



Darin Stringer Forester, Restoration Ecologist

COMPANY PROFILE

EDUCATION

Master of Science: Silviculture/Forest Ecology 1999

Oregon State University

Thesis: *Growth and Yield, Structure and Composition, and Soil Compaction in a Western Oregon Forest Managed with Modified Selection Thinning*

**Associates of Science:
Forest Technology (2012)**

Central Oregon Community College

Bachelor of Science, 1993

University of Oregon Eugene, Oregon

EXPERTISE

Silvicultural Design
Forest and Road Inventory
Resource Mapping
Forest Management Planning
Ecosystem Restoration Design and Implementation
Forest Modeling
FSC Certification Compliance

TECHNOLOGY PROFICIENCY

Survey Grade Trimble GPS
ArcPad Mobile Mapping
ArcGIS Desktop Mapping
Forest Projection System (FPS)
Forest Vegetation System (FVS)
Landscape Management System (LMS)
Stand Visualization System (SVS)
ORGANON
Behave Fire Model
FlamMap Fire Analysis System

CONTACT INFORMATION

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Formed in 2011 by Darin Stringer, Pacific Stewardship LLC provides a broad range of planning and implementation services to clients pursuing conservation-based forestry. Darin has been practicing forestry for 15 years, and reputed as a knowledgeable and thoughtful forester and ecologist, focusing on integrating multiple sciences to achieve ecosystem and financially-based forestry objectives. He has an extensive background directing a range of forestry projects from inventory to silviculture and monitoring with strong skills in personnel supervision, managing budgets, project design and implementation, field operation logistics, field supervision and reporting.

Core company services include: forest and resource inventory and mapping, management & sustainable yield planning, silvicultural design and ecosystem restoration. Pacific Stewardship LLC is based in Bend, Oregon and conducts operations throughout the Western United States. Pacific Stewardship has provided international forestry consulting on large-scale development projects in Peru and Lebanon.

PROFESSIONAL SKILLS

Resource Mapping: Darin has over 15 years experience managing forest resource mapping projects including vegetation, harvest units, hydrologic features, and roads. He uses a range of mapping applications featuring ESRI's ArcGIS and ArcPad for field-based mobile mapping, plot installation and navigation. Experience includes design of custom data collection programs using ArcPad Studio to facilitate efficient and accurate data collection by field crews. His expertise includes use of Trimble's Nomad and Ranger ruggedized handheld computers and associated survey software including Terrasync and Pathfinder Office software for resource-grade GPS survey utilizing custom data dictionaries and post-processing for highly accurate surveying where needed. He is trained in use of consumer grade GPS units for use with ArcPad for more cost-effective and practical mapping.

Forest Inventory: An extensive background with forest inventory and monitoring design, plot installation, analysis and reporting for a range of client needs including:

Timber-based inventory: Systems to support harvest planning, growth/yield, habitat and carbon modeling, and meet requirements of FSC and SFI certified lands. Expertise in stand delineation, typing, sampling methodology, installation, and compilation.

Ecological Monitoring: Protocols for long-term assessment of change in forest ecosystems using both repeat remote imagery and permanently installed plots.

Forest Management Planning: Specialization in forest stewardship planning that integrates wood product and other natural resource values including wildlife and sensitive habitats, water and recreation. Plans developed for a range of clients and objectives and include forest modeling, harvest scheduling, reforestation, habitat restoration and road maintenance.

Silvicultural Design: A diverse background and understanding of regional forest ecosystems and silviculture for conservation-based forestry. Specialization in analysis and design of management and restoration regimes for rare and declining forest types and integration of traditional and new forestry concepts. Darin works closely with agencies, landowners and conservation organizations to integrate wildlife habitat into management regimes.

Forest/Fuels and Fire Modeling: A range of industry and agency growth, yield and compilation software applications including:

1- Forest Projection System (FPS), 2- Forest Vegetation System (FVS), 3- Stand-Level Inventory Program (SLIP), 4- ORGANON, and 5- ASSISI software to support inventory, cruise and management planning projects.

Has performed fire and fuels analysis projects to support management planning and silvicultural prescriptions using BEHAVE, FlamMap and Fuels Management Analyst (FMA) software applications.

Forest Certification Services: Has conducted feasibility studies, assessments and audits on Forest Stewardship Council (FSC) certified and candidate lands throughout the Pacific Northwest.

Forest Appraisals: Background in conducting stumpage appraisals on private and NGO forestland.

Forestry Training: Has provided innovative instruction for over two decades across a range of forestry subjects including inventory systems, silviculture, harvest planning and ecological restoration. This training experience includes both private and public sector international projects in Peru and Lebanon.

EXPERIENCE NARRATIVES

Forest and Road Inventory and Mapping

Fields Spring State Park Forest Inventory, Washington State Parks - 2013

Designed and installed a forest inventory on 830 acres of Washington State Parks land in SE Washington. Services included vegetation delineation and typing, road mapping, inventory design, plot installation and compilation.

Lebanon Reforestation Initiative (LRI) Reforestation Monitoring, USFS International Programs - 2012

Advised and trained LRI staff in the design and implementation of a monitoring program for evaluation of reforestation success on planting sites throughout Lebanon. Training included use of ArcPad field data collection software, Trimble Nomad ruggedized handheld computers, ArcPad Studio, and Trimble resource grade (ProXRT) GPS units, and Omnistar real-time differential positioning technology.

Willamette Confluence Vegetation Inventory and Mapping, The Nature Conservancy - 2011

Designed and completed a vegetation inventory on a 1,200-acre parcel purchased in Lane County, Oregon. Services included vegetation and noxious weed mapping and typing, installation of permanent vegetation inventory plots, compilation of data using the Forest Projection System (FPS), GIS layers, and reporting.

I-90 Properties Forest and Road Inventory and Mapping, Cascade Land Conservancy - 2010

Designed and installed a permanent plot forest inventory on 1,500 acres of forestland in Central Washington. Services included vegetation delineation and typing, road and stream mapping and assessment, inventory design, installation and compilation.

Margerum Vegetation and Road Inventory, Columbia Land Trust - 2010

Designed and installed a permanent plot forest inventory on designed on a 300-acre Klickitat County, Washington parcel in the Columbia Gorge of Washington. Services included vegetation delineation and typing, road and stream mapping and assessment, inventory design, installation and compilation.

Highland Vegetation and Road Inventory, Columbia Land Trust, - 2010

Designed and installed a permanent plot forest inventory on 80-acre property in the Columbia Gorge of Washington. Services included vegetation delineation and typing, road and stream mapping and assessment, inventory design, installation and compilation.

Forest Census Training, Consórcio Forestal Amazonico (CFA) - 2010

Trained census crew in use of ArcPad mobile mapping software and GPS for use with annual pre-harvest inventory on their 180,000 hectare forest concession in Peru.

Swamp Lake Forest and Road Inventory and Mapping, Trust for Public Land - 2009

Designed and installed a permanent plot forest inventory on a 70-acre private ownership in the Central Cascades of Washington.

Oak Basin Timber Cruise, The Nature Conservancy – 2009

Completed a timber cruise and stocking surveys on this 900-acre ownership in Linn County, Oregon.

South Warner Mountains Aspen Assessment and Mapping, Freemont-Winema National Forest - 2008

Designed a survey protocol and trained/supervised a 10-man crew to survey, map and assess 5,000 acres of aspen for NEPA planning and guidance of stewardship contract treatments.

Little White Salmon River Vegetation and Road Inventory and Mapping, US Fish and Wildlife Service - 2008

Designed and installed a permanent plot inventory on 500 acres of Douglas-fir, oak woodland and upland prairie in the Columbia River Gorge in Washington State. Services included mapping and typing existing vegetation. Data was compiled using the Forest Projection System.

Willapa National Wildlife Refuge Forest and Road Inventory and Mapping, The Nature Conservancy - 2005

Designed and installed a forest and road inventory for 7,000 acres of forestland on the Willapa National Wildlife Refuge, in Southwestern Washington. Road inventory was completed using a survey-grade Trimble® XR GPS, custom data dictionary developed with Terrasync™ software and post-processed with Pathfinder® Office software.

Green Mountain Forest Inventory and Mapping, Clark County and City of Vancouver Parks Department - 2005

Designed inventory and mapping of the Green Mountain forest area in Eastern Clark County, Washington.

Ellsworth Creek Preserve Forest and Road Inventory and Mapping, The Nature Conservancy - 2004

Designed and installed forest and road inventory for the 7,000 Ellsworth Creek Preserve in Southwest Washington. A custom vegetation typing system was developed and implemented to guide sustainable harvest and habitat restoration. The forest inventory was designed to be fully integrated with a range of forest models to allow growth and yield, projection of dead wood resources, visualization of stand and landscape effects of thinning, and calculation of optimum harvest schedules.

Klickitat Vegetation Resource Inventory, Columbia Land Trust - 2003

Designed and implemented a forest and fuels inventory on 700 acres of oak woodlands and conifer forests on Columbia Land Trust property in Klickitat County, Washington. Inventory was designed for integration into various fuels analysis applications (Fuels Management Analyst) and fire behavior and effects models including BEHAVE and FARSITE.

Buford Recreation Area Vegetation Inventory and Mapping, Lane County Parks - 2003

Designed and implemented a forest and fuels inventory for the oak woodlands and conifer forests within the Howard Buford Recreation Area (Mt. Pisgah) in Lane County, Oregon. The inventory included assessment of reference era and current vegetation, unique plant communities and noxious weeds and management recommendations.

Stump Springs Fuels Assessment, Dixie National Forest, Escalante Utah - Sub-contractor to David Evans and Associates - 2001

Designed and completed stand exams, fuels assessments and noxious weed surveys within the 20,000 project area.

Young Stand Thinning Study, Vegetation Inventory, Willamette National Forest - 2001

Supervised re-measurement of permanent vegetation research plots on the H.J. Andrews Experimental Forest.

Sun Pass State Forest Stand Level Inventory, Oregon Department of Forestry - 2001

Completed a stand level inventory of the 21,000 acre state-forest, in South-Central Oregon.

Clearwater Forest Inventory, Washington Department of Natural Resources - 2001

Supervised stand level inventory project of Clearwater Forest, on the Northern Olympic Peninsula.

EENW Timber Cruise, Forest Inventory and Road Inventory, Confidential Client - 2001

Completed mapping, grade cruising, regeneration stocking surveys, a stand level inventory and road survey of a 3,000-acre private ownership near Newport, Oregon.

Kosiosko Timber Sale EIS, Tongass N.F, Alaska, Logging Engineering International Inc - 2000
Surveyed and classified creeks for presence of anadromous fish within harvest boundaries.

Timber Cruise, Rocking C Ranch LLC- 2000

Completed a timber cruise for a 7,000 acre private ownership in Douglas County, Oregon. Services included stand mapping, and typing and grade cruising.

Current Vegetation Survey (CVS), Oregon Department of Forestry - 2000

Installed permanent forest inventory plots on state lands in Western Oregon

South Park PUD Vegetation Inventory, South Park Associates - 1999

Completed a natural resource inventory for a residential development in Eugene, Oregon

Timber Appraisals and Financial Analysis

Merzenich Timber Appraisal, The Nature Conservancy - 2010

Completed a timber appraisal on a 900-acre ownership in Linn County, Oregon.

Island Lake Timber Appraisal, Columbia Land Trust - 2004

Completed timberland appraisal on 221-acre parcel in Grays County, Washington.

Compton Timber Appraisal, Compton Family - 2004

Completed timberland appraisal on a 102-acre parcel in Douglas County, Oregon.

EENW Timber Appraisal, Confidential Client, Portland OR - 2001

Completed timberland appraisal on a 3,000-acre parcel in Lincoln County, Oregon.

Timber Appraisal, Rocking C Ranch LLC - 2000

Completed a stumpage appraisal for a 7,000 acre private ownership in Douglas County, Oregon.

King Valley Timber Appraisal, Berg Forest - 2000

Completed timber appraisal on a 120 acre tract in Benton County, Oregon.

Silvicultural Design and Implementation

Mt. St. Helens Stewardship Area Silvicultural Prescriptions, Columbia Land Trust - 2014

Developed and marked silvicultural prescriptions for westside industrial forestland to accelerate habitat development while meeting volume/financial targets.

Stark/Clear Creek & Moore Properties Silvicultural Prescriptions, Metro - 2013-2014

Developed restorative prescriptions focused on accelerating habitat development in young plantations, releasing oak and management of rare and unique westside quaking aspen.

Lebanon Reforestation Initiative (LRI) Reforestation Planning, USFS International Programs - 2012

Currently advising and training LRI staff in the design and implementation of outplanting protocols for a national reforestation program in Lebanon funded by the US Agency for International Development.

Wychus Canyon Preserve Woodland Restoration, Deschutes Land Trust - 2012

Designed and implemented enhancement treatments to restore ponderosa pine/juniper and aspen woodlands, and bunchgrass understory plant communities on this 450-acre property.

Metolius Preserve Section 17 Commercial Thinning, Deschutes Land Trust - 2011

Designed and implemented a 80-acre commercial thinning in second growth ponderosa pine on a private ownership near Camp Sherman, Oregon. Project services included prescription development, tree marking and harvest layout, permitting, log marketing, logging contract supervision and administration. Mosaic thinning, a prescription designed to restore spatial heterogeneity, gaps and snags was implemented. This project was designed to study snag use preferences by white-headed woodpeckers (a focal management species) in partnership with the American Bird Conservancy and University of Oregon.

Deadlog Old Growth Ponderosa Pine Restoration, The Nature Conservancy and Deschutes National Forest - 2010

Developed silvicultural prescriptions and trained USFS marking crews for treatment of old growth ponderosa pine stands within the Dead Log Stewardship Area, on the Deschutes National Forest.

Sogge Thinning and Habitat Enhancement Project, Long Tom Watershed Council - 2010

Managed a commercial thinning project of approximately 50 acres to restore oak woodlands, near Eugene, Oregon. Services included project design, permitting, log marketing, supervision of contract thinning contractors and project administration.

Crazy Johnson Harvest Feasibility Study, Columbia Land Trust - 2009

Examined the feasibility of commercial harvest on the Crazy Johnson ownership, which contains some of the most productive Chum salmon spawning habitat in Washington State. Silvicultural prescriptions and a harvest design for mature red alder was developed in this area to protect highly sensitive riparian habitat and steep, erosive, unstable slopes. The design involved small patch cut openings, road decommissioning, helicopter-yarding and planting of Western red cedar, Western hemlock and Sitka spruce.

Sinlahekin Forest Restoration, The Nature Conservancy and Washington Department of Fish and Wildlife - 2009

Completed stand assessments, designed silvicultural prescriptions to reduce fuels, fire danger and restore reference-era ponderosa pine stand structure and trained personnel to implement the project on the 19,500 acre Sinlahekin Wildlife Area in Central Okanagon County, Washington.

Bonnibel Forest Commercial Thin, Columbia Land Trust - 2008

Designed and completed a commercial thinning on 20 acres of mature Douglas-fir forest using a cut to length harvest system. Services included prescriptions, tree marking and boundary layout, permitting, and administration of logging and biomass processing contracts.

Wind Rim and Bonnibel Oak and Pine Restoration, Columbia Land Trust - 2008

Completed thinning and fuel reduction treatments at the Little White Salmon Biodiversity Preserve within the Columbia River Scenic Area. Subsequent treatments included prescribed burning, noxious weed treatments and seeding of native bunchgrasses and forbs.

Wild Iris Commercial Thinning and Habitat Enhancement, City of Eugene - 2007

Developed prescriptions, marked and contracted commercial thinning and biomass processing in parkland owned by the City of Eugene. Dense woodlands were thinned to recreate open woodland and savanna structure. Invasive shrubs were masticated and slash piles burned and seeded.

Seesil Oak Woodland Thinning and Habitat Enhancement, City of Eugene - 2007

Developed prescriptions, marked stands and contracted commercial thinning and biomass processing on this Bureau of Land Management ownership within the West Eugene Wetlands. The site contains some of the largest California black oak trees in the Willamette Valley. Dense woodlands were thinned to recreate open woodland and savanna structure. Snags were created by topping, invasive shrubs were masticated, and native forbs and grasses were seeded.

Coburg/McKenzie Commercial Thin and Oak Release, The Nature Conservancy - 2007

Developed prescriptions, marked stands and contracted commercial thinning and biomass processing on the 1,200 acre Coburg Ridge Preserve, the largest privately owned nature sanctuary in the Willamette Valley of Oregon.

Ohmann Oak Restoration Project, Private Landowner - 2007

Implemented thinning project on a 32 acre ownership near Corvallis, Oregon. Treatments were designed to release oak from conifer encroachment while maintaining nesting habitat for western grey squirrels. Project services included silvicultural prescriptions, timber marking, log marketing, logging contract supervision, and slash treatment. A cut-to-length logging system including a harvester-processor and log forwarder was used.

Carnine Thinning Project, Private Landowner - 2006

Developed and implemented restorative prescriptions on 60-acres of Douglas-fir and Oregon white oak woodland near Eugene, Oregon. Prescriptions were developed with an emphasis on connecting habitat corridors, releasing oak and maintaining western grey squirrel core nesting habitat. Treatments were completed using a cut-to-length system employing a harvester and forwarder. Follow-up treatments included hand piling and burning of slash, herbicide control noxious weed, and native grass seeding of disturbed areas.

Drinkward Thinning and Fuel Reduction Project, Private Landowner - 2006

Thinned private landowner parcel in Camp Sherman, Oregon to reduce high fuel buildups in pine stands and reduce bark beetle mortality. Treatments were completed implementing a cut-to-length system using a harvester and forwarder. Surface fuels were masticated with skid-steer to remove undesirable understory vegetation and other flammable fuels.

Metolius Preserve Fuel Reduction, Deschutes Land Trust - 2006

Developed prescriptions and managed 200-acre thinning contract in ponderosa pine stands to reduce high fuel buildups on the Metolius Preserve, in Jefferson County, Oregon.

Section 29/19 Commercial Thin, Deschutes Land Trust - 2005

Managed a 450-acre commercial thinning in second growth ponderosa pine stands to reduce forest fuels and accelerate reference era stand structure on the Metolius Preserve, a private ownership near Camp Sherman, Oregon. Treatments were completed using a harvester-processor and log forwarder. Project services included prescription development, tree marking and harvest layout, permitting, log marketing, logging contract supervision and administration and mastication of activity fuels.

Reichman Commercial Thin, Private Landowner - 2005

Completed a variable density commercial thinning on 100 acres of conifer forest and woodlands near Eugene, Oregon using a cut-to-length system. Project services included prescription development, tree marking, permitting, log marketing, logging contract supervision, and herbicide application to control invasive weeds.

Dillacourt Thinning and Oak Restoration Project, BLM, Columbia Land Trust - 2004

Designed and implemented habitat enhancement prescriptions on 500 acres of oak savanna and woodland in the Klickitat River Canyon, an area that contains the largest concentration of these declining habitats in Washington State. Services included thinning stands to remove conifers and over-stocked oak, prescribed burning and native grass seeding to re-establish bunchgrass communities.

Rowena Fuels Reduction, Rowena Landowners & Oregon Department of Forestry - 2004

Rowena Wilds is a planned rural housing development that was designed around conservation covenants. The 200-acre community located at the eastern edge of the Columbia Gorge, southeast of Mosier, Oregon contains high-quality remnant pine and oak habitats that have been encroached with fir and oak regeneration. Forest restoration prescriptions were designed to reduce forest fuels and restore savanna habitats. Services included management planning, thinning and prescribed burning.

Powerline Commercial Thin, Confidential Client - 2004

Developed prescriptions and completed commercial thinning on 132 acres of young coastal spruce, hemlock, alder and Douglas-fir on a property south of Newport, Oregon. A cut-to-length harvester and forwarder was used.

King's Slough Commercial Thin, Confidential Client - 2004

Managed a 250-acre harvest of young coastal spruce/hemlock/alder and Douglas-fir using variable density thinning. Project services included prescription development, tree marking, permitting, log marketing, and logging contract supervision.

Wapiti Timber Harvest, Confidential Client - 2002

Designed and implemented a 75-acre variable-retention regeneration timber harvest on private lands near Newport, Oregon.

Potter Forest Commercial Thinning, Private Landowner - 2001

A commercial thinning was designed and implemented on a 40-acre forest, near Corvallis, Oregon.

Berg Commercial Thinning - 2000

Designed and implemented thinning on a 40-acre small woodland harvest, northwest of Corvallis, Oregon. The harvest used free thinning and group selection methods and was completed using a skyline yarding system.

Watershed Analysis, Forest Management Planning and Fire/Fuels Modeling**Andy Reasoner Wildlife Preserve and Sears Homestead Forest Stewardship Plans, client - 2014**

Prepared forest management plans for two Western Oregon properties totaling 615 acres. Stewardship focused on reforestation, weed control and enhancement of rare habitats.

Fields Spring State Park Forest Health Plan, Washington State Parks - 2013

A forest management plan was created for the 830 acre state park in SE Washington. The plan integrates fire/fuels, wildlife and recreation objectives into a working document guiding park managers.

Willamette Confluence Forest Stewardship Plan, The Nature Conservancy - 2011

A forest management plan was designed for a 1,200-acre parcel in Lane County, Oregon.

Services included road inventory, permanent vegetation inventory and noxious weed mapping which was incorporated into overarching plan to enhance oak woodlands, prairies and riparian habitats.

Sogge Habitat Restoration Plan, Long Tom Watershed Council - 2010

A plan was completed for a 64-acre private parcel in Lane County containing Douglas-fir forest, oak woodland and savanna. Thinning, spraying, burning and seeding treatments designed in this plan were implemented in 2010.

Margerum Habitat Stewardship Plan, Columbia Land Trust - 2010

A habitat stewardship plan was designed on a 300-acre Klickitat County, Washington parcel purchased to conserve riparian habitat for salmonids, and upland lands for at-risk wildlife including Lewis's woodpecker. Plan focused on enhancement of oak and pine woodlands, prairies and riparian habitats.

I-90 Properties Forest Stewardship Plans, Cascade Land Conservancy - 2010

Developed a comprehensive forest stewardship plan for eight properties in the Central Cascades of Washington, covering 1,500 acres. Stewardship planning for this ownership focused on recovery of federally-listed wildlife, long-term road management strategies to reduce impacts to aquatic resources and silvicultural design to accelerate wildlife habitat development for at-risk species.

Highland Forest Stewardship Plan, Columbia Land Trust - 2010

Developed a forest stewardship plan for an 80-acre property in the Columbia Gorge of Washington. Stewardship planning for this ownership focused on recovery plans for federally-listed wildlife, fuels reduction, and reforestation of farmlands.

Swamp Lake Forest Stewardship Plan, Trust for Public Land - 2009

Developed a forest stewardship plan for the Swamp Lake Forest, a 70-acre private ownership in the Central Cascades of Washington. Stewardship planning for this ownership focused on recovery plans for federally-listed wildlife species.

Little White Salmon River Habitat Stewardship Plan, United States Fish and Wildlife - 2009

Developed a forest management plan for the Little White Salmon National Fish Hatchery, a 400-acre private ownership in the Columbia Gorge, Skamania County, Washington. The property contains both mature Douglas-fir forests and oak and pine woodlands and is within the Columbia Gorge National Scenic Area. Stewardship planning included thinning prescriptions to accelerate late successional forest conditions, removal of noxious weeds and restoration of oak habitats.

Glaze Forest Restoration Project, USDA Forest Service, Deschutes National Forest - 2009

Developed silvicultural prescriptions to restore structural conditions in old growth ponderosa pine stands and accelerate development of mature forest characteristics in young ponderosa pine stands on 1,000 acres of USFS land, adjacent to Black Butte, east of Sisters, Oregon. An approach termed "mosaic thinning" was designed and applied on these lands. Forest Service marking crews were trained to layout these complex prescriptions.

Rowena/Catherine Creek Harvest Systems Analysis, Columbia Gorge National Scenic Area, USFS - 2007 A harvest systems feasibility analysis was completed for the USFS, on 10,500 acres of highly sensitive lands within the Scenic Area.

Upland Habitat Enhancement Plans, Oregon Department of Fish and Wildlife, private landowners - 2006

A planning process was completed on properties in both Lane and Linn Counties designing habitat enhancement treatments to restore remnant ponderosa pine and oak savannas, riparian forest, and upland prairies using a combination of herbicides, prescribed fire thinning and native plant establishment.

Jicarilla-Apache Fire/Fuels Analysis, Jicarilla- Apache Agency BIA - 2006

Completed a fire risk analysis using FLAMMAP within a 14,276-acre planning area on the Jicarilla Apache Reservation. Stands at high risk of high intensity/severity fire were identified and treatments to reduce potential losses to timber, wildlife, and watershed resources were prescribed. A vegetation classification system was developed to help identify gamble oak plant communities. This image classification procedure synthesized satellite image data with field and ancillary data derived principally from Geographic Information System (GIS) coverages. A supervised classification strategy was adopted to create the vegetation map based on vegetation community types. Object-oriented classification methods were used to separate vegetation types. The image object map was converted into polygons which were imported into a feature dataset in ArcGIS. Landfire and field collected data were used in FLAMMAP to analyze fire behavior.

Little White Salmon Biodiversity Preserve Forest Stewardship Plan, Chenoweth Farm and Forest Conservancy and Columbia Land Trust - 2005

Developed a forest management plan for the Little White Salmon Biodiversity Reserve, a 200-acre private ownership in the Columbia Gorge National Scenic Area, Skamania County, Washington. Stewardship planning for this ownership included thinning prescriptions to accelerate late successional forest conditions, removal of noxious weeds, and restoration of oak habitats while meeting requirements of scenic area rules.

Gill Habitat Restoration Plan, McKenzie River Trust - 2005

A comprehensive strategy of treatments and monitoring was designed on this 200-acre Douglas County, Oregon ownership to restore oak and pine savannas, expand native grasslands for a number of at-risk species including the Columbia white-tailed deer, white breasted nuthatch, and western pond turtle.

Miesen Upland Habitat Management Plan, Private Landowner - 2005

A planning process was completed on this 300-acre parcel, near Eugene, Oregon. Services included vegetation and rare plant surveys, weed mapping, followed by design of silvicultural prescriptions to enhance remnant ponderosa pine and oak savannas, riparian habitat, and upland prairies.

Metolius Preserve Forest Stewardship Plan, Deschutes Basin Land Trust - 2004

Completed a comprehensive forest stewardship plan for the 1,200-acre Metolius Preserve, a diverse landscape of ponderosa pine and riparian forest at the base of Black Butte, near Sisters, Oregon. The plan integrates a forest restoration strategy to convert stands to unevenaged structure, protect viewsheds and habitat corridors, facilitate recreation and restoration of sockeye salmon and steelhead runs to Lake Creek and Suttle Lake. Wildlife habitat, forest growth and structural development and fire risk/behavior models were used to assess conditions under a range of management scenarios. Silvicultural pathways to achieve desired targets were designed and an implementation plan developed.

Forest Stewardship Plan, Private Landowner - 2003

Prepared an integrated forest stewardship plan for a 30-acre family property in eastern Lane County, Oregon.

Bandon Watershed Forest Stewardship Plan, City of Bandon, Oregon - 2003

Prepared a stewardship plan for the City of Bandon to develop a forest management strategy to maintain/improve water quality on public lands contained in the municipal watershed.

Pistol River Watershed Assessment, Siskiyou National Forest, Oregon- 2002

Prepared the Vegetation Analysis Section of the Pistol River Watershed Assessment. This chapter synthesized historic and current vegetation data, historic range of variability analyses, fuel and fire severity models, threatened and endangered species recovery plans, and other keystone indicator species management mandates into a comprehensive forest restoration plan. Recommendations included silvicultural prescriptions designed to restore key ecosystem processes and functions at both stand and landscape levels. The Stand Visualization System (SVS) was used to project stand development pathways under different management scenarios for illustrative purposes in the document.

Lagunas Bonitas Forest Stewardship Plan, Trust for Public Land and New Mexico State Forestry Division - 2002

Developed a forest stewardship plan for the 39,000-acre Lagunas Bonitas Ranch in Northern New Mexico. The ranch was the state of New Mexico's pilot partnership with the USFS's Forest Legacy Program. Forests across the ranch have been highly degraded due to fire suppression and past timber harvest. The plan focused on restoration of range and mixed conifer forest ecosystems and development of compatible grazing and forest harvest systems.

Forest Management Plan, Confidential Client, Portland Oregon - 2001

Developed a forest management plan for a 3,000-acre private ownership south of Newport Oregon. The plan focused on young plantation and mixed conifer second growth forest management to accelerate old forest conditions and reduce Swiss Needle Cast disease, while providing investment return from periodic timber harvest.

Stump Springs Environmental Assessment, Utah Dixie National Forest, Sub-contractor to David Evans and Associates - 2001

Prepared an EA for a prescribed burn on a 7,000-acre watershed on the Escalante Ranger District of the Dixie National Forest. This analysis synthesized historic and current vegetation data, historic range of variability, fuel and fire severity models, threatened and endangered species recovery plans, and other keystone indicator species management mandates to guide management planning. Recommendations included specific burn prescriptions designed to restore key ecosystem processes and functions at both stand and landscape levels.

Malheur Watershed Assessment, Malheur National Forest, David Evans and Associates - 2000

Prepared the Vegetation Analysis Section of the Malheur River Headwaters Watershed Assessment. This analysis synthesized historic and current vegetation data, historic range of variability analyses, fuel and fire severity models, threatened and endangered species recovery plans to guide management planning. Recommendations included silvicultural prescriptions designed to restore key ecosystem processes and functions at both stand and landscape levels.

Forest Stewardship Council (FSC) Certifications

FSC Certifications, Northwest Natural Resources Group - (2009-2010)

Performed certifications on Coburg Ridge, Digger Mountain, Keystone, Oak Basin, and Yamhill Properties, and the Sinlahekin State Wildlife Area.

FSC Scoping, Northwest Natural Resources Group - (2009-2010)

Performed certification scopings or the Coquille Tribe and outreach for Hood River County, Oregon

FSC Peer Review, Smartwood - 1998

Performed peer review on several Western Oregon private industrial ownerships.

Grant Management

Oregon Aspen Project, USDA Natural Resources Conservation Service - 2007-2010

Managed a Conservation Innovation Grant Project to develop and demonstrate cutting edge management practices in four Eastern Oregon communities. Project responsibilities included site recruitments, landowner consultations, assessment, prescription development and contracting of forestry work, editing of management guide and leading of workshops, demonstration site visits and monitoring training.

Willamette and Umpqua Valley Oak Enhancement, United States Department of Fish and Wildlife, Oregon Department of Fish and Wildlife and Oregon Watershed Enhancement Board - 2005-2009

Managed grant funded projects on six properties funded by the Landowner Incentives Program, Partners for Fish and Wildlife Program and OWEB Small Grant Program. Projects focused on habitat restoration of oak woodlands and prairies using thinning, prescribed burning, herbicide applications and native plant seeding.

Oak Habitat Network, National Fish and Wildlife Foundation (NFWF) - 2003

Managed and implemented a NFWF grant to identify oak habitats, complete demonstration projects and conduct outreach tours.

Clients/Partners:

- United States Forest Service-
- Deschutes National Forest
- Freemont-Winema National Forest
- Willamette National Forest
- Dixie National Forest
- Malheur National Forest
- US Forest Service International Programs
- Columbia Gorge National Scenic Area
- United States Department of Fish and Wildlife
- Natural Resources Conservation Service
- Jicarilla Apache Nation
- United States Bureau of Indian Affairs
- Bureau of Land Management
- University of Oregon
- Oregon State University
- OSU Forestry and Range Extension Service
- Oregon Department of Forestry
- Washington Department of Natural Resources
- Washington Department of Fish and Wildlife
- Oregon Department of Fish and Wildlife
- New Mexico State Forestry Division
- Douglas County Soil and Water
- The Nature Conservancy
- American Forest Foundation
- Oregon Watershed Enhancement Board
- National Fish and Wildlife Foundation
- National Fire Plan, USFS
- Consorcio Forestal Amazonico
- Trust for Public Land
- Ecotrust
- American Bird Conservancy
- Rocky Mountain Elk Foundation
- Deschutes Land Trust
- Cascade Land Conservancy (Forterra)
- Kittitas Conservation Trust
- Columbia Land Trust
- McKenzie River Trust
- Northwest Natural Resources Group
- Long Tom Watershed Council
- Lane County
- Cities of Portland, Eugene, Corvallis, Bandon, Hood River
- Washington State Parks
- Confederated Tribes of Warm Springs

Reports/Publications:

- Author/Editor to over 50 forest management reports including: forest inventory and vegetation mapping, stewardship, restoration and monitoring plans, watershed analysis, timber appraisals, logging feasibility designs and harvest schedules.
- Contributing Author/Lead Editor: *A Guide to Reforestation Monitoring in Lebanon*.
- Contributing Author/Lead Editor: *A Guide to Reforestation Best Practices in Lebanon*.
- Lead Editor and Contributing Author: "*Land Manager's Guide to Aspen in Oregon*"
- Co-author: "Managing for Cavity-Nesting Birds in Ponderosa Pine Forests", "Snags, Bark Beetles and Cavity-Nesting Birds: Conservation and Management in Ponderosa Pine Forests of the PNW" and "NRCs Technical Note: Enhancing Habitat for Cavity Nesting Birds in Dry Ponderosa Pine Forests in the Pacific Northwest".
- Master's Thesis: *Growth and Yield, Structure and Composition, and Soil Compaction in a Western Oregon Forest Managed with Modified Selection Thinning*

Presentations:

Oak habitat enhancement on the LWSNFH. Planning and Implementation Case Study, Oak Woodlands Workshop sponsored by Wasco County SWCD, October 2014, The Dalles, OR.

Snag Management in Dry Ponderosa Pine Ecosystems, SER Regional Conference, October 2014, Redmond, OR.

Engaging Communities to Improve Outplanting Practices: The Lebanon Reforestation Initiative. Conference on Ecosystems and Ecosystem Restoration, July 2014, New Orleans, Louisiana.

Monitoring Outplanting Projects: Practical Techniques and Results

Sharing Reforestation Best Practices for Lebanon's Future – April 2014, Beirut, Lebanon.

Fusing Eastern and Western Outplanting Practices for Success: Restoring Forests in Lebanon

Society for Ecological Restoration: 5th World Conference on Ecological Restoration - October 2013, Madison, WI.

Restoration Beyond Fuel Reduction: What is the Vision? Society of American Foresters Sponsored Conference: - October 2011, Bend, OR.

Habitat Restoration of Degraded Woodlands in the Pacific Northwest, Oregon Recreation and Park Association Annual Conference - September 2011, Bend, OR

Using Mosaic Thinning to Restore Ponderosa Pine Stands, Society for Ecological Restoration: 4th World Conference on Ecological Restoration - August 2011, Merida, Mexico **Managing Oak Woodlands: Lessons from Field**, Wildlife Society: Oregon Chapter Annual Meeting - February 2010, Bend OR

Aspen in Eastern Oregon: Enhancing a Rare Resource, Sponsored by Deschutes Land Trust, Central Oregon Environmental Center Speaker Series, December 2010, Bend OR

FSC Certification for State Lands, Sponsored by Washington Dep. of Nat. Res., April 2010, WA

Restoring Reference Era Conditions in Young Pine Stands Using Mosaic Thinning, Society for Ecological Restoration – February 2010, Tulalip WA

Ecology and Management of Aspen Stands in Eastern Oregon, OSU Extension and Forest Restoration Partnership – April 2008, Klamath Falls OR

Forest Management Practices, OWEB – November 2008, Eugene OR

Silviculture for Resiliency, Grantmakers of OR and SW WA – October 2008, Sisters OR

Mahogany Butte Ranch Tour, Oregon Small Woodland Association and Forest Restoration Partnership – September 2008, Prineville OR

Ecology and Management of Aspen Stands in Eastern Oregon, OSU Extension and Forest Restoration Partnership – April 2008, Prineville OR

Ecology and Management of Aspen Stands in Eastern Oregon, OSU Extension and Forest Restoration Partnership – April 2008, Lakeview OR

Marking stands with Mosaic Thinning Techniques, Sisters Ranger District and Deschutes National

Forest – April 2008, Sisters OR **Silvicultural Prescriptions for Ponderosa Pine Restoration**, Sisters Ranger District and Deschutes National Forest – October 2007, Sisters OR

Oak Woodland Restoration with Emphasis on Understory Restoration, Society for Ecological Restoration – September 2007, Yakima WA

Vegetation Management for Woodland Owners, OSU Extension – September 2007, Corvallis OR

Oak Restoration in City Parks, Int. Society of Arboricultural – September 2007, Corvallis OR

Management of Young Pine Stands, Society of American Foresters – April 2007, Sisters, OR

Small Woodland Stewardship for Coastal Non-Industrial Landowners, Ecotrust and Siuslaw Watershed Council – February 2007, Mapleton OR

Restoring Oak Habitats in Oldham Creek Basin, McKenzie River Trust – Sep. 2006, Oakland OR

Restoration of Upland Habitats Series – Reaves Ownership, Long Tom Watershed Council – September 2006, Eugene OR

Restoration of Upland Habitats – Mariposa Woodland, Long Tom Watershed Council – August 2006, Eugene OR

Mosaic Thinning to Restore Spatial Diversity in Young Ponderosa pines, Land Trust Alliance – May 2006, Bend OR

Oak and Pine Management on the Gill Property – three years of restoration, McKenzie River Trust, Umpqua Watersheds, and OSU Extension – July 2005, Oakland OR

Oak Restoration Principles and Practices Series, OSU Extension Service and Umpqua Watersheds– April 2005, Roseburg OR **Oak Restoration and Watershed Health**, Calapooya Watershed Council and OSU Forestry Extension – March 2005, Brownsville OR

Oak Restoration Principles and Practices Series, OSU Extension Service, BLM, and TNC – March 2005, Corvallis OR

Oak Restoration Principles and Practices Series, OSU Extension Service, BLM, and TNC – February 2005, Hood River OR

Restoring Ponderosa Pine with Mosaic Thinning, Forest Stewards Guild – Nov. 2005, Santa Fe NM

Metolius Preserve Ponderosa Pine Restoration Demonstration, Deschutes Basin Land Trust – November 2004, Camp Sherman OR

Habitat Restoration at Dillacourt Conservation Area, Columbia Land Trust – Nov. 2004, WA

Upland Habitats – Developing Guidelines for Habitat Restoration, Portland Science Forum – July 2004, Portland OR

Forest Restoration in Declining Willamette Valley Habitats, Society for Ecological Restoration – April 2004, Portland OR

Managing Temperate Coniferous Forests for Old Growth Characteristics, The Nature Conservancy – August 2003, Willapa Bay WA

Restoration Planning at Weiss Road BLM oak/pine restoration, Bureau of Land Management – July 2002, Eugene OR

Group Selection Management for Small Woodland Owners, Oregon Small Woodland Owners Association – July 2001, Pedee OR

Oak Restoration in the Willamette Valley, Bureau of Land Management, Oak Working Group – June 2001, Eugene OR

Silvicultural Alternatives for Small Private Forestland Owners, OSU Sustainable Forestry Partnership Conference – June 2000, Corvallis OR

CAREER HISTORY

Senior Project Manager/Co-owner

Integrated Resource Management, Philomath OR
(November 1999 - February 2011)

Core duties:

- Senior Project Manager of forest and natural resource inventories in 10 Western state area on State, Federal, Tribal, NGO and private lands
- Senior Silviculturist specializing in innovative multiple-resource designs
- Manager of timber sales (layout, logging systems design, harvest supervision and administration) for clients on private and conservation NGO throughout the Pacific Northwest
- Analyst/Author of watershed analysis, harvest feasibility and design studies, forest management plans and manuals, and timber appraisals.
- Manager of contract with Northwest Natural Resources Group to provide FSC certification to clients in Oregon and Washington
- Administrator of company projects, operations, employees and finances, company marketing and public relations

Technical Forester

Roseburg Forest Products, Veneta OR (April - September 1999)

- Performed field operations including forest inventories, stocking surveys, and timber cruises, survey and laying out of pre-commercial thinning units and riparian buffers
- Designed and supervised site preparation and vegetation management prescriptions for harvested units

Consulting Forester

Various private lands clients in Western Oregon
(October 1998 - April 1999)

- Designed and completed forest and road inventories, timber cruises and regeneration surveys on private lands
- Developed silvicultural prescriptions, harvest layout, completed log marketing, sale and oversight of logging operations on commercial thinning projects including unevenaged management conversion cuts

Research Assistant

Forest Science Department, Oregon State University, Corvallis, OR (September 1996 - September 1998)

- Completed comprehensive case study of non-industrial forest practices in Western Oregon private lands by compiling and modeling growth and yield under alternative management scenarios
- Examined soil conditions and stand structure in Douglas-fir stands managed with uneven-age systems

Forestry Technician

Deschutes National Forest, Bend OR (June 1996 - September 1996)

- Conducted forest inventory, GPS mapping, cruising timber, and inspections

Research Coordinator/Instructor

Cascade Science School, Bend OR (June 1994-September 1995)

- Developed and instructed field-based arid lands, forest and aquatic ecology programs
- Managed school research program

Program Assistant

Ecotrust/Pacific GIS, Portland OR (June 1992-June 1994)

- Edited science and policy papers
- Mapped coastal temperate forest bio indicators and socio-economic conditions