Appendix E—Forms

This appendix includes eight forms you can modify to fit your own needs:

- **Site Assessment Form**—This form can be used to prepare a detailed site assessment. The form was developed by Glacier National Park.

- **Campground Vegetation Inventory**—This form will help you assess individual campsites for restoration treatments. The form was developed by Glacier National Park.

- **Restoration Daily Project Log**—This log provides a daily record that will prove invaluable for planning other projects when you need to estimate how much time is required to complete certain tasks.

- **Onsite Restoration Information**—This form can be used to document initial restoration treatments. The form was developed by the Wenatchee National Forest's Wenatchee River Ranger District.

- **Restoration Site Maintenance and Monitoring Record**—This form will help you document ongoing maintenance and monitoring. Data recorded here may supplement data on the revegetation monitoring form. This form was developed by the Wenatchee River Ranger District.

- **Revegetation Monitoring Form**—This form tracks vegetative recovery. It was developed by the Wenatchee National Forest's Wenatchee River Ranger District.

- **Seed Collection Form**—This form documents the attributes of each seed lot. It was developed by the Wallowa-Whitman National Forest. A similar form can be developed for other types of plant material.

- **Plant Material Transportation, Storage, Extraction, and Preparation Log** (excludes seed)—This form is used for shipping plant materials to nurseries and tracks the steps taken to process the materials. The form was developed by the Forest Service's Pacific Northwest Region nursery program.

Site Assessment Form

Site name and location: _____

Date: _____

Examiner's name: _____

General description of site (include history and use): _____

_____

_____

_____

_____

_____

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_____

Site location (Section, township, and range or UTM): _____

_____

_____

_____

_____

_____

Elevation: _____ Aspect: _____ Slope/relief: _____

_____

Soils and Geology

Soil type: ( ) Alluvial, flood plain, beach soils ( ) Wet soils ( ) Glacial soils

( ) Bedrock soil—metamorphic ( ) Bedrock soil—sedimentary

Soil description (from Natural Resources Conservation Service soil survey):_____

_____

_____

_____

Characteristics of soil profile:

O—Organic layer:	Depth _____	Texture _____	Color _____	% Rock/gravel _____
A—Surface layer:	Depth _____	Texture _____	Color _____	% Rock/gravel _____
B—Subsurface layer:	Depth _____	Texture _____	Color _____	% Rock/gravel _____

Soil surface cover (total should equal 100%): Bare soil _____ Gravel _____ Rock (> 3 cm diam.) _____ Litter _____

Wood _____ Moss/lichen _____ Basal vegetation _____ Other _____

Describe soil surface status:

( ) Soil surface is stable; vegetation cover is adequate to prevent erosion in excess of natural rates.

( ) Soil surface is stable but vegetative cover is inadequate and increased erosion is likely.

( ) Soil surface is unstable because of trampling (compaction) and vegetation loss.

( ) Soil surface is unstable because of steepness, trampling, and vegetation loss.

Describe erosion type (rill, gully, slump, etc.), cause, and depth/extent over the site: _____

_____

_____

_____

_____

General Vegetation Composition and Structure

Habitat type: _____

_____

Community area: ( ) Upland ( ) Alpine/subalpine ( ) Wetland/riparian ( ) Other _____

_____

Dominant cover form: ( ) Aquatic species ( ) Broadleaf trees ( ) Conifers ( ) Shrubs ( ) Herbaceous cover

( ) Krummholz ( ) Moss/lichens ( ) Nonvegetated (rock or scree) ( ) Other _____

_____

Dominant species in upper layer (> 6.5 ft): _____

_____

Dominant species in middle layer (2.5–6.5 ft): _____

_____

Dominant species in lower layer (< 2.5 ft):_____

_____

Life form size—Dominant trees:

% seedling (< 1.0 in d.b.h.) _____ % sapling (1–4.9 in d.b.h.) _____ % Pole (5–8.9 in d.b.h.) _____

% medium (9–20.9 in d.b.h.) _____ % large (21–32.9 in d.b.h.) _____ % very large (33+ in d.b.h.) _____

Life form size—Dominant shrubs: % low (< 2.5 ft)_____ % medium (2.5–6.5 ft)_____ % tall (6.5+ ft) _____

Structural class:

( ) Stand initiation: growing space is reoccupied following a stand-replacing disturbance

( ) Stem exclusion/open canopy: ground-level competition limits establishment of new tree seedlings; primarily medium or smaller trees

( ) Stem exclusion/closed canopy: establishment of new tree seedlings limited by competition for light and resources

( ) Understory reinitiation: initiation of younger tree stand as older trees occupy less than full growing space; dead trees present; two or more canopy strata

( ) Young multistrata: multiaged stand with a mix of tree sizes and canopy strata; no large trees

( ) Old forest multistrata: multiaged stand with a mix of tree sizes and canopy strata; includes large, old trees

( ) Old forest single-stratum: broken or continuous canopy of large, old trees; understory absent with only a few seedlings or saplings

Microclimate: ( ) Not applicable ( ) Cold-air drainage or frost pocket ( ) Upslope warm airflow

( ) Wind-blasted environment that maintains vegetation in deformed state

( ) Snow catchment area that retains snow 2 to 4 weeks longer than surrounding areas with the same aspect

Special features: ( ) Not applicable ( ) Talus ( ) Scree ( ) Avalanche chute

( ) Wet meadow, grass dominated; surface wet in spring, moist in midsummer

( ) Marsh, sedge dominated; soil surface wet in midsummer

( ) Swamp, shrub dominated

( ) Bog mire, mosses, acidic wet peat soil

( ) Fen mire, reeds/sedges, alkaline wet peat soil

( ) Swale, depression/bench with no surface water, but moist soil evident in vegetation type

( ) Seep, depression/bench with surface water and vegetation found in moist environments

( ) Community adjacent to surface water (within 3 vertical feet and 100 horizontal feet of lake, stream, pond, etc.)

Vegetation change:

( ) Community is stable; will not change significantly in canopy closure, structure, species composition; similar to climax community

( ) Community is seral and changing toward climax community; will change significantly in canopy closure, structure, and species composition

( ) Community is changing away from climax community; will change significantly in canopy closure, structure, and species composition

( ) Community is seral and stable; dominant species will not change significantly

( ) Cannot tell if community is changing

Forest health:

Describe general vigor of tree species present, history of disease or obvious decline in health of tree populations, any signs of disease/pest infestations (conks, punk knots, stem decay, cankers, boring dust, pitch tubes, dead terminals, needle casts, flagging, etc.) : _____

_____

_____

_____

_____

_____

_____

_____

_____

Exotic species present (species and abundance) and control recommendations: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Rare Species and Cultural Resources

Species of special concern: Identify any endangered or threatened species or species of special concern that are present:

Species name: _____ Percent cover _____

_____

Section 7 consultation in reference to the Endangered Species Act required before mitigation? ( ) Yes ( ) No

Cultural resources: Enter the type of feature or structure (house, barn, firering, archeological site, etc., and the name, if known: _____ _____

_____

_____

Section 106 consultation in reference to the Historic Preservation Act required? ( ) Yes ( ) No

Animal Use

Describe animals using or frequenting the site (horses, cattle, other stock, elk, deer, moose, bighorn sheep, beavers, bears, rodents, raptors, other birds, lions, wolves, etc.). Is this site a known travel corridor for wildlife (identify species)? _____

_____

_____

_____

_____

_____

_____

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_____

_____

Disturbance History

Check the types of disturbance that have impacted this site:

( ) Understory burn ( ) Wildfire with suppression activities ( ) Prescribed fire (planned ignition)

( ) Prescribed fire (unplanned ignition) ( ) Herbicide application ( ) Other weed removal activities

( ) Recreational foot traffic, day use ( ) Camping ( ) Stock use ( ) Browsing ( ) Rodents

( ) Game trails ( ) Forest diseases ( ) Insect infestation ( ) Other _____

Disturbance intensity: ( ) Not applicable ( ) Low (5–20% bare ground)

( ) Moderate (20–40% bare ground) ( ) High (40–100% bare ground)

Describe visible impacts (exposed roots, damaged or scarred tree trunks, broken limbs, felled trees, etc.):

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Estimate size (square feet) of area requiring treatment: _____

Rehabilitation Recommendations

Site management recommendations (closure, use restrictions, etc.): _____

_____

_____

_____

Describe previous rehabilitation work and results: _____

_____

_____

_____

_____

_____

_____

_____

Site and planting preparations (describe recommendations for scarification, soil amendments, mulch, etc.):

_____

_____

_____

_____

_____

_____

_____

Plant salvage (list species in the area available for salvage—define strategy for lifting and storage):

_____

_____

_____

_____

Soil salvage potential and borrow sites available (describe soil resources available and quantify any deficits, if applicable):

_____

_____

_____

_____

_____

Barriers necessary to restrict use: ( ) None needed ( ) Fence ( ) Vehicle barrier ( ) Brush or logs ( ) Signs ( ) Rocks ( )

Other _____

Describe where barriers are needed: _____

_____

_____

_____

_____

_____

Suggested revegetation species and quantity from site:

Trees	Shrubs
Forbs	**Grasses**

Plant materials collection and propagation recommendations:_____

_____

_____

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_____

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Comments for project implementation: _____

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Species Inventory

Abundance—Indicate whether the species is D (dominant), F (frequent), or O (occasional).

Native trees	Abundance	Revegetative species

Native shrubs	Abundance	Revegetative species

Abundance—Indicate whether the species is D (dominant), F (frequent), or O (occasional).

Native grasses	Abundance	Revegetative species

Exotic forbs	Abundance	Revegetative species

Abundance—Indicate whether the species is D (dominant), F (frequent), or O (occasional).

Native forbs	Abundance	Revegetative species

Exotic grasses	Abundance	Revegetative species

Campground Vegetation Inventory

Name of campground: _____

Date: _____ Reported by: _____

UTMs—Mapping notes: _____

_____

_____

_____

Measurement of impact: _____

Description of soil condition (topsoil depth, color, organic matter and litter content, and any other notable features):

_____

_____

_____

Dominant vegetative species: _____

_____

_____

_____

Suggested revegetation species: _____

_____

_____

Suggestions for further restoration (including materials list):

_____

_____

_____

Site No. 1

UTMs—Mapping notes: _____

_____

_____

Measurement of impact:_____

Description of treatment implemented:_____

_____

_____

_____

Description of soil condition (topsoil depth, color, organic matter and litter content, and any other notable features): _____

_____

_____

_____

Dominant vegetative species: _____

_____

_____

Suggested revegetation species: _____

_____

_____

_____

Suggestions for further restoration (including materials list):_____

_____

_____

_____

Site No. 2

UTMs—Mapping notes: _____

_____

_____

Measurement of impact:_____

Description of treatment implemented:_____

_____

_____

_____

Description of soil condition (topsoil depth, color, organic matter and litter content, and any other notable features): _____

_____

_____

_____

Dominant vegetative species: _____

_____

_____

Suggested revegetation species: _____

_____

_____

_____

Suggestions for further restoration (including materials list):

_____

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_____

Site No. 3

UTMs—Mapping notes: _____

_____

_____

Measurement of impact:_____

Description of treatment implemented:_____

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_____

Description of soil condition (topsoil depth, color, organic matter and litter content, and any other notable features): _____

_____

_____

_____

Dominant vegetative species: _____

_____

_____

Suggested revegetation species: _____

_____

_____

_____

Suggestions for further restoration (including materials list):

_____

_____

_____

Site No. 4

UTMs—Mapping notes: _____

_____

_____

Measurement of impact:_____

Description of treatment implemented:_____

_____

_____

_____

Description of soil condition (topsoil depth, color, organic matter and litter content, and any other notable features): _____

_____

_____

_____

Dominant vegetative species: _____

_____

_____

Suggested revegetation species: _____

_____

_____

_____

Suggestions for further restoration (including materials list):

_____

_____

_____

Pit Toilet (Low Rider)

UTMs—Mapping notes: _____

_____

_____

Measurement of impact:_____

Description of treatment implemented:_____

_____

_____

_____

Description of soil condition (topsoil depth, color, organic matter and litter content, and any other notable features): _____

_____

_____

_____

Dominant vegetative species: _____

_____

_____

Suggested revegetation species: _____

_____

_____

_____

Suggestions for further restoration (including materials list):

_____

_____

_____

Food Hanging Pole

UTMs—Mapping notes: _____

_____

_____

Measurement of impact:_____

Description of treatment implemented:_____

_____

_____

_____

Description of soil condition (topsoil depth, color, organic matter and litter content, and any other notable features): _____

_____

_____

_____

Dominant vegetative species: _____

_____

_____

Suggested revegetation species: _____

_____

_____

_____

Suggestions for further restoration (including materials list):

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Other notes or comments:

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General condition of campground—condition of all facilities, such as hitchrails, food hanging poles, toilets, etc.:

_____

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_____

Restoration Project Daily Log

Date:_____

Hours worked:_____

Crew:_____

_____

_____

Number of visitors (people/stock/groups):

_____

_____

Campsites occupied (by site number and how many other occupied sites are visible from each occupied site):

_____

_____

_____

Accomplishments:

_____

_____

_____

_____

_____

_____

Comments and observations:

_____

_____

_____

Onsite Restoration Information

(Use this form to document initial restoration treatments)

Location:_____

Restoration site and segment:_____ Date:_____

Approx. plot size:_____ Observer:_____

1. Method of site preparation (stabilization and soil treatments):

_____

_____

_____

_____

2. Type of plant material:

a) Wildling plugs (number and species present)

_____

_____

_____

_____

b) Seeding (species and amount seeded)

_____

_____

_____

_____

c) Nursery stock (number by species/stock type)

_____

_____

_____

_____

_____

_____

_____

_____

4. Local materials used:

a) Boulders _____

b) Logs_____

c) Stumps cut flush to the ground_____

3. Sketch restoration site on back: include size, location, trails and photopoints.

4. Remarks:_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Restoration Site Maintenance and Monitoring Record

Site:_____ Site segment:_____

Location:_____

Date:_____ Person taking observations:_____

Signs/stakes	
Erosion control blankets	
Erosion	
Human disturbance	
Weeds (nonnatives)	
Seedlings: Number by species Average diameter (in) Seeding and/or flowering (Y or N)	

Additional seedlings added: Species, number, location	
Wildling plugs added: Species, number, location	
Additional seeds added: Species, location	
Other native seedlings identified: Number, species, location	

Document any additional or extensive work on the reverse side.

_____

_____

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Revegetation Monitoring Form

Location_____

Plot No._____ Date_____ Observer_____

Species	No. of plants	Vigor class[1]	Coverage class[2] (total for plot by species)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

[1]Coverage classes:

(1) 0–5% (2) >5–25% (3) >25–50% (4) >50–75% (5) >75–100%

[2]Vigor classes:

(1) Plants appear unhealthy, probably not able to reproduce.

(2) Plants appear essentially healthy, but do not appear to be able to reproduce.

(3) Plants appear healthy, plants apparently spreading, but may be reproducing only vegetatively.

(4) Plants appear to be sexually reproducing, plants spreading.

(5) Plants appear robust, reproducing sexually, population spreading.

Seed Collection Form

*Asterisk indicates data that does not have to be recorded in the field. This information can be added later, but be sure to do so.

1. Scientific name_____

2. Common name_____

3. *Species code_____ 4. *Seed lot code_____

5. *Watershed name and code_____ 6. *Subwatershed name and code_____

7. *Legal description_____ 8. *Quad name_____

9. Road number(s)_____

10. Creek or site name_____

11. Directions to relocate the area:_____

_____

_____

_____

_____

(Attach a quad or road map of the collection area on the back of the form)

12. Elevation(s)_____ 13. Slope(s)_____%

14. Aspect(s) (N, S, E, W)_____

15. Habitat description(s)_____

16. Plant association(s)_____
Name (Use key or leave blank)

17. Number of plants in each population_____

18. Number of populations in this seed lot_____

19. Collector's name_____

20. Collection date_____ 21. Hours spent collecting_____

22. Comments_____

Drying and Transport

23. *Drying method_____ 24. *Drying time_____

25. *Nursery name_____ 26. *Date shipped_____

27. *District contact person _____

Seed Collection Form Instructions

1. Scientific name: Be absolutely sure of the identification. Use the names in standard floras for area.
2. Common name: Use the names from standard floras for the area or those used in stand exams.
3. Species code: This is the code used for stand exams. Use the **correct** four- to six-letter code. Leave this field blank if you don't know the code.
4. Seed lot code: This code is from Nursery Lot Form 158. See the instructions accompanying that form.
5. Watershed name and code: Get a map of these names and codes from the district hydrologist.
6. Subwatershed name and code: Get a map of these names and codes from the district hydrologist.
7. Legal description: The township, range, and section from which the seed was collected. More than one entry may be needed for large batches of seed.
8. Quad name: The U.S. Geological Survey quad map name. More than one entry may be needed for large batches of seed.
9. Road number(s): List the main roads closest to the area where the seed was collected.
10. Creek or site name: General name of the area.
11. Directions to find the area: These can be fairly general.
12. Elevation(s): If more than one population is included, give the range of elevations, or list each elevation.
13. Slope(s): If more than one population is included, give the range of slopes, or list each slope.
14. Aspect(s): If more than one population is included, give the range of aspects, or list each aspect.
15. Habitat description: General habitat information, such as meadow or forest.
16. Plant association: Use the appropriate guide to determine the association name. If more than one population is collected, list each association name. If in doubt, leave this field blank.
17. Number of plants in each population: Estimate the number of plants that were harvested in each population. This line will have just one entry because it will be the same for all populations in a seed lot.
18. Number of populations in a seed lot: Number of populations, separated by 1/4 mile, where seed was collected.
19. Collector's name: The person (or persons) who did the collecting.
20. Collection date: Date the material was collected. Important for tracking success rates.
21. Hours spent collecting: Time spent actually collecting seed (not traveling).
22. Comments: Any extra information that may be helpful.

Drying and Transport

23. Drying method: Record whether the seed was dried in sun or shade and how the seed was dried.
24. Drying time: How many days the material was dried.
25. Nursery name: Name of the nursery where the material was sent.
26. Date shipped: Date the material was sent to the nursery.
27. District contact person: Name of the person the nursery should contact if there are any questions.

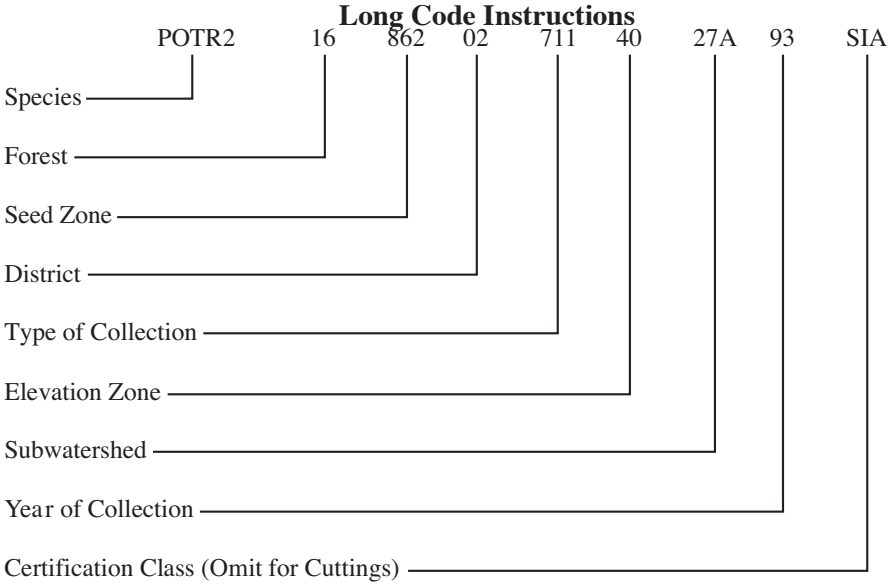
Plant Material Transportation, Storage, Extraction, and Preparation Log (Excludes Seed)

A. Completed at collection site	B. Completed at nursery
1. Collection site log No.:_____	12. Date received:_____
2. Geographic ID: (creek, lake, trail, etc.)	13. No. of plant materials received: _____
_____	14. Received by:_____
3. Forest:_____	(name)
4. Ranger district:_____	15. Nursery log-in No.:_____
5. Date shipped:_____	16. Storage of plant materials:
6. No. of plant materials shipped: _____	Building:_____
(whips, roots, bulbs, etc.)	Bay:_____
7. Transport mode:_____	Tier:_____
8. Shipped by whom:_____	Rack:_____
9. Shipping destination:_____	Tubs/buckets/etc._____
10. History:	17. Nursery preparation date:_____
Collection date:_____	a) No. of cuttings
Insect/disease damage:_____	Length of cuttings:_____
Storage of materials:_____	Minimum caliper:_____
11. Contact persons:_____	18. Root or bulb preparation: _____
E-mail and phone:_____	19. Dip treatments for storage: _____
	Date dipped:_____
	20. Pre-sow dips:_____

C. Completed at the Collection Site and Verified by the Nursery

Species type:_____

21. Plant material lot code (Use large, written numbers, the **long code**)



Species: This is the four- to six-digit alpha/numeric code for the scientific name of the plant. Refer to PNW Publication *Northwest Plant Names and Symbols for Ecosystem Inventory and Analysis* (PNW General Technical Report PNW–46; 1976). If you only know what genus it is, fill in the first five letters of the genus; for example SALIX or RIBES.

Forest: A two-digit numeric code. For the Wallowa-Whitman this will always be 16.

Seed Zone: Zone of origin.

District: A two-digit numeric code.

Type of Collection: The *Forest Service Handbook* states that numbers from 700 and up will be used for non-seed collections. For hardwood cuttings this number will always be 711.

Elevation Band: These elevation groupings are in 500-foot bands, and the code is the first two digits of the upper limit of each band.

2,000-2,500 = Band 25

2,500-3,000 = Band 30

3,000-3,500 = Band 35

Year of Collection: A two-digit numerical code for the year. 1993 = 93.

The nursery fills in the entries below.

Treelot short code:_____

Date planted:_____ 0–1:_____ 0–2:_____

No. of days callused:_____

22. Inventory amount:_____

23. Lifting date: _____ Packing date:_____

24. Net pack:_____ Package by:___ Box _____Bag _____Both

25. Ship date:_____ Shipped by: ____ Refrigerated truck _____ Hot trailer

Other (specify):_____

Nursery treelot number: _____

26. Remarks from nursery for forest/collection site followup:

a. Section A of form not completed or not completed correctly _____

b. Plant material of very poor quality, should **NOT** have been collected _____

c. Plant material damaged, apparently stored, or shipped under unsatisfactory conditions _____

d. Plant material collected at wrong time of year _____

e. Plant tags not completed in compliance with instructions _____

f. Plant material lot not on inventory plan or exceeds planned amount _____

g. Plant materials not packaged properly _____

h. Too much debris mixed with plant material _____

i. Individual lots not properly segregated on shipping vehicle _____

j. Other (specify) _____

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About the Authors

Lisa Therrell is a wilderness manager on the Okanogan and Wenatchee National Forests in Washington. She also has worked as a wilderness planner, wilderness ranger, park ranger, and educator. Lisa has a bachelor's degree in biology and environmental studies. In her spare time, she can be found botanizing and gardening, as well as teaching yoga and enjoying outdoor pursuits. For over 20 years, planning and implementing restoration projects has been the most rewarding part of Lisa's job.

David Cole, Ph.D., is a research scientist with the Aldo Leopold Wilderness Research Institute in Missoula, MT. He has been studying the ecological impacts of wilderness recreation for 30 years. Recently, he has been working to find more effective ways to restore damaged sites.

Victor Claassen, Ph.D., wildland restorationist, teaches at the University of California Davis in the Land, Air, and Water Resources Department of the College of Agriculture and Environmental Sciences. He grew up on a family farm in Kansas and has always had soil in his veins. Victor is especially interested in soil fertility in wildland systems.

Chris Ryan, wilderness specialist, is the wilderness, wild and scenic rivers, and outfitters program leader for the Forest Service's Northern Region in Missoula, MT. She has worked in some of the Forest Service's finest wilderness areas throughout her 25-year career.

Mary Ann Davies is a project leader at the Forest Service's Missoula Technology and Development Center (MTDC). She received a bachelor's degree in mechanical engineering with a minor in industrial and management engineering from Montana State University in 1988. She worked in the Forest Service's Pacific Northwest Region with facilities, tramways, recreation, and fire. Before coming to MTDC in 1998, she worked 5 years with the Rocky Mountain Research Station's fire chemistry and the fire behavior groups in Missoula, MT. Mary Ann works on projects in the nurseries, fire, recreation, and watershed, soil, and air programs.