nature Reserve of Orange County's Cactus Wren Symposium, Irvine, California, 30 April 2008.
- Hamilton, R. A. and K. Messer. 1999-2004 Results of Annual California Gnatcatcher and Cactus Wren Monitoring in the Nature Reserve of Orange County. Twenty-minute Powerpoint presentation given at the Partners In Flight meeting: Conservation and Management of Coastal Scrub and Chaparral Birds and Habitats, Starr Ranch Audubon Sanctuary, 21 August 2004; and at the Nature Reserve of Orange County 10th Anniversary Symposium, Irvine, California, 21 November 2006.
- Hamilton, R.A. Preliminary results of reserve-wide monitoring of California Gnatcatchers in the Nature Reserve of Orange County. Twenty-minute Powerpoint presentation given at the Southern California Academy of Sciences annual meeting at California State University, Los Angeles, 5 May 2001.

Publications

- Hamilton, R. A. 2008. Cactus Wrens in central & coastal Orange County: How will a worst-case scenario play out under the NCCP? *Western Tanager* 75:2-7.
- Erickson, R. A., R. A. Hamilton, R. Carmona, G. Ruiz-Campos, and Z. A. Henderson. 2008. Value of perennial archiving of data received through the North American Birds regional reporting system: Examples from the Baja California Peninsula. *North American Birds* 62:2-9.
- Erickson, R. A., R. A. Hamilton, and S. G. Mlodinow. 2008. Status review of Belding's Yellowthroat *Geothlypis beldingi*, and implications for its conservation. *Bird Conservation International* 18:219-228.
- Hamilton, R. A. 2008. Fulvous Whistling-Duck (*Dendrocygna bicolor*). Pp. 68-73 in Shuford, W. D. and T. Gardali, eds. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate

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- conservation concern in California. *Studies of Western Birds* 1. Western Field Ornithologists, Camarillo, CA, and California Department of Fish and Game, Sacramento, CA.
- California Bird Records Committee (R. A. Hamilton, M. A. Patten, and R. A. Erickson, editors.). 2007. *Rare Birds of California*. Western Field Ornithologists, Camarillo, CA.
- Hamilton, R. A., R. A. Erickson, E. Palacios, and R. Carmona. 2001–2007. *North American Birds* quarterly reports for the Baja California Peninsula Region, Fall 2000 through Winter 2006/2007.
- Hamilton, R. A. and P. A. Gaede. 2005. Pink-sided × Gray-headed Juncos. *Western Birds* 36:150–152.
- Mlodinow, S. G. and R. A. Hamilton. 2005. Vagrancy of Painted Bunting (*Passerina ciris*) in the United States, Canada, and Bermuda. *North American Birds* 59:172–183.
- Erickson, R. A., R. A. Hamilton, S. González-Guzmán, G. Ruiz-Campos. 2002. Primeros registros de anidación del Pato Friso (*Anas strepera*) en México. *Anales del Instituto de Biología, Universidad Nacional Autónoma de México, Serie Zoología* 73(1): 67–71.
- Hamilton, R. A. and J. L. Dunn. 2002. Red-naped and Red-breasted sapsuckers. *Western Birds* 33:128–130.
- Hamilton, R. A. and S. N. G. Howell. 2002. Gnatcatcher sympatry near San Felipe, Baja California, with notes on other species. *Western Birds* 33:123–124.
- Hamilton, R. A. 2001. Book review: The Sibley Guide to Birds. *Western Birds* 32:95–96.
- Hamilton, R. A. and R. A. Erickson. 2001. Noteworthy breeding bird records from the Vizcaíno Desert, Baja California Peninsula. Pp. 102–105 in *Monographs in Field Ornithology* No. 3. American Birding Association, Colorado Springs, CO.
- Hamilton, R. A. 2001. Log of bird record documentation from the Baja California Peninsula archived at the San Diego Natural History Museum. Pp. 242–253 in *Monographs in Field Ornithology* No. 3. American Birding Association, Colorado Springs, CO.
- Hamilton, R. A. 2001. Records of caged birds in Baja California. Pp. 254–257 in *Monographs in Field Ornithology* No. 3. American Birding Association, Colorado Springs, CO.
- Erickson, R. A., R. A. Hamilton, and S. N. G. Howell. 2001. New information on migrant birds in northern and central portions of the Baja California Peninsula, including species new to Mexico. Pp. 112–170 in *Monographs in Field Ornithology* No. 3. American Birding Association, Colorado Springs, CO.
- Howell, S. N. G., R. A. Erickson, R. A. Hamilton, and M. A. Patten. 2001. An annotated checklist of the birds of Baja California and Baja California Sur. Pp. 171–203 in *Monographs in Field Ornithology* No. 3. American Birding Association, Colorado Springs, CO.
- Ruiz-Campos, G., González-Guzmán, S., Erickson, R. A., and Hamilton, R. A. 2001. Notable bird specimen records from the Baja California Peninsula. Pp. 238–241 in *Monographs in Field Ornithology* No. 3. American Birding Association, Colorado Springs, CO.

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- Wurster, T. E., R. A. Erickson, R. A. Hamilton, and S. N. G. Howell. 2001. Database of selected observations: an augment to new information on migrant birds in northern and central portions of the Baja California Peninsula. Pp. 204–237 in *Monographs in Field Ornithology* No. 3. American Birding Association, Colorado Springs, CO.
- Erickson, R. A. and R. A. Hamilton, 2001. Report of the California Bird Records Committee: 1998 records. *Western Birds* 32:13–49.
- Hamilton, R. A., J. E. Pike, T. E. Wurster, and K. Radamaker. 2000. First record of an Olive-backed Pipit in Mexico. *Western Birds* 31:117–119.
- Hamilton, R. A. and N. J. Schmitt. 2000. Identification of Taiga and Black Merlins. *Western Birds* 31:65–67.
- Hamilton, R. A. 1998. Book review: Atlas of Breeding Birds, Orange County, California. *Western Birds* 29:129–130.
- Hamilton, R. A. and D. R. Willick. 1996. The Birds of Orange County, California: Status and Distribution. Sea & Sage Press, Sea & Sage Audubon Society, Irvine.
- Hamilton, R. A. 1996–98. Photo Quizzes. *Birding* 27(4):298-301, 28(1):46-50, 28(4):309-313, 29(1):59-64, 30(1):55–59.
- Erickson, R. A., and Hamilton, R. A. 1995. Geographic distribution: *Lampropeltis getula californiae* (California Kingsnake) in Baja California Sur. *Herpetological Review* 26(4):210.
- Bontrager, D. R., R. A. Erickson, and R. A. Hamilton. 1995. Impacts of the October 1993 Laguna fire on California Gnatcatchers and Cactus Wrens. in J. E. Keeley and T. A. Scott (editors). *Wildfires in California Brushlands: Ecology and Resource Management*. International Association of Wildland Fire, Fairfield, Washington.
- Erickson, R. A., R. A. Hamilton, S. N. G. Howell, M. A. Patten, and P. Pyle. 1995. First record of Marbled Murrelet and third record of Ancient Murrelet for Mexico. *Western Birds* 26: 39–45.
- Erickson, R. A., and R. A. Hamilton. 1993. Additional summer bird records for southern Mexico. *Euphonia* 2(4): 81–91.
- Erickson, R. A., A. D. Barron, and R. A. Hamilton. 1992. A recent Black Rail record for Baja California. *Euphonia* 1(1): 19–21.

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(714) 656-5152 (cell)
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EDUCATION

B.S., Zoology (cum laude), California State Polytechnic University,
Pomona, 1976.

Graduate Studies, Biology, California State University, Long Beach, Fall Semester
1976

Graduate Studies, Ecology, California State Polytechnic University,
Pomona, 54 Units completed. 1977-1979.

Federal Wetland Delineation Training, 1989, 1994.

CDFG Plant Voucher Collecting Permit No. 08051

CONSULTING EXPERIENCE

April 1988 to Present

Independent Consulting Biologist

Prepare biological assessments, develop the terrestrial biology sections of EIRs and assist with the permitting requirements for several larger environmental consulting firms and for individual clients. Recent projects include:

o CH2MHill, Highway 79 Re-alignment Project

Conducted field botanical surveys for a proposed the proposed highway 79 re-alignment project, west of Hemet. Field botanical surveys were performed to document the special status plant species found in alkali grassland, alkali playa, and vernal pool habitats over a two year period. Following the data collection, assistance was provided in reviewing the GIS maps and with developing and reviewing the draft technical report for this study

o LSA, Greenspot Botanical Surveys

Field botanist on surveys for special status plant species on a 1,650 acre parcel in the City of Highland. Surveys concentrated on areas of alluvial fan sage scrub in the Santa Ana and Mill Creek washes and in areas of Riversidian sage scrub and chaparral.

o BonTerra Consulting, Whittier Hills Vegetation Mapping and Community Classification

Prepared a vegetation map for the 3,800 acre Puente Hills Habitat Authority. A vegetation classification system was developed, and plant communities mapped within the reserve. Surveys for special status plant species were also conducted for this project.

o Keane Biological Consulting, Big Canyon Creek Restoration Project.
Described and mapped the plant communities found within the watershed of Big Canyon Creek in Upper Newport Bay. Inventoried special status plant species found in the study area, especially the salt marsh bird's beak.

o Donna O'Neill Land Conservancy, Floristic Inventory and Special Status Species Study

In association with Fred Roberts a floristic inventory of the Donna O'Neill land conservancy was performed. This project attempted to document all of the plant species found within this reserve with a herbarium specimen. In addition, a study documenting the special status plant species was also conducted within the conservancy boundaries.

o Santa Ana River, SBKR Habitat Relationships, MEC Analytical Systems.
Conducted point intercept vegetation sampling to describe SBKR habitat in alluvial fan sage scrub and other plant communities in the Santa Ana River wash.

o Recovery Plan for three southern California plant species, U.S. Fish and Wildlife Service.

Co-authored a draft recovery plan for the Munz's onion, San Jacinto Valley crowscale, and thread-leaved brodiaea. Conducted literature reviews to determine the current status of these species, and developed an action plan for the recovery of these federally listed species.

Other examples of past projects include:

o Botanical surveys in the Angeles National Forest, to document the presence of sensitive plant species within proposed project sites.

o Monitoring of plant populations of two sensitive plant species in the Angeles National Forest.

o Botanical field crew member on a project to re-locate carbonate endemic plant species in the San Bernardino National Forest.

o Special status plant species studies within a proposed SKR study corridor on the Camp Pendleton Marine Corps Base.

o Special status plant species studies within the proposed Lovell Unit wetlands development at the San Jacinto Wildlife Area.

o Special status plant species studies for the MWD Inland Feeder pipeline project, Riverside and San Bernardino Counties.

o Developed a classification system for the plant communities within Orange County and assisted in mapping the plant communities found within the County. Also developed lists of special status plant species and communities in the region.

- o Conducted or supervised the completion of 150 line transects within coastal sage scrub series found within Orange County. This information was used to characterize habitat for a number of sensitive animal species restricted to this community.
- o Conducted botanical field surveys for special status plant species for the Eastside Reservoir in western Riverside County.
- o Performed field surveys for sensitive plant surveys on tailings from old tunnel construction in the Cabazon area.
- o Prepared a map of plant communities and conducted surveys for special status plant species at the Prima Deshecha landfill in Orange County.
- o Conducted field botanical surveys, to supplement previous biological studies on a proposed recreational facility in the Hill Canyon area of Thousand Oaks, Ventura County.
- o Field monitoring of a new trail at Lake Skinner County Park. Conducted vegetation transects, and special status species monitoring, to determine the impacts of the new trail system.
- o Supplemental botanical surveys for special status plant species within the southern portion of Lake Mathews.
- o Mapped alluvial fan sage scrub and upland plant communities in the Deer-Day Canyon washes. Completed a vegetation map and described the plant communities, as part of an experiment to remotely map vegetation communities using ADAR.

Wetland Delineations

- o Biological Resources and Wetland Assessment, Carbon Creek Channel, Orange County
Performed wetland delineations and determined Corps and CDFG jurisdictional areas along the earthen Carbon Creek channel.
- o El Sobrante Landfill Expansion, Western Riverside County
Conducted jurisdictional determinations of ephemeral and perennial drainages within the area of the landfill expansion. Described riparian plant communities

Environmental Impact Reports

- o El Sobrante Landfill Expansion DEIR, Western Riverside County
Conducted supplemental botanical surveys, to update previous studies within the project site. Prepared the biological resources section and determined the potential impacts of implementing the proposed landfill expansion.
- o Old Webster Quarry EIR, San Bernardino County
Conducted field surveys to describe the existing alluvial sage scrub vegetation and developed the biological resources section of the DEIR. Significant issues included

potential impacts to the Santa Ana woolly-star and slender-horned spineflower which were determined from the applicant's survey data.

o Natural Environmental Study and Biological Assessment on the I-215 improvement project, western Riverside and San Bernardino Counties.
Conducted botanical and wetland surveys to document the existing biological resources within the study corridor. Assisted in developing the potential impacts and mitigation measures of the proposed highway project.

Revegetation Planning

- o Bee Canyon Landfill, County of Orange.
Developed a revegetation plan and conducted installation monitoring on a 15 acre riparian revegetation project, as part of the mitigation for the Bee Canyon Landfill in Orange County.

- o Calmat San Bernardino, Sand and Gravel Mine, San Bernardino County.
Assisted in the development of two revegetation plans in the Cajon Wash and Lytle Creek. Provided information on the composition of the existing alluvial fan sage scrub communities and recommended plant species to be used in the revegetation effort. Conducted quadrat counts of shrub seedlings in the revegetated areas, to establish the success of revegetation effort.

- o Upper Newport Bay Regional Park, County of Orange.
Assisted in developing the proposed planting materials for the revegetation of eroded drainages and bluffs within the park. Reviewed planting lists and conducted limited field surveys to assist the development of the revegetation program.

November 1984 to April 1988

Staff Biologist-Harmsworth Associates (formerly VTN Environmental)
Responsible for the implementation and coordination of terrestrial biology projects.
Conducted or managed field studies to assess existing animal and/or plant populations.
Categories of experience and projects include:

Environmental Impact Reports and Assessments

Completed the terrestrial biology sections on the following projects:

- o Rialto Cactus Basin EIR
- o Ontario UPS Cargo Handling Facility EIR
- o Walnut Canyon Erosion Control Project EIR, Anaheim Hills
- o Catalina Airport EA
- o Hunt Canyon Detention Basin EIR, Pearblossom

Technical Reviews

Conducted issues scoping, review of ERs, proposals and DEIRs/DEISs of the terrestrial biology sections of fourteen oil development projects in Santa Barbara County.
Assisted in the development of permit conditions to be required for each of these

proposed projects. Reviewed the revegetation, erosion control and spill contingency plans on four of these projects.

November 1978 to October 1984

Staff Botanist - VTN Consolidated, Inc., Irvine CA

Responsible for botanical and plant ecology projects. Conducted vegetative mapping and inventories, sensitive species surveys and community classifications. Examples of experience include:

Baseline Surveys

Conducted field studies, including quantitative transects, to describe the existing vegetation on the following projects:

- o Quartz Hill Molybdenum Mine, southeast Alaska
- o Paraho Oil Shale Development, Uintah County, Utah
- o Geokinetics Oil Shale Development, Uintah County, Utah
- o Sohio Tar Sand Development, Uintah County, Utah
- o IRI Nahcolite Solution Mine, Rio Blanco, Colorado

EIRs, EISs and EAs

Developed the vegetation sections of the following environmental reports:

- o Second Border Crossing, San Diego County, EIR/EIS
- o Nashua-Hudson Circumferential Highway, New Hampshire, EIS
- o Quartz Hill Molybdenum Mine, Southeast Alaska, EA

Stream Surveys

Performed ocular instream habitat and channel stability surveys in the San Bernardino National Forest, California and the Malheur National Forest, Northeast Oregon.

Conducted stream flow measurements, field water quality sampling and salinity measurements, as part of long term hydrology studies for a proposed mining project in southeast Alaska.

OTHER EXPERIENCE

March 1980 to June 1984

Independent Consulting Biologist

Conducted botanical surveys for the technical appendices of four EIRs in Los Angeles (including the Cities of: Claremont and Rancho Cucamonga) and San Diego Counties. Conducted field surveys, described the existing vegetation and determined potential impacts of the proposed development projects.

April 1977 to June 1979

Lecturer, Teaching Assistant. California Polytechnic University, Pomona. Taught laboratories for General Biology, Invertebrate Zoology and Immature Insect Identification.

PAPERS PRESENTED/PUBLISHED

Developing Requirements for Native Plant Revegetation Programs. Paper presented at the second Native Plant Revegetation Symposium, 1987.

Riversidian Alluvial Fan Sage Scrub Revegetation, San Bernardino, California. Paper presented with Martha Blane at the Society of Ecological Restoration's Fifth Annual Conference, 1993.

Boyd, S., T.S. Ross, O. Mistretta and D. Bramlet. 1995. Vascular flora of the San Mateo Canyon Wilderness Area, Cleveland National Forest, California. *Aliso* 14(2): 109-139.

Developed the maps of riparian plant communities and assisted with the plant community descriptions for this project.

Roberts, F.M., S.D. White, A.C. Sanders, D.E. Bramlet, and S.D. Boyd. 2004. The vascular plants of western Riverside County: An annotated checklist. F.M. Roberts Publications, San Luis Rey, California.

Assisted with the editing the checklist, modifying the introduction, and with reviewing the references for this book.

Roberts, F.M. and D.E. Bramlet. 2007a. Vascular plants of the Donna O'Neill Land Conservancy, Rancho Mission Viejo, California. *Crossosoma* 33(1) 2-38.

Roberts, F.M., S.D. White, A.C. Sanders, D.E. Bramlet, and S.D. Boyd. 2007b. Additions to the Flora of western Riverside County, California. *Crossosoma* 33(2) 55-69.

Status and proposed conservation measures for the San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) in western Riverside County, California. Paper presented at the CNPS Conservation Conference, 2009

COLLECTING PERMITS, MOU'S

CDFG MOU for the collection of listed plant species valid to 2008.

PROFESSIONAL AFFILIATIONS

California Native Plant Society
Ecological Society of America
Society for Ecological Restoration
Southern California Botanists
California Botanical Society
Rancho Santa Ana Botanic Garden, Research Associate

Daniel S. Cooper

President, Cooper Ecological Monitoring, Inc.

Areas of Expertise

- Project Management
- Environmental Compliance (CEQA/NEPA) and Monitoring
- Bird and Wildlife Surveys
- Biological Assessments
- Protocol Surveys for the California Gnatcatcher and other special-status bird species

Years of Experience

CEM, Inc.: 4 years

Audubon California: 5 years

Education

MSc. (Biogeography)/1999/UC
Riverside

BA/1995/Harvard University

Certification

U.S. Fish and Wildlife Permit No. TE-100008-0 (California Gnatcatcher).

USGS Master Station Banding Permit (#23049) (2001-2004)

CDFG Scientific Collecting Permit (in review)

Overview

Daniel S. Cooper is an authority on California bird ecology, identification and distribution, and has a strong background in southern California ecology and natural history. Specific areas of expertise include the Ballona Wetlands, eastern Santa Monica Mountains, Santa Clara River, Puente-Chino Hills, and remnant habitat patches on the floor of the Los Angeles Basin. Mr. Cooper has designed and managed numerous field-based research projects and assessments for a wide variety of clients, including public agencies and municipalities, large consulting firms, private landowners, and nonprofit environmental organizations. He is the author of Important Bird Areas of California (Audubon California 2004), and he continues to publish in peer-reviewed journals.

Mr. Cooper is permitted by the U.S. Fish and Wildlife Service to perform protocol surveys for the federally-threatened California gnatcatcher, and brings more than ten years of professional experience surveying for and observing special-status species throughout California. Mr. Cooper has held a Master Station Bird Banding permit from the U.S. Geological Survey, and has completed the requirements for a scientific collecting permit for the California Dept. of Fish and Game (anticipated summer 2009). Since the mid-1990s, Mr. Cooper has also conducted original research on bird distribution in Central and northern South America, primarily for private landowners.

Project Management Experience

Griffith Park Natural History Survey and Postfire Bio-monitoring.

Researched and co-authored Griffith Park Wildlife Management Plan. Supervised development of website (www.griffithparkwildlife.org; with Cartifact, Inc.). Designed and carried out first-ever study of wildlife of Griffith Park, focusing on the 2007 burn area, including breeding/wintering birds, reptiles/amphibians, and bats with two subcontractors. Coordinated survey effort of reptiles/amphibians with USGS San Diego Field Station (Dr. Robert Fisher). Wildlife Management Plan submitted to City of Los Angeles, Dept. of Recreation and Parks on January 22, 2009; other technical reports submitted include those on bats (February 20, 2009) and birds (March 2, 2009).

Coastal Cactus Wren Survey, Los Angeles County. Organized and supervise a team of more than 20 volunteers for The Nature Conservancy (ongoing), the first-ever effort to document the actual range of this bird in the County.

Puente Hills Landfill Native Habitat Preservation Authority, Whittier, CA. As the staff ecologist, I managed \$2M of restoration contracts in coastal sage scrub, oak/walnut woodland, and riparian habitats in western Puente Hills. I also developed and reviewed plant palettes and restoration design, and oversaw bio-monitoring of restoration sites (2007-08).

Audubon Christmas Bird Count. Organizer and compiler for two Los Angeles-area Christmas Counts: Los Angeles (since 2008) and Santa Clarita (since 2003). These are annual events that involve coordinating assignments and processing data sheets for 50+ volunteers, part of a worldwide effort to census birds each winter.

CoffeeReserve Program. Developed in 2006 with California-based coffee importer Rogers Family Co., this program has organized bird and wildlife surveys on supplier-farms in Chiapas, Mexico and Nicaragua, developed species lists and hiking maps for several properties, and pilot-testing an ecotourism internship program at a lodge/farm complex in northern Nicaragua in 2008.

Kingston Wildlife Research Station, Kingston, RI. Managed bird-banding station for Univ. of Rhode Island; other responsibilities included training volunteers, writing grants (obtained \$10,000 for habitat management), bird/amphibian surveys of local natural areas (2005-06).

California Important Bird Area Project. From 2001-2004, researched, wrote and published the Important Bird Areas of California (Audubon California 2004), a compendium of 150 sites considered most critical for bird conservation in the state. This project involved convening a team of dozens of advisors and local experts from around the state, numerous site visits, and working with photographers, a layout designer, printer, and distribution company. This book now forms a cornerstone of Audubon's conservation work in California.

CEQA/NEPA Compliance

Marina del Rey Dredging and Sand-Separation Project, Los Angeles, CA. Designed survey protocol and carried out surveys and construction monitoring for wintering population of federally-threatened western snowy plover at Dockweiler State Beach. Attend weekly construction meetings with US Army Corps of Engineering and County of Los Angeles staff and contractors (ongoing).

Vista Canyon Ranch, Santa Clarita, CA. Conducted field visits, provided consultation on special-status plant and wildlife species as part of preparation of biological assessment of large parcel along the Santa Clara River (with Forde Biological Consultants and The River Project). Attend design meetings with developer, architect and consultants (ongoing).

Landmark Village, Newhall Ranch, Santa Clarita, CA. Provided analysis of and re-wrote special-status species accounts in Biological Resources section of EIR for large residential and commercial development along Santa Clara River for Audubon California (2007) and Pacific Coast Conservation Alliance (2008).

Broad Beach, Malibu, CA. Conducted field visits and helped prepare the Biological Assessment (with Robert A. Hamilton) for Malibu Bay Company development at Broad Beach. Analyzed impacts to potential ESHA (Environmentally Sensitive Habitat Area) at site (2008).

San Gabriel River Discovery Center, South El Monte, CA. Conducted bird surveys and habitat assessment and provided mitigation recommendations for proposed nature center and office/conference facility

in the Whittier Narrows Recreation Area. Final reports submitted to the Los Angeles and San Gabriel Rivers and Mountains Conservancy November 7, 2008.

Faunal/Floral Surveys (clients listed in parentheses)

Bird surveys and analysis, incl. mist-netting, point-counts, spot-mapping, and/or walking transects:

- Playa Vista Riparian Corridor, Los Angeles, CA (ongoing, for E Read Consulting, Inc.)
- Ballona Wetlands Ecological Reserve, Playa del Rey, CA (ongoing; Friends of Ballona Wetlands)
- Ballona Freshwater Marsh, Los Angeles, CA (Center for Natural Lands Management)
- Ballona Outdoor Learning and Discovery site, Playa del Rey, CA (Ballona Wetlands Foundation)
- Malibu Lagoon, Malibu, CA (Resource Conservation District of the Santa Monica Mountains)
- Nicholas Creek mouth, Malibu, CA (Wishtoyo Foundation)

Miscellaneous bird surveys:

- Kern River Preserve, Weldon, CA (incl. MAPS Station; Kern River Research Center)
- Audubon Center in Debs Park, Los Angeles (incl. MAPS Station; Audubon California)
- Western Riverside Co. (UCR/Western Riverside County Multi-Species Habitat Conservation Plan; Dartmouth College)
- Audubon Sanctuaries in Central MA (Massachusetts Audubon Society)
- Kingston Wildlife Research Station, Kingston, RI (Univ. of Rhode Island)
- Angelus Oaks Transect, San Bernardino Mountains, CA (USGS Breeding Bird Survey)
- Pasoh Forest Reserve, Malayisa (Univ. of Malaysia)
- Chequamagon National Forest, Wisconsin (Univ. of Missouri)
- Private forest reserves in Guatemala, Costa Rica, Panama and Venezuela (various owners)

Biological assessments (multi-taxa):

- Cahuenga Peak, Los Angeles, CA (ongoing; The Trust for Public Land)
- Sanford-Avalon Community Garden, Watts, CA. Conduct (ongoing; Los Angeles Community Garden Council)
- Open space parcels in Northeastern Los Angeles, CA (Mountains Recreation and Conservation Authority)
- Mission Creek, South El Monte, CA (Los Angeles Conservation Corps)
- Elephant Hill, Montecito Heights (Los Angeles), CA (Committee to Save Elephant Hill)

Experience with Special-status Species

- Coastal California gnatcatcher *Polioptila californica californica*
More than 50 hours of experience conducting protocol surveys for this species in Los Angeles and Riverside counties; Discovered previously-unknown populations in western Puente Hills and northern Chino Hills (both Los Angeles Co.).
- Western snowy plover *Charadrius alexandrinus nivosus*
Surveyed for and monitored this species at Dockweiler State Beach, Los Angeles; volunteer for a countywide survey in Los Angeles County (Surfrider Foundation, Pacific Coast Conservation Alliance)
- Western burrowing owl *Athene cunicularia hypugaea*
Volunteered (Antelope Valley, Los Angeles Co., CA) on a statewide breeding population census for Institute for Bird Populations.
- Mountain plover *Charadrius montanus*
- Long-billed curlew *Numenius americanus*
Volunteered in surveys for both grassland species in agricultural fields in the Imperial Valley, CA, with researchers from the Los Angeles Co. Museum of Natural History.
- Coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*
Organizing Los Angeles County portion of region-wide survey for The Nature Conservancy.
- Least Bell's Vireo *Vireo bellii pusillus*
Assessed potential breeding habitat at several sites in Los Angeles and Riverside counties.
- Belding's savannah sparrow *Passerculus sandwichensis beldingi*
Surveyed for this and other coastal wetland species at Ballona Freshwater Marsh and adjacent Ballona Wetlands.

Survey experience with the following additional special-status species:

BIRDS

- Brant *Branta bernicla*
- Cackling Canada goose *B. hutchinsii leucopareia*
- Ruffed grouse *Bonasa umbellus*
- California brown pelican *Pelecanus occidentalis californicus*
- Double-crested cormorant *Phalacrocorax auritus*
- Great egret *Ardea alba*
- Great blue heron *Ardea herodias*
- American bittern *Botaurus lentiginosus*
- Snowy egret *Egretta thula*
- Least bittern *Ixobrychus exilis*
- Black-crowned night-heron *Nycticorax nycticorax*
- Cooper's hawk *Accipiter cooperii*
- White-tailed kite *Elanus leucurus*
- Merlin *Falco columbarius*
- Peregrine falcon *F. peregrinus*
- Western yellow-billed cuckoo *Coccyzus americanus occidentalis*
- Southwestern willow flycatcher *Empidonax traillii eximius*
- Brown-crested flycatcher *Myiarchus tyrannulus*
- Loggerhead shrike *Lanius ludovicianus* (incl. *mearnsi*)
- Least bell's vireo *Vireo bellii pusillus*
- California horned lark *Eremophila alpestris actia*
- Yellow warbler *Dendroica petechia*
- Yellow-breasted chat *Icteria virens*
- Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*

Grasshopper sparrow *Ammodramus savannarum*
Bell's sage sparrow *Amphispiza belli belli*
Black-chinned sparrow *Spizella atrogularis*
Summer tanager *Piranga rubra*
Kern red-winged blackbird *Agelaius phoeniceus aciculatus*
Tricolored blackbird *Agelaius tricolor*
Yellow-headed blackbird *Xanthocephalus xanthocephalus*

OTHER WILDLIFE

Coast horned lizard *Phrynosoma coronatum*
Orange-throated whiptail *Aspidoscelis hyperythra*
Coastal western whiptail *Aspidoscelis tigris stejnegeri*
Ringneck snake *Diadophis punctatus*
Northern red-diamond rattlesnake *Crotalus ruber ruber*
San Diego black-tailed jackrabbit *Lepus californicus bennettii*

PLANTS

Southern California black walnut *Juglans californicus*
Hubby's Phacelia *Phacelia cicutaria* var. *hubbyi*
Catalina mariposa-lily *Calochortus catalinae*
Slender mariposa-lily *Calochortus clavatus*
Plummer's mariposa-lily *Calochortus plummerae*
Humboldt lily *Lilium humboldti*

Expert Witness/Declaration

Expert witness deposition regarding the ecological function of eucalyptus trees in the Malibu/Santa Monica Mountains area, Sidley vs. Thurman (settled out-of-court Oct. 2008).

Declaration in support of plaintiffs' motion for summary judgment in NEPA case involving stream-filling, Wishtoyo Foundation/Ventura Coastkeeper et al. vs. Francis J. Harvey, Secretary of the Army et al. and Pardee Homes. U.S. District Court, Central Coast of California (Nov. 2007).

Teaching

University of California, Los Angeles. *Instructor, UCLA Extension School.* Developed courses on conservation biology and bird monitoring, 2001 - 2003.

University of California, Riverside. *Graduate Teaching Assistant.* Geomorphology, Natural Disasters, and Astronomy, 1998-1999.

Boards/Committees

Griffith Park Postfire Recovery Team. Wildlife Team Leader, 2007-2008
California Department of Water Resources. Salton Sea Restoration
Advisory Committee, 2003-2005

California Partners-in-Flight. Executive Steering Committee, 2003-2005
Los Angeles and San Gabriel Rivers and Mountains Conservancy. Tech.
Advisory Board, 2002- 2005

Central Valley Habitat Joint Venture. Executive Steering Committee,
2001-2003

Friends of the Los Angeles River. Technical Advisory Board, 1989-2001

Professional Societies/Affiliations

Western Field Ornithologists
Neotropical Bird Club
Southern California Academy of Sciences
Southern California Botanists

Awards

Semifinalist honor, Interactive Media. International Science & Engineering Visualization Challenge (National Science Foundation/*Science*), for the website "Griffith Park Wildlife Management Plan", online at: www.griffithparkwildlife.org 2008.

Certificate of Appreciation, "In recognition of outstanding citizenship and activities enhancing community betterment" (City of Los Angeles), for service to the Griffith Park Postfire Recovery Team, 2008.

Audubon "ACE" Award, Debs Park Audubon Center planning team (National Audubon Society), 2001.

Education Project Award - University of California, Riverside (American Planning Association, Inland Empire Section), for the website "Understanding the Plants and Animals of the Western Riverside County Multiple Species Habitat Conservation Plan", online at www.ecoregion.ucr.edu, 2001.

Winner, Great Texas Birding Classic ("Team Wildbird", sponsored by Wildbird magazine), 1999.

Chronology

1995 - 1996 Research Associate, Kern River Research Center
1997 - 1999 Graduate Research Associate, Univ. of California, Riverside
1999 - 2001 Biologist, National Audubon Society
2001 - 2005 Dir. of Bird Conservation (California), National Audubon Soc.
2005 - 2006 Manager, Kingston Wildlife Research Station
2005 - President, Cooper Ecological Monitoring, Inc.

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Los Angeles, CA 90036
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Email: dan@cooperecological.com
Website: www.cooperecological.com

Publications

Books

Cooper, D.S. 2004. Important Bird Areas of California. Audubon California, Pasadena. 286 pp.

Book sections

Cooper, D.S. 2007. "Playa del Rey/Ballona Freshwater Marsh", p. 336, *In: A Birder's Guide to Southern California*, Schram, B., American Birding Association, Colorado Springs, CO.

----- 2005. "Ernest E. Debs Regional Park & Audubon Center", pp. 16-17, *In: Birding Guide to the Greater Pasadena Area*, Pasadena Audubon Soc., Pasadena, CA.

Peer-reviewed papers

Mathewson, P., S. Spehar and D.S. Cooper. 2008. A preliminary large mammal survey of Griffith Park, Los Angeles, California. *Bull. So. Calif. Acad. Sci.* 107:57-67.

Cooper, D.S. 2008. The use of historical data in the restoration of the avifauna of the Ballona Wetlands, Los Angeles County, California. *Natural Areas Journal* 28:83-90.

----- 2006. Annotated checklist of extirpated, reestablished, and newly-colonized avian taxa of the Ballona Valley, Los Angeles County, California. *Bull. So. Calif. Acad. Sci.* 105:91-112.

----- 2006. Shorebird use of a novel habitat: the lower Los Angeles River channel. *Western Birds* 37:1-6.

Cooper, D.S., R. Carmona, and R.A. Erickson. 2004. State of the Region: Baja California Peninsula. *North American Birds* 58:605-606.

Cooper, D.S. 2003. New distributional and ecological information on birds in southwestern Guatemala. *Cotinga* 19:61-64.

----- 2002. Geographical associations of breeding bird distribution in an urban open space. *Biological Conservation* 104:205-210.

----- 2000. Breeding landbirds of a highly-threatened open space: The Puente-Chino Hills, California. *Western Birds* 31:213-234.

----- 1999. Notes on the birds of Isla Popa, western Bocas del Toro, Panama. *Cotinga* 11:23-26.

Cooper, D.S. and C.M. Francis. 1998. Nest predation in a lowland Malaysian rainforest. *Biological Conservation* 85:199-202.

Cooper, D.S. 1998. Birds of the Rio Negro Jaguar Preserve, Colonia Libertad, Costa Rica. *Cotinga* 8:17-22.

Rowe, S.P. and D.S. Cooper. 1997. Confirmed nesting of Lazuli Bunting with Indigo Bunting in Kern County, California. *Western Birds* 28:225-227.

Cooper, D.S. and D. Perlman. 1997. Conservation of biodiversity on California military bases: Implications of base closures. *Fremontia* 25:3-8.

Book reviews

Cooper, D.S. 2004. Review of *Birds of the Salton Sea: Status, biogeography and ecology*, by M.A. Patten, G.M. McCaskie and P. Unitt. University of California Press. *Western Birds* 35:114-117.

Professional reports

Ballona Wetlands

Cooper, D.S. 2008. Quarterly bird survey, Fall 2008. Playa Vista Riparian Corridor, Los Angeles, California. Prepared for E Read and Associates, Orange, California, Oct. 27, 2008.

----- 2008 Breeding bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for E Read and Associates, Orange, California, July 2, 2008.

- 2008. 2007-08 Winter bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for E Read and Associates, Orange, California, Jan. 12, 2007.
- 2007. 2007 Fall bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for E Read and Associates, Orange, California, Oct. 8, 2007.
- 2007. 2007 Breeding bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for the Center for Natural Lands Management, Fallbrook, California, July 13, 2007.
- 2007. Chapter 6: Birds of the BOLD Project Site. In: J.H. Dorsey and S. Bergquist (Eds.), "A baseline survey of the Ballona Outdoor Learning & Discovery (BOLD) Area, Ballona Wetlands, Los Angeles County, California". Report submitted to The California Coastal Conservancy and Santa Monica Bay Restoration Commission by the Ballona Wetlands Foundation, April, 2007.
- 2007. 2006-07 Winter bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for the Center for Natural Lands Management, Fallbrook, California, Jan. 20, 2007.
- 2006. 2006 Fall bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for the Center for Natural Lands Management, Fallbrook, California, Oct. 23, 2006.
- 2006. 2006 Breeding bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for the Center for Natural Lands Management, Fallbrook, California, July 14, 2006.
- 2006. 2005-06 Winter bird survey. Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for the Center for Natural Lands Management, Fallbrook, California, Jan. 7, 2006.
- 2005. 2005 Fall bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for the Center for Natural Lands Management, Fallbrook, California, Nov. 8, 2005.
- 2005. 2005 Breeding bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for the Center for Natural Lands Management, Fallbrook, California, July 11, 2005.
- 2005. 2004-05 Winter bird survey. Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for the Center for Natural Lands Management, Fallbrook, California, Feb. 8, 2005.
- 2005. Checklist of birds of Ballona Valley, Los Angeles County, California (Online). Available: http://www.cooperecological.com/ballona_field_checklist_v.htm.
- 2004. 2004 Fall bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for the Center for Natural Lands Management, Fallbrook, California, Nov. 2, 2004.
- 2004. 2004 Breeding bird survey, Ballona Freshwater Marsh at Playa Vista, Playa del Rey, California. Prepared for the Center for Natural Lands Management, Fallbrook, California, July 25, 2004.
- 2004. Ballona Wetlands Training Manual, Audubon Ballona Wetlands Program. 54 pp.

Misc. Los Angeles area

- Cooper, D.S. 2008. Ecological assessment of open space remnants in northeastern Los Angeles. Prepared for Mountains Recreation and Conservation Authority (MRCA), Los Angeles, Calif. Nov. 15, 2008.
- 2008. Summer bird survey for San Gabriel River Discovery Center. Prepared for Los Angeles and San Gabriel Rivers and Mountains Conservancy (RMC), Azusa, Calif. Nov. 7, 2008.
- 2008. Habitat Assessment for Whittier Narrows Natural Area (eastern portion). Prepared for Los Angeles and San Gabriel Rivers and Mountains Conservancy (RMC), Azusa, Calif. Nov. 7, 2008.
- 2008. Biota report for La Habra Heights reservoir relocation project, La Habra Heights, Los Angeles Co., California. Prepared for Civiltec Engineering, Inc., Monrovia, California. Oct. 3, 2008.
- Forde, A.M. and E. Read, with D.S. Cooper, D. Crawford, I.P. Swift and R. Francis, Jr. 2008. Biological Assessment, Vista Canyon Ranch, Los Angeles Co., California. Prepared for Vista Canyon Ranch, LLC (Valencia, Calif.) and The River Project (Studio City, Calif.), August 27, 2008.

- Cooper, D.S. 2008. Protocol survey for California Gnatcatcher *Poliioptila californica* at "Terraces at Hidden Hills" in Calabasas, Los Angeles County, California. Prepared for Impact Sciences, Camarillo, California. June 12, 2008.
- 2008. Protocol survey for California Gnatcatcher *Poliioptila californica* at "KRLA site" near Walnut/Covina, Los Angeles County, California. Prepared for Impact Sciences, Camarillo, California. June 12, 2008.
- 2008. Initial Biological Assessment: Mission Creek. Prepared for Los Angeles Conservation Corps. March 31, 2008.
- Hamilton, R.A., D.S. Cooper, W.R. Ferren and C.P. Sandoval. 2008. Biological Resources Assessment, 30732 Pacific Coast Hwy., Malibu, California. Prepared for Malibu Bay Company, Feb. 19, 2008.
- Cooper, D.S. 2007. Protocol survey for California Gnatcatcher *Poliioptila californica* at Hidden Hills Golf Club, Norco (Riverside County, California), Spring 2007. Prepared for Impact Sciences, Camarillo, California. July 19, 2007.
- 2007. Protocol survey for California Gnatcatcher *Poliioptila californica* at the "pit", a former quarry site adjacent to Claremont College (Los Angeles/San Bernardino counties), Spring 2007. Prepared for Impact Sciences, Camarillo, California. June 22, 2007.
- 2006. Birds of Malibu Lagoon: Final Report, 2006. Prepared for the Resource Conservation District of the Santa Monica Mountains, Topanga, California, August 8, 2006.
- 2005. Breeding bird survey, Nicholas Creek mouth, Malibu, California. Prepared for the Wishtoyo Foundation, Oxnard, California, June 10, 2005.
- 2005. Debs Park Teacher-Naturalist Training Manual, Audubon Center at Debs Park, 45 pp.
- 2004. Rapid Biological Assessment of Elephant Hill (Los Angeles/South Pasadena, CA). May 25, 2004.
- 1999. Debs Park Habitat Management Plan. Audubon Center at Debs Park, 24 pp.
- Scott, T.A. and D.S. Cooper. 1999. Summary of avian resources of the Puente-Chino Hills Corridor. January, 1999. Available (Online): <http://www.hillsforeveryone.org/>
- Cooper, D.S., C. D'Agosta, K. Garrett, L. Dwyer-Hade, V. Jigour, A. Thomas, K. Bullard, S. Manion, T. Alsobrook, M. Campbell, A. Dove. 1998. Environmental review of vegetation removal in Los Angeles County rivers and streams. Mountains Recreation and Conservation Authority/EPA Region IX, San Francisco.

Latin America

- Cooper, D.S. 2007. Ecological assessment of five coffee farms in north-central Nicaragua. Prepared for Rogers Family Companies, Apr. 28, 2007.
- 2006. Ecological assessment of seven coffee farms in the Soconusco region of Chiapas, Mexico. Prepared for Rogers Family Companies, Dec. 1, 2006.

Popular articles

- Los Angeles County Sensitive Bird Species Working Group (incl. Daniel S. Cooper). 2008. Los Angeles County's Sensitive Bird Species. *Western Tanager* (newsletter of Los Angeles Audubon Society) 75:E1-E11.
- Cooper, D.S. 2007. Wildlife response to the Griffith Park fire. *Water Wise* (newsletter of the Los Angeles and San Gabriel Rivers Watershed Council) 11(1):10-11. Fall 2007.
- 2005. A duck club in L.A.?: The near-death and slow recovery of the Ballona Wetlands. *California Waterfowl*. June/July 2005.
- 2005. Birding the Ballona Wetlands. *Winging It* (newsletter of American Birding Association). 17(2):1-4.
- 2000. Rediscovering the lower Arroyo Seco. *Western Tanager* 67:1-3.
- 2000. ("Off the beaten path") The Huntington Library. *Western Tanager* 66:6-7.
- 1999. From the front lines: a birding tour leader offers his perspective. *Wildbird*. October, 1999.

Conference Presentations

- Cooper, D.S. Cactus Wrens of the Puente-Chino Hills: 1998 - 2008 (presentation). *Coastal Cactus Wren Symposium*. April 1, 2008. Irvine Ranch Water District, Irvine, CA.
- Rethinking "Shade-grown" (presentation, in Spanish). *Annual meeting of Rogers Family Company coffee suppliers* (c. 50 growers from throughout Latin America). August 2, 2007. Selva Negra Lodge, Matagalpa, Nicaragua.
- Wildlife of Griffith Park (presentation). *Los Angeles and San Gabriel Rivers Watershed Council Symposium*. June 20, 2007. The Autry National Center in Griffith Park, Los Angeles, CA.
- Avian extirpation and colonization at the Ballona Wetlands, Los Angeles County, California (presentation). *Southern California Academy of Sciences Annual Meeting*, May 20-21, 2005, Loyola Marymount University, Los Angeles, CA.
- Important Bird Areas of California (presentation). *California All-Bird Conservation Workshop*. November 15-16, 2004, Sacramento, CA.
- Cooper, D.S. and E. Galicia (co-moderators). Community participation, birding trails and birding festivals – tools for IBA outreach and implementation. *Important Bird Areas Conference*, August 14, 2004. Sierra Vista, AZ.
- Cooper, D.S. An exploration of the importance of the Salton Sea and associated ecosystems to birds (presentation). *California Water Dialogue*, Sept. 16, 2003. San Diego, CA.
- Fall migration of shorebirds along the lower Los Angeles River (poster). *27th Annual Meeting of the Western Field Ornithologists*. October 10-13, 2002. Irvine, CA.
- The use of riparian bird species as indicators of restoration success in the Los Angeles area (presentation). *Southern California Academy of Sciences Annual Meeting*, May 19-20, 2000, University of Southern California, Los Angeles, CA.
- Cooper, D. and T. Scott. Patterns of breeding bird distribution in a large urban open space reserve (presentation). *4th International Urban Wildlife Conservation Symposium*. May 1-5, 1999. University of Arizona. Tucson, AZ.
- Wehtje, W. and D.S. Cooper. Range expansion in the Great-tailed Grackle (poster). *North American Ornithological Conference*. April 6-12, 1998. St. Louis, MO.
- Cooper, D.S. Southern California's camouflaged national parks: military reservations (presentation). *Nature's Workshop: Environmental Change in 20th Century Southern California*. Sept. 18-20, 1997. California State University, Northridge, CA.

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RECENT EMPLOYMENT & EXPERIENCE

- 2002-present **President**, *InnoVeyda-BioVeyda Consulting, Torrance, CA., USA*
Performing projects, and providing advice, regarding taxonomy, biodiversity assessments, research, project management, and data processing. Most recently completed project: Family-level Invertebrate Inventory of the Santa Monica Mountains Recreation Area, for the National Park Service. Pending project: Invertebrate Survey of the Madrona Marsh Preserve in Torrance, California, for the City of Torrance and the Friends of Madrona Marsh.
- 2002-present **Docent and Photographer**, *Friends of Madrona Marsh, Torrance, CA., USA*
Researching and photo-documenting the biodiversity at the Madrona Marsh Preserve. Educating youth on ecosystems, as well as on environmental issues in general. Planning, coordinating, and leading educational tours of one of the last remaining vernal marsh eco-systems in L.A. County.
- 2000-present **Docent**, *Children's Nature Institute, Los Angeles, CA., USA*
Introducing inner city and at-risk children to nature by leading hands-on educational field trips in the Santa Monica Mountains National Recreation Area and other natural areas in L.A. County.
- 2003-2006 **Vice-President of the Board of Directors**, *Friends of Madrona Marsh, Torrance, CA., USA*
Organizing and presiding board meetings, planning and coordination of restoration efforts, and curriculum and policy development and implementation.
- 2002 **Visiting Professor**, *Computer Science Department, Lamar University, Beaumont, TX., USA*
Taught graduate courses in Pattern Recognition, Image Processing, and Machine Learning.
- 1998-2001 **Director**, *Advanced Signal and Image Processing, IOS, Torrance, CA., USA*
Scientific research, as well as team and project management.

EDUCATION

- 1991 Ph.D. degree in Computer Science
minor in Mathematics, *University of Alabama in Huntsville, Huntsville, AL, USA*
- 1986 M.Sc. and B.Sc. equivalents in Information Science
minor in Biology with focus on Zoology and Ecology, *University of Amsterdam, The Netherlands*

SUPPLEMENTAL EDUCATION

- Environmental Restoration, *California State University, Dominguez Hills and El Camino College, Fall 2003*
- Environmental Interpretation, *California State University, Dominguez Hills and El Camino Coll., Spring 2004*
- Wilderness Training Course, *The Los Angeles Chapter of the Sierra Club, Winter 2006*

OTHER PROFESSIONAL ACTIVITIES

- Performed thousands of taxonomic identifications, predominantly of Southern Californian invertebrates
- Taught *Entomology*, as part of the Pasadena City College course: *Zoology*, Pasadena, 2007
- Taught *Insects & other Invertebrates and their Habitats*, for the California State University, Dominguez Hills and El Camino College joint course on Environmental Restoration, September 2007
- Invited speaker and lecturer for scientific panels and short courses
- Reviewed and edited publications in a range of scientific disciplines
- Author of more than sixty scientific publications and two pending patents

LANGUAGE SKILLS

English, Dutch, German, basic French, and a dash of Hindi

DISCIPLINE/SPECIALTY

- Ichthyology
- Fishery Biology
- Estuarine Biology

EDUCATION

- Ph.D., Department of Biology, Florida State University, Tallahassee, 1970
- M.A., Department of Zoology, University of Michigan, Ann Arbor, 1965
- A.B., Department of Zoology, University of California, Berkeley, 1963

TRAINING/CERTIFICATIONS

- California Department of Fish and Game-Resident Scientific Collecting Permit No. 801056-01 with Memoranda of Understanding covering federally listed tidewater goby, Santa Ana sucker, unarmored threespine stickleback, southern steelhead & incidental take of redlegged frog and Species of special concern arroyo chub and speckled dace.
- USFWS U. S. Fish and Wildlife Service Scientific Collecting Permit (10A) No. TE793644-5 for tidewater goby, Santa Ana sucker and unarmored three-spined stickleback
- NOAA Fisheries project specific southern steelhead handling permit

SUMMARY OF QUALIFICATIONS

Dr. Swift is one of the leading authorities on the biology, management, and conservation of the fresh and brackish water fishes of coastal southern California. He served on the Recovery Teams for the unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) and tidewater goby (*Eucyclogobius newberryi*), both federally endangered species, and was an author for the recovery plans for both fish. He currently serves on the Technical Recovery Teams for tidewater goby (U. S. Fish and Wildlife Service) and southern steelhead (National Marine Fisheries Service). Dr. Swift is a member of the Desert Fishes Council.

With over 30 years of experience working in the field, Dr. Swift is one of the most knowledgeable persons in the state on the status and distribution of freshwater fishes of coastal southern California. He has a strong understanding of their biology, requirements for recovery, and habitat restoration needs to improve their conservation status. He has worked with a wide variety of public and private agencies to conserve these species and advise on habitat restoration for their benefit.

Dr. Swift also has major expeditionary experience in the fresh and estuarine waters of the southeastern United States, marine shore fishes of Pacific coastal Mexico and Costa Rica (including Cocos Island), the Indus River Delta, Pakistan, and Amazonian Peru. He has done extensive fieldwork, led field crews, conducted literature searches, and written several comprehensive reports and peer reviewed publications. He serves as an expert witness in fishery conservation issues. He also has considerable experience in identification and analysis of archaeological and fossil fish bones from the southeastern United States, southern California, and coastal Pakistan.

RELEVANT EXPERIENCE

RESEARCH EXPERTISE

Dr. Swift is a recognized expert in the biology, conservation, and paleontology of freshwater and estuarine fishes in coastal southern California, including the federally endangered brackish water species, the tidewater goby, *Eucyclogobius newberryi*, the migratory (anadromous) and federally listed steelhead (*Oncorhynchus mykiss*), and the federally threatened Santa Ana sucker (*Catostomus santaanae*). Of approximately eight species of freshwater fishes native to the Los Angeles Basin, the Santa Ana sucker, Santa Ana speckled dace (*Rhinichthys csculus ssp.*), and arroyo chub (*Gila orcutti*) are endemic in this region and have been highly impacted by man. The severe alteration of freshwater and estuarine habitat in much of California has led to most of the freshwater and brackish water species having special conservation status.

Estuarine Fishes of Ballona Marsh, Los Angeles County, California

Dr. Swift is coauthor of “Estuarine Fish Communities of Ballona Marsh [Los Angeles County]”, In: Ralph Schrieber, Ed., Biota of the Ballona Region, Los Angeles County. Suppl. No. 1, Marina del Rey/Ballona Local Coastal Plan, Los Angeles Co. Dept. Regional Planning. This one year study sampled fishes monthly at 13 stations in the marsh and provided the most comprehensive study of the fish communities of the marsh to date. It continues to be followed to monitor changes to the fish community. Currently Dr. Swift serves on the Scientific Advisory Committee for the Ballona Marsh Restoration.

Study of Santa Ana Sucker Biology on the Middle Santa Ana River, Riverside, California

As part of the Santa Ana Sucker Conservation program on the Santa Ana River, Dr. Swift participated in a long-term study to assess the population size and distribution of Santa Ana Suckers in the Santa Ana River near the city of Riverside, California. The program was administered by the multi agency Santa Ana Water Projects Authority (SAWPA) in Riverside. Survey protocols included annual summer surveys employing electrofishing using three pass depletion transects at locations in the mainstem Santa Ana River near the city of Riverside. Santa Ana suckers were measured, weighed, and tagged with PIT tags if over about 80 mm standard length. Dr. Swift holds federal permits for capture, handling and PIT tagging of the suckers. In addition to the mainstem river sites, electrofishing efforts were conducted at sites in the mainstem and tributaries of the river to detect tagged suckers. Dr. Swift participated in the program from 1999-2003, which formed the beginning of a long term annual survey of population size, movements and distribution of the Santa Ana sucker in the river.

U.S. Geological Survey, National Water-Quality Assessment Program, Santa Ana River, California

Dr. Swift participated in the USGS NAWQA program, a nationwide river monitoring and quality assessment designed to assess the status and trends in the quality of freshwater streams and aquifers, and to provide a sound understanding of the natural and human factors that affect the quality of these resources. The program included a three year survey of Santa Ana suckers on the Santa Ana River. Survey protocols required electrofishing of a total of one kilometer of river in 100-meter increments at two localities on the Santa Ana River. The goal of this assessment was to characterize, in a nationally consistent manner, the broad-scale geographic and seasonal variations of water-quality related to major contaminant sources and background conditions.

California Department of Fish and Game Native Fish Surveys, San Gabriel River, California

The California Department of Fish and Game periodically assesses the status of wild trout, Santa Ana sucker, speckled dace, and arroyo chubs in the San Gabriel River system. Dr. Swift participated in four of these sampling efforts in the early 1990s. Survey protocols included electrofishing with three pass depletion of 100 meter transects in the West Fork of the San Gabriel River and its tributary Bear Creek. Fish were identified, measured and released back to the stream.

Restoration of the Santa Maria River Estuary, Santa Barbara County, California

Dr. Swift prepared a historical analysis of coastal estuaries, habitat change, and restoration options for the estuary at the mouth of the Santa Maria River, Santa Barbara County, California for California Department of Fish and Game Oil Response Team, for its contribution to the Trustees of Guadalupe Site, through Hagler-Bailly Inc., Boulder, Co. Fieldwork. In addition, Swift collaborated with ENTRIX biologists in surveying the estuary for tidewater gobies and preparing a report on their current status at the site.

Big Tujunga Mitigation and Restoration, Sunland, California

On behalf of the Los Angeles County Department of Public works, Dr. Camm Swift, with Dan Holland, designed and implemented the exotic removal program at Big Tujunga Wash from 2000 to 2004. Work included extensive trapping for crayfish, gill netting and snorkeling for bass, removal of bullfrog egg masses, and monitoring of the three native fish species in Haines Creek. Dr. Swift was instrumental in making recommendations with respect to the refinement of methods, equipment needs and sampling design and strategy. Effectiveness monitoring of the eradication efforts included periodic surveys of the native fishes in the streams at randomly selected transects along the 1.7 km of stream in the mitigation area.

Expert Witness Testimony Big Tujunga Wash, California

In support of the California Department of Fish and Game's Community Arbitration with Foothill Golf and Development in California State Superior Court, Los Angeles, Dr. Swift provided extensive and detailed information on the biology of Southern California Coastal Minnow and Santa Ana Sucker to support the Department's position of the extreme importance of the wash habitat for the continued existence of the native fishes and other native species in this surviving remnant fish community consisting of the Santa Ana sucker (federally threatened) and Santa Ana speckled dace and arroyo chub, both California species of special concern.

Exotic Predators on Tidewater Gobies on Marine Corps Base Camp Pendleton

Dr. Swift, working with Mr. Holland, used their extensive experience on the Base to prepare a management plan for exotic fishes and other species on Marine Corps Base Camp Pendleton. Many of these prey on tidewater

gobies and this plan included methods for removal of exotics and for prevention or minimizing their impact on native aquatic species. Since 1998, Dr. Swift has led teams of biologists to implement the exotic species removal plan at San Mateo Lagoon on the Base.

San Juan Creek Native Fish Survey – La Novia Bridge, San Juan Capistrano, California

Dr. Swift provided biological support and pre-construction monitoring for a project involving widening of the La Novia Street Bridge over San Juan Creek. The project included field surveys and monitoring, developing best management practices for fish avoidance and developing mitigation measures for post-construction planning. Species of concern included migrating southern steelhead, unarmored three-spine stickleback and arroyo chub.

Tidewater Gobies on Vandenberg Air Force Base

Cooperative Agreement between National Biological Service (now part of USGS) and Loyola Marymount University for study of the biology of the federally endangered tidewater goby on Vandenberg Air Force Base, Santa Barbara County. Included three to four paid undergraduate research assistants at Loyola Marymount University. This contract extended for two years and comprehensively studied the biology and distribution of the tidewater gobies at five sites on Vandenberg Air Force Base. A comprehensive report detailed many aspects of needs for restoration of habitats on the Base.

Bixby Ranch Steelhead, Tidewater Goby and California Red-Legged Frog Baseline Habitat Assessment, Santa Barbara, California

Dr. Swift conducted a baseline biological assessment of the Bixby Ranch in Santa Barbara, California. The focus of this assessment was to assess aquatic habitat conditions as it pertains to steelhead, tidewater goby, California red-legged frog, and southwestern pond turtle. Terrestrial habitat was also assessed but was limited by access constraints. New populations of tidewater gobies were discovered during this assessment.

Tidewater Gobies on Marine Corps Base Camp Pendleton

Dr. Swift, working with Mr. Dan Holland, did multiple surveys from 1991 to 2000 for the tidewater gobies and other members of the estuarine fish community at seven estuaries and lagoons on Marine Corps Base Camp Pendleton, coastal southern California. They provided the first descriptions of the estuarine fish communities for several of these sites and provided recommendations for maintenance and improvement of habitat for the species on the Base. With Dan Holland, Camp Pendleton Amphibian and Reptile Survey, Fallbrook, California for Marine Corps Base Camp Pendleton

SURVEYS OF FRESHWATER FISHES OF SOUTHERN CALIFORNIA

Dr. Swift has extensive experience surveying, researching and studying freshwater species of special concern. A representative sample of these surveys includes:

- Advised a Six Agency committee of southern California water and power purveyors, including Metropolitan Water District of Southern California] on the quality and rationale for U.S. Fish and Wildlife Service Critical Habitat designations for endangered big river fishes of the Colorado River, southwestern United States. Responsibilities included expert testimony, literature research and report writing.
- Supervised crews of three to six graduate students surveying the estuarine and freshwaters of southern California for fishes for four months and prepared report for the California Department of Fish and Game on the status and distribution of these fishes, at Natural History Museum of Los Angeles County.
- Evaluated the status of the native freshwater fishes of southern California, including the status of the estuarine tidewater goby, *Eucyclogobius newberryi*, with recommendations for preserves to maintain their existence. California Department of Fish and Game Contract FG-7455, one year. Compiled data bases on fish records collaborating with Peter Moyle, U. C. Davis, to incorporate data into the California Department of Fish and Game's Natural Heritage Data Base, at Natural History Museum of Los Angeles County.
- Participated in a Cooperative Agreement between National Biological Service (now part of USGS) and Loyola Marymount University for study of the biology of the federally endangered tidewater goby on Vandenberg Air Force Base, Santa Barbara County. Included three to four paid undergraduate research assistants at Loyola Marymount University.

- Analyzed bottom samples from Delta Mendota Canal, central California, for invertebrate densities of the Asiatic clam, *Corbicula fluminea*, as a research assistant Zoology Department, University of California, Berkeley.
- Identified freshwater and coastal fish habitats to determine Significant Ecological Areas for Regional Planning Department, Los Angeles County, via contract to Natural History Museum of Los Angeles County.
- Co-author, U.S. Fish and Wildlife Service Recovery Plan for Endangered Unarmored Threespine Stickleback, as member of Unarmored Threespine Stickleback Endangered Species Recovery Team.
- Author, Estuarine Fish Communities of Ballona Marsh [Los Angeles County], In: Ralph Schrieber, Ed., Biota of the Ballona Region, Los Angeles County. Suppl. No. 1, Marina del Rey/Ballona Local Coastal Plan, Los Angeles Co. Dept. Regional Planning.
- Served on an expert panel, habitat suitability criteria and curves for three native cyprinoid fishes (state species of special concern) of the Santa Ana River, southern Calif., EA Engineering and Technology (Lafayette, California) for Southern California Edison Company.
- Surveyed for freshwater fishes of the Los Angeles River. Field work and report writing, as part of contract from the California Department of Fish and Game to the Natural History Museum of Los Angeles County, to assess the fauna and flora of the river.
- Monitored populations of native federally endangered fish species during streambed alterations in the Santa Clara River, southern. Performed both field work and report writing.
- Surveyed for the proposed endangered fish, the tidewater goby, in coastal estuaries of Camp Pendleton Marine Base, southern California. Performed both field work and report preparation.
- Surveyed for the federally endangered tidewater goby in the estuarine Shuman Lagoon, Vandenberg Air Force Base, Santa Barbara County, California for U.S. Fish and Wildlife Service, Ventura Field Office,
- Analyzed diet of the endangered bird, the least tern, with Patricia Baird, Department of Biology, California State University, Long Beach. Under U.S. Navy contract (to P. Baird) at Long Beach, with three undergraduate research participants at Loyola Marymount University.
- Prepared draft recovery plan for tidewater goby as a member of the Tidewater Goby Technical Recovery Team, with U. S. Fish and Wildlife Service, Ecological Services, Ventura California.
- Prepared historical analysis of coastal estuaries, habitat change, and restoration options for the estuary at the mouth of the Santa Maria River, Santa Barbara County, California for California Department of Fish and Game Oil Response Team, for its contribution to the Trustees of Guadalupe Site. Performed field work, research and report writing in collaboration with ENTRIX, Inc., retained by UNOCAL Corporation.
- Surveyed for the endangered fish species, the tidewater goby on Marine Corps Base Camp Pendleton, coastal southern California, and provide recommendations for maintenance and improvement of habitat for the species on the Base. With Dan Holland, Camp Pendleton Amphibian and Reptile Survey, Fallbrook, California for Marine Corps Base Camp Pendleton.
- Prepared management plan for exotic fishes on Marine Corps Base Camp Pendleton, including methods for removal of exotics and for prevention or minimizing their impact on native aquatic species. With Dan Holland (Principal Investigator), Camp Pendleton Amphibian and Reptile Survey, Fallbrook, California.
- Surveyed for native and introduced freshwater fishes in the middle Santa Ana River in the Prado Dam vicinity with special reference to Santa Ana sucker and arroyo chub. For U. S. Army Corps of Engineers, Los Angeles California.
- Surveyed, downstream trapping, and analysis of habitat quality for the three endangered fishes (southern steelhead, tidewater goby, and unarmored threespine stickleback) in San Antonio Creek, Santa Barbara County for Vandenberg Air Force Base.

- Surveyed, downstream trapping, and food habit studies of Santa Ana suckers in the Santa Ana River to document movements into diversions and impact of exotic species on suckers. Phase II for Santa Ana Water Project Authority, Riverside, California.
- Expert witness on Southern California Minnow/sucker community for California Department of Fish and Game in their arbitration with Foothill Golf and Development, State Superior Court, Los Angeles, No. 99-0600-DW (This fish community consists of Santa Ana sucker, Santa Ana speckled dace, and arroyo chub).
- Prepared preliminary assessment of impacts of shore dredging on the fisheries of Big Bear Lake, for Big Bear Municipal Water District.
- Surveyed and estimate population sizes of endangered unarmored threespine stickleback and tidewater goby, and analyze steelhead habitat on several drainages on Vandenberg Air Force.
- Monitored population of tidewater goby in San Luis Obispo Creek Lagoon in relation to Avila Beach clean up site. For Unocal through Essex Environmental, San Luis Obispo.
- Surveyed for tidewater gobies in Santa Clara River Lagoon, Ventura County. For City of Ventura California.
- Surveyed for populations of sensitive native freshwater fish in the Santa Ana River near Colton and Loma Linda, California.
- Surveyed for populations of native fishes in the Santa Ana River in the vicinity of the Interstate 210 crossing, for Cal Trans, California.
- Monitored for Santa Ana suckers and assess effects of bridge maintenance, sand mining, and alternative bridge design on this fish. For Riverside County Transportation Department.
- Surveyed for the federally endangered tidewater goby in lower San Luis Rey River, California. with Camp Pendleton Amphibian and Reptile Survey, Fallbrook, California.
- Surveyed and monitored for the federally endangered tidewater goby in San Mateo Lagoon, Camp Pendleton Marine Corps Base with recommendations for restoration and recovery..
- Interaction of native and exotic freshwater fishes during El Nino disturbance in the Santa Margarita River, southern California. With USGS Laboratory, San Diego State University with partial support of the Nature Conservancy.
- Determined possible effects on steelhead of UNOCAL remediation of soil contamination in the vicinity of the lower Santa Maria River.
- Reviewed and assessed mitigation features for Seven Oaks Dam on the Santa Ana River in relation to populations of Santa Ana sucker downstream. For the U. S. Army Corps of Engineers.
- Review and assess mitigation plans and Biological Assessments for tidewater goby and steelhead in relation to Lower Mission Flood Control Project of U. S. Army Corps of Engineers. For City of Santa Barbara, California.
- Survey for fishes and assess possible impacts of the construction of a pipeline crossing over Dominguez Channel in Wilmington.
- Directed surveys for Santa Ana speckled dace in lower Fremont, Blackstar, and Silverado canyons, Orange County.
- Survey for native freshwater fishes and advise on mitigation for quarry operations at the mouth of Fish Canyon, near Azusa, California.
- Implement eradication plan for exotic fishes in Los Angeles County Public Works mitigation area of lower Big Tujunga Canyon-Haines Creek area. With Camp Pendleton Amphibian and Reptile Survey, Fallbrook, California, for Los Angeles County Department of Public Works.
- Identify freshwater fossil fish remains from a variety of late Pleistocene freshwater sites in Riverside County.

- Monitor, rescue, and transfer federally threatened Santa Ana suckers from diversion of Santa Ana River, Orange County. For U. S. Corps of Engineers
- Provide assessment of impacts of changes in water flow from San Bernardino Infiltration and Extraction Wastewater Treatment Facility (RIX) on populations of Santa Ana sucker. For City of San Bernardino.
- Survey for native fishes in relation to highway crossing of streams at Temecula Creek, San Diego County and Chino Creek, San Bernardino County for CalTrans.
- Provide assessment of impacts and mitigation possibilities for native sensitive fish species in lower San Juan Capistrano Creek, Orange County and lower San Mateo Creek, northern San Diego County for various alternatives of the proposed new highways. For Foothill/Eastern Transportation Corridor Agency.
- Provide expertise and fieldwork to study steelhead in Topanga Creek including snorkel surveys, habitat assessment, and up and downstream migrant trapping. With Resource Conservation District of the Santa Monica Mountains, Topanga, California.
- Prepare draft Recovery Plan for combined South Central Coast Steelhead (federally threatened) and South Coast Steelhead (federally endangered) as member of NOAA Technical Recovery Team for Southern Steelhead.

PROFESSIONAL AFFILIATIONS AND HONORS

Dr Swift has held various elected and appointive positions in the California-Nevada Chapter of the American Fisheries Society, Southern California Academy of Sciences, and American Society of Ichthyologists and Herpetologists. Secretary, Vice-president, and President of the Academy; elected President-elect, and proceeded to President, and past President of California Nevada Chapter, 1997-1999. Served on host committees for Los Angeles meetings of the American Society of Ichthyologists and Herpetologists (twice), Society of Vertebrate Paleontology, California-Nevada Chapter of the AFS, and the Southern California Academy of Sciences (three times).

Dr. Swift served as a member of the Unarmored Threespine Stickleback Endangered Species Recovery Team (1972-1995). He currently serves on the Technical Recovery Team for the Tidewater Goby (2003-present), both for U.S. Fish and Wildlife Service, and is a member of the Southern Steelhead Technical Recovery Team (2003-present) for the National Marine Fisheries Service.

Dr. Swift was elected Fellow of the Southern California Academy of Sciences in 1991 and named Emeritus Associate Curator of Fishes, Natural History Museum of Los Angeles County in 1993. He received the Award of Excellence from California Nevada Chapter of the American Fisheries Society in 1997.

Dr. Swift is an active member in numerous professional associations including: American Fisheries Society, including California Nevada Chapter, Estuarine Research Foundation, American Society of Ichthyologists and Herpetologists, Desert Fishes Council, Southeastern Fishes Council, Society of Vertebrate Paleontology, Sigma Xi (Loyola Marymount University Chapter), American Association for the Advancement of Science, Southern California Academy of Sciences, Society for Conservation Biology, Society of Systematic Biology, Biological Society of Washington, Japanese Ichthyological Society, Western Field Ornithologists, and California Native Plant Society

EMPLOYMENT HISTORY

- ENTRIX, Inc., Senior Project Scientist, Ventura, California, September, 2003 - present
- Emeritus Associate Curator, Natural History Museum of Los Angeles County, January, 1993 - present
- Part-time instructor, Mount San Antonio College, 1993 - 1994
- Visiting Assistant Professor of Biology, Loyola Marymount University, Los Angeles, 1994 - 1998
- Part-time instructor, East Los Angeles, Rio Hondo, and Valley colleges, 1993-1994, 1998 - 1999

- Associate Curator of Fishes, Natural History Museum of Los Angeles County; and Adjunct Assistant Professor of Biology, University of Southern California, 1970 - 1993

PUBLICATIONS

PUBLICATIONS: 1993-PRESENT

- Swift, T. H. Haglund, M. Ruiz, and R. Fisher, 1993. Status and distribution of the freshwater fishes of southern California. *Bulletin Southern California Academy of Science*, 92(3):101-168.
- Swift, C.C., 1996, Chapter 30, Distribution and migration, Pp. 595-630, (excluding literature cited in single collection at end of book). In: Carl Bond, *Biology of Fishes*, (textbook) Second Edition, Harcourt, Brace, and Co., Philadelphia.
- Lafferty, K., R. Swenson, and C. C. Swift, 1996, Tidewater Goby; Endangered Species Profile, *Environmental Biology of Fishes*, 46:254.
- Swift, C.C., 1998. The fish fauna of Ballona Marsh, an urban estuary on the western Los Angeles Basin, p. 1427 (Abst), In: Orville T. Magoon, et al. Eds, *California and the World Ocean '97*, 2 vols. American Society Civil Engineers, Reston, VA
- K. Lafferty, C. C. Swift and R. Ambrose. 1999. Postflood persistence and recolonization of endangered tidewater goby populations, *North American Journal of Fisheries Management*, 19(2):618-622.
- K. Lafferty, C. C. Swift and R. Ambrose, 1999, Extirpation and recolonization in a metapopulation of an endangered fish, the tidewater goby, *Conservation Biology*, 13(6):1447-1453.
- Swift, K. Hieb, and R. Swenson, 2002, Family Gobiidae, pp. 7-9. IN: William S. Leet, Christopher M. Dewees, Richard Klingbeil, and Eric J. Larson (editors), *California's Living Marine Resources: A status report*. The Errata. California Department of Fish and Game, Sacramento, California (December, 2001) (www.dfg.ca.gov/mrd) [The larger work appeared in hard copy in earliest 2002 minus this Gobies article later added to an electronic Errata on the web site for inclusion in the Section on Bay and Estuarine Finfish Resources]
- M. N. Dawson, K. D. Louie, M. Barlow, D. K. Jacobs, and C. C. Swift, 2002, Comparative phylogeography of sympatric sister species, *Clevelandia ios* And *Eucyclogobius newberryi* (Teleostei, Gobiidae), across the California Transition Zone, *Molecular Ecology*, 11, 1065-1075.
- Swift and D. C. Holland, 2002, "Exotic Fish Species and Their Impacts On Small Coastal Lagoons In Southern California," (Abst.) *Bulletin Southern California Academy of Science*, 101(2), Supplement, p. 32
- Swift, C.C., 2002. Interaction between native fish, habitat, and exotic fish species in the middle Santa Ana River, Southern California, (Abst.) *Bulletin Southern California Academy of Science*, 101(2), Supplement, p. 32.
- Swift, C.C., 2006, Chapter 29. Distribution, Pp. 601-638. IN: Michael Barton, *Bond's Biology of Fishes*, 3rd Edition, Thompson Brooks/Cole, Belmont, California.
- Feeney, R. and C. C. Swift. 2008. Description and ecology of larvae and juveniles of three native cypriniforms of coastal southern California. *Ichthyological Research*, 55(1):65-77.
- Buth, D. G., J. Sim, and C. C. Swift. 2008. 64. Genetic confirmation of hybridization between *Catostomus fumeiventris* and *Catostomus santaanae* (Cypriniformes: Catostomidae) in the Santa Clara drainage. *Bulletin of the Southern California Academy of Sciences*, 107(2):121-122. (Abstract)
- Swift, C. C., S. L. Drill, and L. McAdams. 2008. Section 1. Study overview, native species, and value of non-native fishes in the Los Angeles River. pp. 2-22. IN: Shelly Backlar, Lewis McAdams, Ramona Marks, Alicia Katano, and Jonathan Brooks (Editors). *State of the River 2 The Fish Study*. Friends of the Los Angeles River (FOLAR), Los Angeles, CA

- C. C. Swift and S. Howard. 2009. Status of Pacific lamprey, *Entosphenus tridentata*, south of Pt. Conception. IN: Symposium Volume. Lampreys of the Pacific Coast of North America. American Fisheries Society, Bethesda, MD (In Press)
- Thompson, A. R., J. N. Baskin, C. C. Swift, and T. R. Haglund. 2009. Influence of Substrate Dynamics on the Distribution and Abundance of the Federally Threatened Santa Ana Sucker, *Catostomus santaanae*, in the Santa Ana River. MS Submitted to journal Environmental Biology of Fishes, March, 2009.
- Earl, D. A., K. D. Louie, C. Bardeleben, C. C. Swift, and D. K. Jacobs. 2009. Rangewide microsatellite survey and phylogeography of the endangered Tidewater Goby, *Eucyclogobius newberryi* (Teleostei: Gobiionellidae), a genetically subdivided coastal fish. Molecular Ecology and Evolution, (MS Submitted, June, 2009).
- Swift, C. C., L. T. Findley, R. Ellingson, and D. K. Jacobs. 2009. The Delta Mudsucker, *Gillichthys detrusus*, a valid species (Teleostei: Gobiidae) from the Colorado River Delta, northernmost Gulf of California. MS submitted to Copeia, July, 2009).
- Drill, S. L. and C. Swift. 2009. Fishes and fishing in the Los Angeles River. Bulletin of the Southern California Academy of Sciences, 108(2):90-91 (Abst.)
- Chabot, C., D. Buth, C. Swift, J. Sim, T. Dowling, and L. Allen. 2009. Introgression of mitochondrial DNA between *Catostomus fumeiventris* and *Catostomus santaanae* (Cypriniformes: Catostomidae) in the Santa Clara drainage. Bulletin of the Southern California Academy of Sciences, 105(2):105. (Abst.)

PRESENTATIONS: (1999 TO PRESENT)

- The disappearing fishes of southern California. In: Swimming Upstream: Restoring California's rivers and streams for salmon, steelhead and other species. Educational Workshop sponsored by the Sierra Club and California Trout, 12 June 1999, Los Angeles Zoo, Los Angeles, California
- Biodiversity and conservation of the freshwater fishes of southern California. (with Jonathan Baskin) In: Planning for Biodiversity: Bringing research and management together. A symposium sponsored by the USDA Forest Service and USGS Western Ecological Research Center. California State Polytechnic University, Pomona, 29 February-2 March 2000.
- Dramatic effects of rainfall on species distributions in the Santa Margarita River. (with Manna Warburton [presenter] and Robert N. Fisher), California-Nevada Chapter, American Fisheries Society, 34th Annual Meeting, Ventura, California 31 March-1 April 2000.
- Freshwater fishes of the Los Angeles River, southern California. (with Jeffrey Seigel and Dan Holland), and Fish population fluctuations 1997-2000 in small lagoons on Marine Corps Base Camp Pendleton. (with Dan Holland), Annual Meeting, Southern California Academy of Sciences, University of Southern California, Los Angeles, California 19-20 May 2000.
- El Nino effects on the native and exotic fish populations of the Santa Margarita River southern California. (with Robert N. Fisher [presenter] and Manna Warburton). Society for Conservation Biology Annual Meeting, Hilo Hawaii, 29 July-Aug. 1, 2001.
- El Nino effects on estuarine fish populations associated with the southernmost populations of tidewater goby, 1990-2001 (with Dan Holland), and The federally threatened Santa Ana sucker in the Santa Ana River- Distribution, habitat, and exotic predators. Ann. Meeting, California Nevada Chapter American Fisheries Society, Tahoe City, California April 19-20, 2002
- Exotic fish species and their impacts on small coastal lagoons in southern California (with Dan Holland, presenter), and Interaction between native fish, habitat, and exotic fish species in the middle Santa Ana River, southern California. Annual Meeting, Southern California Academy of Sciences, Claremont, California June 7-8, 2002.

- Fish populations of small coastal lagoons in southern California. California Estuarine Research Society, Inaugural Meeting, Hubbs Sea World Research Institute, San Diego, California, April 14, 2003
- Status of and prognosis for the freshwater fishes of coastal southern California. Swift [presenter], Jonathan N. Baskin, Robert Fisher, and Thomas Haglund; Status, Habitat, and restoration of southern Steelhead in Topanga Creek and State Park, just south of Malibu Creek. Rosi Dagit [presenter] and Swift; Visual Display of stream habitat survey profiles using GIS: An example from Topanga Creek, coastal Southern California. Kevin Reagan [presenter], Rosi Dagit, and Swift; and a Poster: Genetic structure in the staghorn sculpin from Alaska to southern California. Kristina D. Louie [presenter], K. P. Kloepfli, D. K. Jacobs, and Swift. Western Division/Cal-Neva Chapter of American Fisheries Society, Joint Annual Meeting, San Diego, April 14-17, 2003. In addition Swift organized two days of symposia on the freshwater fish, amphibian, and aquatic reptile fauna of coastal southern California.
- Organized one day Symposium on Tidewater Gobies for California Nevada Chapter of the American Fisheries Society Meeting, San Luis Obispo, March 30, 2006. Chaired session and presented “Annual and seasonal variations in fish populations of San Mateo Lagoon, San Diego County, California” with Dan Holland, Melissa Booker, Brian Lohstroh, and Eric Bailey.
- Status and distribution of freshwater fishes of coastal southern California. In symposium on Aquatic Vertebrates of Southern California. Southern California Academy of Sciences Meeting, Pepperdine University, Malibu, 13,14 May 2006.
- Expanding distributions of invasive fishes in coastal southern California estuaries and freshwaters. Presentation at the California Nevada Chapter of the American Fisheries Society Meeting, Lake Tahoe, Nevada, April 2008.
- Chabot, C., D. Buth, C. Swift, J. Sim, T. Dowling, and L. Allen. 2009. Introgression of mitochondrial DNA between *Catostomus fumeiventris* and *Catostomus santaanae* (Cypriniformes: Catostomidae) in the Santa Clara drainage. Poster 41, Southern California Academy of Sciences Meetings, Marymount College, Rancho Palos Verdes, CA, May 29, 2009.
- Drill, S. L. and C. C. Swift. 2009. Fishes and fishing in the Los Angeles River. Presentation by Drill, Southern California Academy of Sciences Meetings, Marymount College, Rancho Palos Verdes, CA, May 30, 2009.