



November 3, 2022

RE: Mayers Flat Farm NSO Assessment for APN 211-372-006

Cliff Johnson
Senior Planner

3015 "H" St.
Eureka, CA 95501

Dear Cliff,

Vanessa Valare requested that I prepare a Disturbance and Habitat Modification Assessment evaluating potential take of northern spotted owls (NSOs) (*Strix occidentalis caurina*) resulting from proposed cannabis cultivation associated with Mayers Flat Farm, on APN 211-372-006. A qualifying "Spotted Owl Expert" (SOE) under the Forest Practice Rules (FPRs), involved with northern California forest-wildlife issues since 1990, in addition to thirty-four years of experience conducting protocol level NSO surveys, my resume also shows extensive knowledge of environmental regulations and policy.

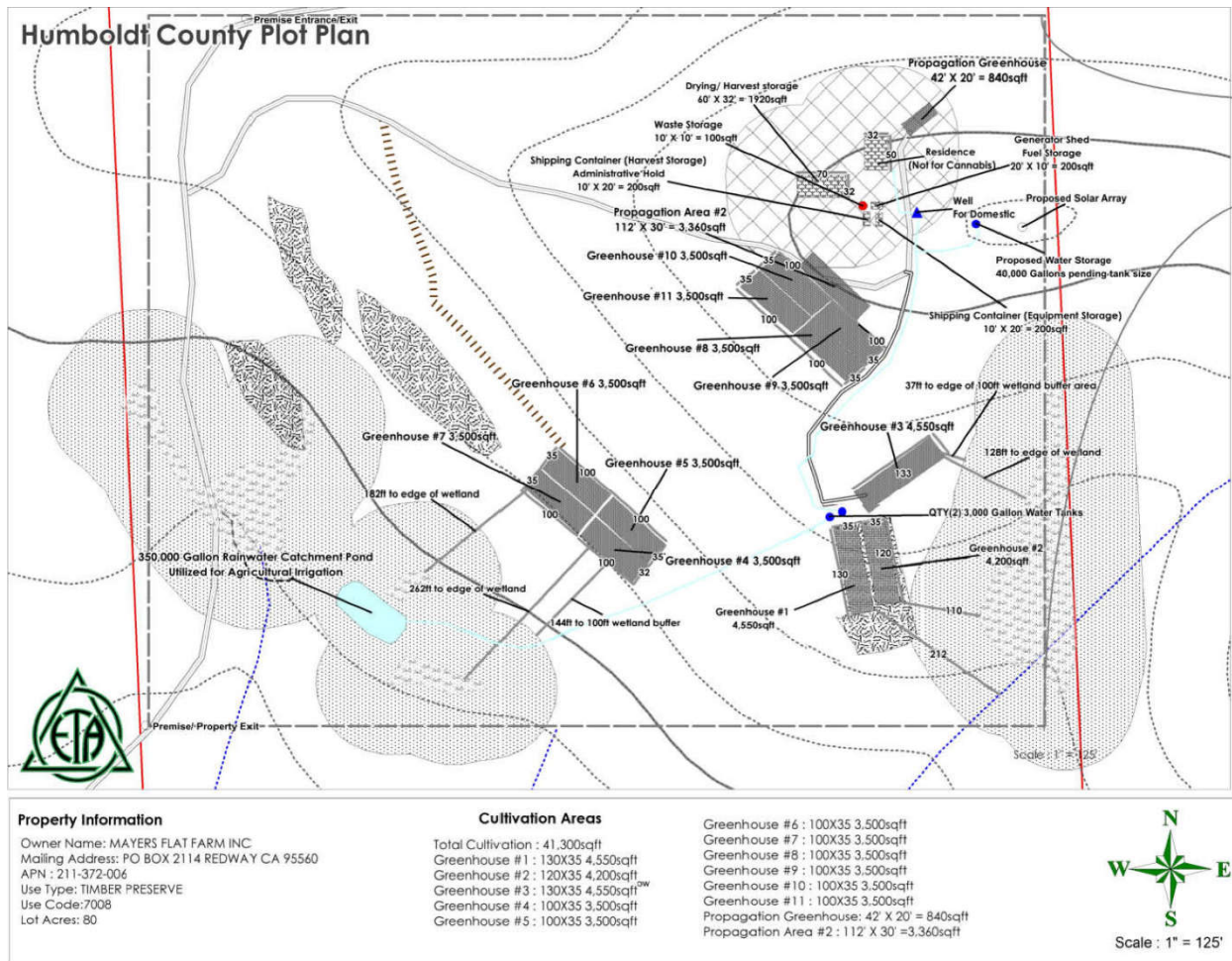
As such, potential adverse impacts to NSOs resulting from proposed project activities under Humboldt County's Commercial Cannabis Land Use Ordinance (CCLUO) have been analyzed on the basis of survey information and environmental baseline conditions. Outlining the statutory framework behind a determination of jeopardy in accordance to Federal and California law, this report relies revised U.S Fish and Wildlife Service (USFWS) guidelines for NSO disturbance, and considers special protection measures for cannabis cultivation unique to Humboldt County.

Project Area and Environmental Setting

This project involves proposed cannabis cultivation totaling 41,300 square feet (sq.ft.), on a parcel assessed as 80 acres in southern Humboldt County, Section 25, Township 2 South, Range 3 East, Humboldt Base Meridian. About two and a half miles northeast of the town of Miranda, at an elevation between 1,600 and 1,700 feet, in addition to the construction of twelve greenhouses, Mayer Flat Farm plot plan (Figure 1) shows adjacent plant nurseries and support structures.

Preliminary review of aerial photography obtained from the National Agriculture Images Program (NAIP) indicates that this project is located in a large natural clearing that is not NSO habitat. Visiting the project site on March 2, according to the California Wildlife Relationship System (Mayer and Laudenslayer 1988) I would classify it as Annual Grassland. Seasonally, there will be a small cultivation crew; however, the adjoining single-family residence is not associated with this project.

Figure 1: Mayers Flat Farms Proposed Plot Plan



Initially believed to be old growth dependent, spotted owls were later found to be common in younger forest types of northern California (USDA 1994). Although there is potential NSO habitat elsewhere on this parcel, the mid-seral Douglas-fir stands encroaching on this natural mountain meadow have been logged several times, and appears to lack the necessary structural attributes recommended by USFWS for NSO Activity Center.

Defined as an established nesting or roosting site, Attachment B: Take Avoidance Analysis-Interior describes [four functional habitat types](#); Low Quality Foraging, Foraging, Nesting-Roosting, and High-Quality Nesting-Roosting. Establishing [minimum habitat retention guidelines](#) for core-areas; in guidance provided to the California Department of Forestry and Fire Protection (Cal-Fire), the Service emphasizes the importance of considering habitat in terms of its spatial extent, and proximity to the other habitat types:

“Because forest stands used by NSO are naturally variable structurally, management based on stand average values is unlikely to adequately describe suitable habitat at a scale that is meaningful to NSO...the habitat definitions provided below are intended for application at the scale of roughly 20 acres.” (USFWS 2019)

Rather than habitat destruction, competition from the closely related, exotic and invasive barred owl (*Strix varia*) is now regarded as the largest threat to the California NSO population (USFWS 2011). In the last twenty years, I estimate that Humboldt County may have lost as many as half of its NSOs to encroaching barred owls. However, the scientific community has never considered small-scale rural development and agriculture a threat worth addressing.

Regulatory Setting

Proposition 64 (the California Marijuana Legalization Initiative) gives Lead Agencies the right to make their own cannabis rules. However, commercial cannabis growers applying for an Annual License from the California Department of Food and Agriculture must also address potential adverse environmental effect in accordance to the California Environmental Quality Act (CEQA). As such, this report was prepared pursuant to statute (Public Resources Code Section 21000 and following), the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 and following), and published court decisions interpreting CEQA. As incorporated in the CCLUO, NSO protection measures unique to Humboldt County have also been considered.

Whereas CEQA does not directly regulate land use, it provides a blueprint for determining the significance of environmental impacts. Focused on present plant or animal communities threatened by local elimination, in jeopardy of experiencing substantial habitat reduction, or dropping below self-sustaining levels as a result of proposed project [§15065(a)(1)], it requires state and local agencies to follow a protocol of analysis and public disclosure. Most importantly, before empowering lead agency to authorize additional mitigations or alternatives, CEQA requires that a decision-making body provide substantial evidence of significant environmental effects [§15126.4 (a)(3)].

“Argument, speculation, unsubstantiated opinion or narrative, or evidence that is clearly inaccurate or erroneous, or evidence that is not credible, shall not constitute substantial evidence” [§21080(e)(2)].”

Furthermore, CEQA requires that environmental documentation be presented in a manner that is meaningful and useful to decision making body and the public [§21003(b)]. Only comments and recommendations that are within an agency’s area of expertise [§15096 (d)] are to be considered. To the best extent possible, such arguments should contain an element of Forecasting (§15144), as well as a degree of Specificity (§15146) and Technical Detail (§15147).

Given that the USFWS has provided Technical Assistance to the California Department of Forestry and Fire Protection (Cal Fire) regarding “*harm and harassment*” of NSOs since 1990, statewide measures protecting this federally listed species from logging are reasonably the most appropriate standard for analyzing impacts of cannabis cultivation in Humboldt County.

As such, potential impacts to NSOs resulting from proposed cannabis cultivation have been assessed according to **Revised Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California (USFWS 2020)**. Functionally equivalent to CEQA, as per 14 CCR §1104.1a of the Z’berg-Nejedly Forest Practice Act (Public Resources Code Section 4551 et seq.).

Also known as the Forest Practice Rules (FPRs), the thresholds of significance incorporated in the timber harvest planning process explicitly limit consideration of take to sites with a reasonable expectation of occupancy. According to the USFWS, disturbance from human activities may reach the level of significance, only when resident NSOs experience at least one of the following conditions:

- *Project-generated sound exceeds ambient nesting conditions by 20-25 decibels (dB)*
- *Project-generated sound, when added to existing ambient conditions, exceeds 90 dB*
- *Human activities occur within a visual line-of-sight distance of 330 feet or less from a nest.*

Survey Methodology

Located in a natural clearing, this project does not involve NSO habitat removal. As such, I have adopted the less rigorous method established by USFWS survey protocol for disturbance-only projects that focuses on the likelihood of owls occupying the area within a ¼ mile:

“Where there is existing NSO habitat prior to harvesting and that habitat will continue to function equally after harvest (no downgrade), surveys only need to cover harvested areas, and areas out to a distance of 0.25 miles (assuming any NSO nesting within 0.25 miles of the harvest area will be detected and protected, and any NSO using the area for foraging will continue to be able to do so).” (USFWS 2019)

The California Natural Diversity Data Base (CNDDDB) show that this ownership has a long history of NSO surveying, including a long-term demographic study on the adjacent National Forest. However, despite being frequently surveyed because of logging, it appears NSOs have not been detected at this locality since 1989. As such, evaluating NSO habitat suitability of this site, I conducted a day-time survey of the area within ¼ miles of proposed cannabis cultivation on April 30 of 2022. The same abridged approach accepted by the USFWS for take avoidance of small forest clearing under three-acre exemptions, as per 14 CCR §1104.1a of the FPRs.

Survey Results and Discussion

In accordance to the CNDDDB, there have been responses from up to six different NSO Territories within 1.3 miles of this project; HUM0765, HUM0777, HUM0785, HUM0803, HUM0935, and HUM0939. However, evaluated against abovementioned revised USFWS guidelines, the only relevant owls are HUM0785 and HUM0935. And as shown in Figure 2., they have never been recorded within a ¼ mile of this project.

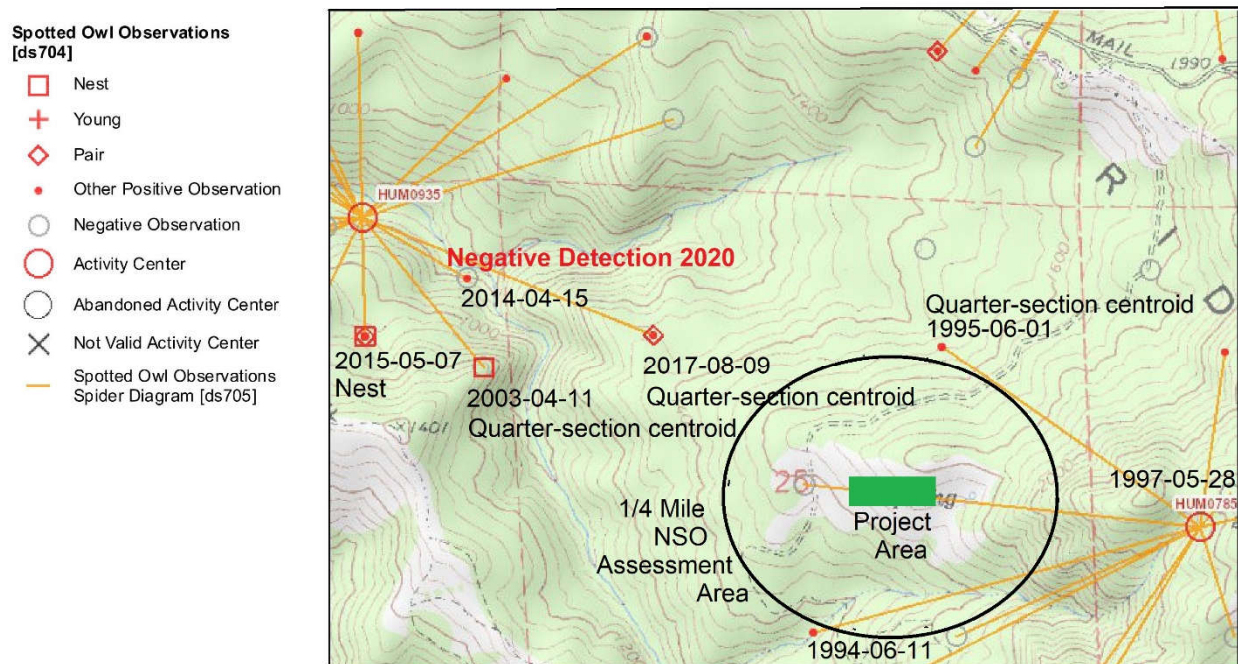
About a half mile to the east, HUM0785, the closest NSOs were last detected as a nesting pair in 1997. As shown below, earlier night-detections just outside the assessment area are from 1994 and 1995. However, numerous surveys since then have not detected owls in this locality, but night detections a mile to the northwest in 2019 can reasonably be attributed to HUM0935, located about 0.5 miles to the west in 2016 and 2017.

Unfortunately, the CNDDDB is notorious for erring on the side of caution, and in my experience this database overestimates NSO populations by a factor of three or four. Indeed, recorded on a quarter-section centroid basis, the abovementioned single night detections should be regarded as anecdotal, and do not represent actual locations. According to CNDDDB’s own disclaimer:

“The data represented on this site vary in currentness, accuracy, scale, completeness, and extent of coverage, and have been contributed from various sources. We highly recommend reviewing available metadata prior to interpreting these data.”

Ultimately, avoiding take of a federally protected species is a lead agency responsibility. But given the complexity and serious implications to timberland owners, Cal Fire has enacted minimum qualifying standards for determining NSO occupancy. As per 14 CCR §895.1, biologists involved in the NSO THP process must demonstrate at least five years’ surveying experience. As such, considering this ownership’s long survey history, and that owls have never been detected within ¼ miles of the action area, it can reasonably be determined that proposed cannabis cultivation will not impair NSOs behavioral patterns as prohibited in 14 CCR §919.10.

Figure 2. Mayers Flat Farm CNDDDB NSO Metadata



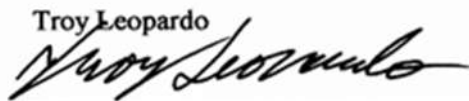
Conclusion and Recommendations

Although there are historical NSO detections within 1.3 miles of this project site, located in a large natural opening, this locality was not classified as habitat due to the absence of trees. Reviewing the site, and the areas adjacent, I have concluded that no spotted owl nesting, roosting, or foraging habitat will be removed as a result of this project.

Consistent with federal guidelines handed down to California timberland owners for the clearing of three acres or less; however, concerned that unnecessary NSO surveying for cannabis cultivation may result in incidental take of owls nesting far outside the projects nominal disturbance footprint, I do not recommend night calling. Interfering with ongoing NSO inventory efforts by neighboring timberland owners; needlessly broadcasting NSO vocalizations in this manner could potentially exasperate harmful competition from barred owls, qualifying as harassment under the ESA.

In conclusion, the CCLUO prohibits any form of NSO habitat removal, and given measures to mitigate noise disturbance and light pollution, this proposed cannabis cultivation is unlikely to impact any existing NSO that may be located on adjacent parcels, or within 1.3 miles of proposed new cultivation in existing grassland areas. As such, in addition to making sure greenhouses are covered with tarps to avoid light pollution in adherence to Dark Sky Association guidelines, the permittee should also self-monitor noise levels, to assure that operations are kept below the 50 decibel (dB) threshold for NSO disturbance at 100 feet.

Sincerely,

Troy Leopardo


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Attachments: 1. Troy Leopardo Resume

Sources and Literature Cited

California Department of Fish and Wildlife. 2022. Natural Diversity Data Base Spotted Owl Data Viewer. April 22, 2022 Report.

Mayer, K.E and William F. Laudenslayer (1988). A Guide to Wildlife Habitats of California. California Dep. Of Forestry and Fire Protection, Pacific Southwest Forest and Range Experiment Station (Berkeley, Calif.).

U.S. Department of Agriculture. 1994. Final supplemental environmental impact statement on management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl. USDA Forest Service, Portland, Oregon, and USDI Bureau of Land Management, Portland, Oregon.

U.S. Fish and Wildlife Service. 2011. Revised Recovery Plan for the Northern Spotted Owl (*Strix occidentalis caurina*). U.S. Fish and Wildlife Service. Portland, Oregon. Xvi+258pp.

U.S. Fish and Wildlife Service. 2020. Revised Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California.

U.S. Fish and Wildlife Service. 2019 Northern Spotted Owl Take Avoidance Analysis and Guidance for Private lands in California Attachment B: Take Avoidance Analysis-Interior

U.S. Fish and Wildlife Service. 2012 Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls. Endorsed by the U.S. Fish and Wildlife Service February 2, 2011 Revised January 9, 2012

RESUME**Troy Leopardo****WILDLIFE BIOLOGIST**

McKinleyville, California 95519

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A northern California private consulting biologist with thirty years of experience, Troy has particular expertise with design and implementation of surveys for threatened and endangered species, as well as environmental regulations, policy and law

EDUCATION

Bachelor of Science in Wildlife Management from Humboldt State University, with a Range Management emphasis and upper division courses in Waterfowl and Wildlife Diseases (1988)

PROFESSIONAL EXPERIENCE

Leopardo Wildlife Associates (LWA), McKinleyville, California (Since 1997)

Senior biologist and owner of small consulting firm providing biological services for private and public landowners throughout northern California. Focused on biological field investigations and analysis pursuant to the California Environmental Quality Act (CEQA) and Forest Practice Regulations (FPRs), I conduct surveys for State and federally listed species. Predominantly northern spotted owls, but also seasonally appropriate surveys for migratory nesting birds, as well as sensitive amphibians and mammals. Other duties include Environmental Monitoring and Storm Water Pollution Prevention Planning (SWPPP). Supervising as many as 10 biologists and technicians on a project-to-project basis, prominent **clients include:**

- **Soper Company:** Consulting biologist responsible for company holdings in Northwestern California. Provide scientific review and legal analysis in support of Timber Harvest Plans (THPs) in accordance with CEQA and the FPRs. Implement wildlife surveys, evaluate and map habitat, assess biological impacts, and design mitigations for federally endangered species such as the northern spotted owl (NSO) and California Red-legged Frog (1998 to 2020)
- **Barnum Lumber Company:** Supervised NSO surveys on 25,000-acre ownership in Humboldt Mendocino Counties; designed and implemented surveys for other sensitive and protected species such as Bald Eagle and Northern Goshawk. Conduct scientific review and legal analysis in support of THPs. Designed forest habitat classification system for company GIS (1997 to present)
- **Green Diamond Resource Company:** contract NSO surveys on 15,800-acre tract (2019-2022)
- **Timberland Resources Consultants:** Prepared CEQA documentation for commercial cannabis projects according to Humboldt County Commercial Cannabis Land Use Ordinance (2019- 2022)
- **Sequoia Ecological Consulting:** Planned and implemented surveys for Northern Goshawk, California Spotted Owl, and Great Gray Owl as sub-contractor for Pacific Gas & Electric (PG&E) at Lyons Reservoir, Sand Bar Dam, and Philadelphia Weir (2012 to 2014), Migratory Bird Treaty Act (MBTA) surveys and environmental monitoring for gas line replacement and vegetation removal (2016 and 2018)
- **Humboldt County Public Works:** Biological Assessment (BA) for the Honeydew Bridge Replacement Project, McKay Community Forest NSO Monitoring, and MBTA Surveys for County road construction (2013 - 2016)
- **Hambro Forest Products:** Prepared BA for contested THP involving sensitive vegetation communities and special status species in the California Coastal Zone (2017)
- **Redwood National and State Park:** Awarded Marbled Murrelet and NSO survey contract in Redwood National Park; successfully implemented and administrated field surveys in the Lost Man Creek study area involving 2,500 acres located near Orick, California (2006 and 2007)
- **Gualala Redwoods, Inc.:** Carried out THP related wildlife surveys and documentation associated with this 28,000-acre timber company located in coastal Mendocino and Sonoma Counties; implemented field investigations for spotted owl and marbled murrelet. Conducted agency consultation according to CESA and ESA (1999 to 2006)

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PROFESSIONAL EXPERIENCE, LWA Clients...Continued

• **MHA Environmental Consulting, Inc.:** Environmental consultant for PG&E as a MHA sub-contractor; planned and implemented pre-construction surveys for sensitive wildlife, designed mitigation measures and directed environmental monitoring for the Fairhaven-Arcata Tower Replacement Project involving the airlifting of equipment into sensitive beach dune habitat containing Endangered Plants on the Samoa Peninsula in Humboldt County. Acting SWPPP Project Leader and Hazardous Materials and Water Pollution Control Manager for the Humboldt-Arcata 60 kV Reconstruction Project (2003 to 2006)

Natural Resources Management Corporation (NRM)**(1990 – 1997)**

NRM lead biologist, and instrumental in establishing environmental consulting branch of this northern California forestry-consulting firm. Directed a staff of natural resource professionals; trained and supervised up to 12 seasonal employees in a wide variety of environmental tasks, emphasizing surveys for threatened and endangered species. Conducted aerial photograph interpretation and habitat mapping; performed National Environmental Policy Act (NEPA) documentation, as well as ESA and CEQA analysis. Developed a method of assessing biological impacts and cumulative effects for THPs that later became industry standard. Successfully planned and implemented the completed the following projects:

- Biological Analysis (BA) and Wildlife portion of Environmental Assessment for the Robinson project; conducted field investigations for this 500-acre USFS Timber Sale on Plumas NF
- Designed Old-Growth Habitat Model for Pacific Lumber Company's MSHCP
- Directed biological surveys and documentation according to the California THP process; analyzed biological impacts, designed mitigations, and mapped habitats for over 40 THPs
- Private Consulting Biologist (PCB) authorized by the California Department of Fish and Game to issue "No Take" determinations for NSOs; analyzed over 50 THPs for potential owl impacts in accordance with CEQA and ESA
- Conducted surveys and prepared consultations for state and federally listed wildlife species, such as the Marbled Murrelet, the Bald Eagle, the Peregrine Falcon, and the California Red-legged Frog
- Planned and implemented field investigations for non-listed species of concern, such as the Northern Goshawk, the Pacific Fisher, Del Norte Salamander, Southern Torrent Salamanders and Northern Red-legged Frogs
- Wrote Biological Resources section for the Humboldt County Dump Siting Study, analyzed potential biological impacts of five proposed dump sites in Humboldt County
- Directed implementation of Marbled Murrelet surveys in Timber Sale areas on the Mad River and Gasquet Ranger Districts in Six Rivers National Forest

Mt. Hood National Forest, Estacata, Oregon**(1990)**

Directed NSO inventory program on the Estacata RD, fought wildfires in eastern Oregon.

Rouge River-Siskiyou National Forest, Gold Beach Oregon**(1988-1990)**

Supervised NSO inventory program on the Gold Beach Ranger District; classified late seral habitat using aerial photo interpretation; planned and implemented habitat improvements for Wild Turkey, Peregrine Falcon and Roosevelt Elk. Participated in fisheries projects, such as stream surveys, construction of in-stream fish habitat structures, salmonid brood stock collection, egg hatch-box maintenance, and spawning surveys.

RELEVANT TRAINING AND WORKSHOPS

CEQA for RPFs: A California Licensed Foresters Association Workshop **(2009)**

Caltrans Certified Storm Water Pollution Prevention Plan (SWPPP) Training **(2007)**

California Department of Fish and Game Forest Amphibian Identification Training **(1994)**

PROFESSIONAL AFFILIATIONS

The Wildlife Society: California North Coast Chapter Programs Committee Chairman (1997-2000)

