Bonneville Power Administration
Fish and Wildlife Program FY99 Proposal

Section 1. General administrative information

Implement Best Management Practices

Bonneville project number, if an ongoing project 9088

Business name of agency, institution or organization requesting funding
Cowlitz and Wahkiakum Conservation Districts

Business acronym (if appropriate) CCD and WCD

Proposal contact person or principal investigator:

Name	Darin Houpt
Mailing Address	2125 8th Avenue
City, ST Zip	Longview, WA 98632
Phone	(360) 425-1880
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Email address	dhoupt@longv.walongview.fsc.usda.gov

Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name
no subcontractors will be used			

NPPC Program Measure Number(s) which this project addresses.
7.6, 7.7

NMFS Biological Opinion Number(s) which this project addresses.
Biological Opinion for Lower Columbia Steelhead deferred until 2/9/98

Other planning document references.
Arkansas Creek Watershed Plan, Grays River Watershed Plan

Subbasin.

Subbasins of Cowlitz River: Leckler Creek, Arkansas Creek, and Delameter Creek; Subbasins of Columbia River: Abernathy Creek, Germany Creek, Grays River, Coal Creek, Elochoman River

Short description.
Assist landowners with improving water quality and fish habitat. Examples include: livestock fencing, riparian plantings, and instream structures.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish	+	Construction	X	Watershed
+	Resident fish		O & M		Biodiversity/genetics
+	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research	+	Ecosystems
	Climate		Monitoring/eval.		Flow/survival
	Other	X	Resource mgmt		Fish disease
		+	Planning/admin.		Supplementation
			Enforcement	+	Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.
Best management practices

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
	N/A	

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Implement Best Management Practices (BMP's)	a	Fencing of livestock from stream
		b	Alternative watering sources
		c	Riparian plantings

		d	Culvert replacement/improvement
		e	Bio-engineering for streambank erosion
		f	Energy dissapation (log weirs/revetments)
		g	Seeding sensitive areas
		h	Improved road drainage
		i	Road and culvert maintenance
		j	Fish habitat improvments
		k	Large woody debris placement
		l	Limiting road access
		m	Seeding and waterbarring skidtrails
		n	Designating skid trails (improved harvest system)
		o	Improving pasture management
		p	Waste storage
		q	Nutrient management (fertilization)
2	Establishment of watershed community groups .	a	Inform residents of District programs through mailings/news articles
		b	Arrange and facilitate informational meetings
		c	Assist community with implementing Best Management Practices (see practices above)
3	Establish watershed advisory group.	a	Coordinate resource agencies, government, organizations and interested parties into watershed advisory group.
		b	Facilitate delivery of information from watershed advisory group to watershed community group
4	Conduct assessments of roads, forest practices, agricultural practices, urban/residential activities, and hydrology	a	For each: conduct field inventories
		b	Enter into database, evaluate and summarize.
		c	Present data to watershed advisory group.
		d	Develop priorities and implement

			BMP's (from Objective 1)

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	1/1999	1/2002	50.00%
2	1/1999	3/1999	5.00%
3	4/1999	9/2000	10.00%
4	4/1999	1/2002	35.00%
			TOTAL 100.00%

Schedule constraints.
Permits and/or Design approval

Completion date.
20002

Section 5. Budget

FY99 budget by line item

Item	Note	FY99
Personnel	Project Administration, Hydrologist, Resource Technician, Engineer Technician	$40,255
Fringe benefits	Medical, retirement, annual and sick leave	$13,704
Supplies, materials, non-expendable property	Materials to implement BMP's (plant materials, fencing, instream habitat, etc)	$40,142
Operations & maintenance	Landowner responsibility with some staff time	$ 0
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	N/A	$ 0
PIT tags	# of tags: 0	$ 0
Travel		$1,250
Indirect costs		$2,860
Subcontracts		
Other		
TOTAL		$98,211

Outyear costs

Outyear costs	FY2000	FY01	FY02	FY03
Total budget	$75,000	$75,000		
O&M as % of total	0.00%	0.00%		

Section 6. Abstract

Cowlitz and Wahkiakum Conservation Districts proposal follows the mandate of the 1994 Columbia Basin Fish and Wildlife program of "a locally based, bottom-up voluntary approach for protection and improvement of habitat on private lands" (7-40). This proposal is particularly timely due to the potential listing of Lower Columbia Steelhead (ESU4) by the National Marine Fisheries Service in February, 1998.

The Districts' primary objective is assisting local watersheds develop and implement watershed management plans based on the community's goals and objectives. Implementation activities will be best management practices (BMP's) that meet USDA Natural Resources Conservation Service's standards and specifications. These activities will prevent, avoid, or minimize fish habitat degradation. Examples include; livestock exclusion, alternative water sources for livestock, riparian vegetation plantings, mass failure stabilization, erosion control practices, instream large woody debris placement, and instream barrier removals. Each project is monitored and evaluated during and immediately following completion. Examples of monitoring projects include; long-term photo documentation, surveys (revegetation) and visual inspection (following storm events, etc.).

Specific goals will be to establish watershed community groups in the Germany, Mill, and Elochoman River watersheds and implement BMP's in the Leckler Creek, Abernathy Creek, and Grays River watersheds (community groups already established). Once these plans are developed and implemented, fish habitat is significantly improved. Depending on watershed landowners, it takes approximately 6-9 months to develop watershed plans and 2-3 years to implement projects.

Section 7. Project description

a. Technical and/or scientific background.

Background

Community meetings facilitated by the Districts to identify fish habitat and water quality issues and concerns indicate *land management activities* as the major contributor to fish habitat and water quality problems. Land use throughout the two counties can be characterized as 0-10% residential, 5-25% agriculture, 20-50% non-industrial forest land, and 50-75% industrial forest land. Past and present management activities (or lack of) are contributing to water quality degradation and environmental concerns in the watersheds.

Fish habitat and water quality concerns include; fish access and barriers to passage, decreased channel and flood plain complexity, riparian area degradation, impaired water

quality (temperature, dissolved oxygen, pH, turbidity), sediment transport and fine sediment, and stream flow/hydrology (Lower Columbia Steelhead Conservation Initiative, 8-4,5). Stream surveys conducted by the Displaced Fisher Program have located and identified numerous land management activities that are contributing to fish habitat and water quality degradation including:

- Livestock access to streams
- Loss of riparian vegetation and subsequent increase in bank erosion
- Upslope surface erosion from agricultural and forest management activities and residential development
- Runoff from roads
- Mass failures associated with roads, harvest activities, and natural slopes

The Districts' watershed planning process has 5 phases 1) Identify all landowners, local government, resource agencies, and interests in the watershed area. Collectively, this group is referred to as the watershed community. This group identifies resource issues and concerns. 2) Gather information about each watershed using "watershed portfolios" (soils, geology, landuse, DNR streamtypes, past data, anecdotal information), stream surveys, and current data (temperature, fecal coliform, TMDL's). 3) Conduct necessary field surveys to fill data gaps and assess resource conditions. 4) Compile and share information gathered with watershed community and discuss management alternatives and prioritize management recommendations. 5) Implement BMP's that address the watershed community's concerns and issues that will improve fish habitat and water quality.

Project Description

Our proposal is to create watershed community groups in Germany Creek, Mill Creek, and Elochoman River watersheds, implement Best Management practices in the Grays River, Leckler Creek and Abernathy Creek watersheds (watershed plans planned or in the process of planning), and assess watershed conditions.

This planning and implementation process has many of the same goals and objectives as the 1994 Fish and Wildlife Program. This is a voluntary, locally driven process. Local, private landowners mandate what needs to be done to improve the fish habitat and water quality in their watershed (section 7.7). Specifically, our plan addresses Habitat goal 7.6A; the Districts coordinate human activities that affect the productivity of anadromous fish on a watershed management basis. Part of the implementation project is to remove or improve fish barriers (section 7.6A.2) The best management practices that are implemented address the objectives stated in section 7.6D. These include sediment, bank stability, water quality, large woody debris, large pools, riparian vegetation, stream morphology, land management, riparian areas, roads, grazing, and timber harvest. By coordinating projects with individual landowner and resource agencies, volunteers, and other parties the Districts' plan meets the objectives listed in sections 7.6B.1 and 7.6B.6.

This watershed planning and implementation project has been very successful in the two previous watersheds (Arkansas Creek and Silver Lake). We are currently working with landowners in the Leckler Creek and Grays River watersheds.

Some examples of District projects include two riparian plantings on Leckler Creek (1997 and 1998). The landowner wanted to establish a cedar/alder mixed riparian area in a reed canary grass dominated environment. Planting riparian areas in targeted streams is an annual project. The District Education Director goes to the Castle Rock Middle School and gives a presentation about the importance of riparian areas. The seventh graders plant the riparian area. While the students provide the labor, all other materials and labor are donated by local resource agencies or organizations. For example, last year the trees were donated by Lower Columbia Fish Enhancement Group (LCFEG), tree tubes and mats by US Fish and Wildlife Service through a grant to LCFEG, site preparation was completed by the Cowlitz Corrections Crew and the Displaced Fisher Crew, shovels and cold storage for trees were donated by the Washington State Department of Natural Resources, local landowners, parents, WSU extension agents, Displaced fishers, and District employees contributed their time as chaperones.

Another project that was just completed was a instream woody debris project on Salmon Creek (part of the Grays River watershed). Twenty-five woody structures were placed in a mile long stretch of the creek. District employees (District Manager and Engineer/Conservation Technician) designed the structures so they mimicked the woody debris that was currently in the creek. The mile of creek was composed of 8% pools, after the woody debris placements, it was 20%. One month after the placements were completed, fish were using the pool tailouts to spawn in. Campbell group donated the logs and equipment operator while the Displaced fisher crew and district employees provided labor. These are only two projects that have been completed, but they are akin to all the other projects that are implemented. The Districts' use as many resources as possible to get the job completed, and completed as inexpensively as possible for the landowner.

b. Proposal objectives.

Objective 1: Establish watershed community groups in the Germany Creek, Mill Creek, and Elochoman River watersheds to address fish habitat and water quality problems and implement Best Management Practices based on watershed needs.

Objective 2: Coordinate with resource agencies, local government, organizations, and interest groups to establish technical advisory group that will assist the District in delivering current information to the watershed communities based on "sound science".

Objective 3: Conduct assessment of watershed conditions in Germany Creek, Mill Creek, and Elochoman River watersheds.

Objective 4: Use watershed assessment data to guide community groups through a consensus building process to develop practical solutions that address resource issues and concerns.

Objective 5: Provide technical assistance to watershed community groups to implement BMP's to improve water quality and fish habitat based on plan decisions. Technical assistance with agriculture activities will be consistent with USDA NRCS standards and specifications as outlined in the technical guide.

Objective 6: Monitor project success. Monitoring will include; implementation monitoring, BMP effectiveness monitoring, as well as overall project success. Water quality data will be used in long term monitoring to determine effectiveness of riparian BMP's.

Objective 7: Administer and manage project.

c. Rationale and significance to Regional Programs.

The Cowlitz and Wahkiakum Conservation Districts Board of Supervisors believe that watershed planning and implementation processes are most effective when executed on a local level. By working on a local or community level, landowners are receptive to fixing problems that contribute to the degradation of fish habitat in the watershed they live in. This local level planning approach has proved to be very successful in the past (Silver Lake and Arkansas Creek watershed planning). People tend to identify their community with the small watershed they live in, i.e., "I live on Salmon Creek," not "I live in the Lower Columbia River basin watershed." By working with landowners in their own "backyard," the Districts are able to conduct and complete watershed planning and implementation effectively. Small watershed planning and implementation allows for almost immediate improvements and maintains landowner interest.

The Districts' objectives are related to FWP objectives and measures. Objective 1 and 2 - FWP section 7.7 - calls for establishing watershed community groups consisting of landowners, interest groups, and resources agencies. This group will find methods of planning and implementing watershed improvement work that uses the best "sound science" and the least expense to the landowner. Objective 3 and 4 - FWP section 7.6C is an assessment of watershed conditions and delivering that data to the watershed community group so that solutions can be developed to address those resource issues. Objective 5 - FWP section 7.6D is to provide technical assistance to improve fish habitat and water quality conditions.

Currently, there is a local level approach to watershed planning in the Grays River watershed. Stream surveys have been completed, road assessments are in the process of being completed, and some technical assistance for problems has been provided. This work was funded by a grant from the Centennial Clean Water Fund through Washington State Department of Ecology.

The Districts have working relationships with many agencies. These include:

Washington Association of Conservation Districts	Washington State Conservation Commission
USDA Natural Resources Conservation Service	WA State Department of Natural Resources
Washington State University Cooperative Extension	Lower Columbia Fish Enhancement Group
Cowlitz County Government	Willapa Hills Audubon Society
WA State Department of Fish and Wildlife	US Fish and Wildlife Service
Cowlitz County Corrections Crew	Castle Rock Middle School
Farm Services Agency	Lower Columbia Fly Fishers
Castle Rock High School	Toutle Lake High School
Wahkiakum County Government	Wahkiakum High School

d. Project history

Not applicable

e. Methods.

Objective 1: Establish watershed community groups in the Germany Creek, Mill Creek, and Elochoman River watersheds to address fish habitat and water quality problems and implement Best Management Practices based on watershed needs.

Task 1.01 Coordinate watershed opportunities such as Jobs for the Environment Program, grants, and local programs to provide an efficient method of assisting watershed community groups.

Task 1.02 Use local media to inform county residents of watershed opportunities available to them.

Task 1.03 Arrange and facilitate community public meetings to inform county residents of opportunities available to them and to determine interest.

Task 1.04 Provide watershed communities with assistance to implement BMP's and to improve water quality and fish habitat needs.

Objective 2: Coordinate with resource agencies, local government, organizations, and interest groups to establish technical advisory group that will assist the District in delivering current information to the watershed communities based on "sound science".

Task 2.01 Coordinate with resource agencies, local government, organizations, and interest groups to improve delivery of technical information to watershed communities and to develop partnerships with these groups to facilitate implementation activities.

Task 2.02 Facilitate delivery of information from partnering agencies to watershed community groups at public meetings.

*This advisory group is established on the principles of **Coordinated Resource Management Planning** (CRMP). Consensus building is the heart of the approach that relies on a coalition of landowners and technical advisors involved in a scientific problem solving process. Stakeholders are brought together to establish common ground. This approach provides the flexibility necessary to encourage implementation of restoration practices as the program proceeds.*

Objective 3: Conduct assessment of watershed conditions in Germany Creek, Mill Creek, and Elochoman River watersheds.

Task 3.01 Conduct assessment of roads and mass failures.

- **Subtask 1** Conduct field inventories.
- **Subtask 2** Manage data into database.
- **Subtask 3** Evaluate and summarize data.
- **Subtask 4** Present data to watershed community groups.

Task 3.02 Conduct assessment of forest practices.

- **Subtask 1** Conduct field inventories.
- **Subtask 2** Manage data into database.
- **Subtask 3** Evaluate and summarize data.
- **Subtask 4** Present data to watershed community groups.

Task 3.03 Conduct assessment of agricultural practices.

- **Subtask 1** Conduct field inventories.
- **Subtask 2** Manage data into database.
- **Subtask 3** Evaluate and summarize data.

Subtask 4 Present data to watershed community groups.

Task 3.04 Conduct assessment of rural/urban residential practices.
Subtask 1 Conduct field inventories.
Subtask 2 Manage data into database.
Subtask 3 Evaluate and summarize data.
Subtask 4 Present data to watershed community groups.

Task 3.05 Conduct assessment of hydrology.
Subtask 1 Conduct field inventories.
Subtask 2 Manage data into database.
Subtask 3 Evaluate and summarize data.
Subtask 4 Present data to watershed community groups.

Task 3.06 Continue monitoring water quality in watersheds.
Subtask 1 Monitor temperature annually from June 1 to October 15 using recording thermographs.
Subtask 2 Monitor dissolved oxygen and pH temperature sites monthly.
Subtask 3 Compile and assess water quality data annually and present to watershed group.

Field surveys are established protocols developed with input from the technical advisory group which includes the Washington State Departments of Ecology, Natural Resources, Fish and Wildlife, Transportation, as well as the USDA Natural Resources Conservation Service, and Industry. Nearly 100% of the surveys document specific problem area locations. These surveys include frequency assessments of conditions, i.e., geology/soils susceptible to slides (correlation of landforms with survey data). This method allows the identification of the susceptibility of an area to more problems (slides).

Objective 4: Use watershed assessment data to guide community groups through a consensus building process to develop practical solutions that address resource issues and concerns. Solutions will include restoration practices and alternative management to prevent future impacts from similar activities
Task 4.01 Compile assessment data into an inventory report
Task 4.02 Combine community committee decisions and inventory reports to develop watershed plan.

Objective 5: Provide technical assistance to watershed community groups to implement BMP's to improve water quality and fish habitat based on plan decisions. Technical assistance with agriculture activities will be consistent with USDA NRCS standards and specifications as outlined in the technical guide.
Task 5.01 Implement stream and stream corridor BMP's including riparian restoration, bio-engineering streambank erosion practices, and energy dissipation.
Task 5.02 Implement road BMP's including seeding sensitive areas, improved drainage (culverts/waterbars), culvert placement/replacement, decommissioning of roads, and culvert cleanout. Implement practices to reduce continuing delivery of sediment from mass failures and prevent future occurrence through identification of sensitive areas and

triggering mechanisms. Practices include seeding, water diversions, and bio-engineering practices.
Task 5.03 Implement forestry practices including seeding sensitive areas, limiting road access, seeding and waterbarring skidtrails, improving harvest systems (designated skid trails) and riparian restoration.
Task 5.04 Implement agricultural practices including managing livestock access to streams, improving pasture management, waste storage, alternative water sources, riparian restoration practices, and nutrient management (fertilization).
Task 5.05 Assist the community to implement practices to reduce water quality and fish habitat impairment due to residential activities including improved septic system maintenance, nutrient (fertilizer/lawn waste) management, critical area plantings, and increased awareness of Growth Management Act, watershed issues, and the need for a County Clearing and Grazing ordinance (development).

These implementation activities are based on the data found in the assessments (see objective 3).

Objective 6: Develop monitoring protocols to evaluate project success. Monitoring will include; implementation monitoring, BMP effectiveness monitoring, as well as overall project success. Water quality data will be used in long term monitoring to determine effectiveness of riparian BMP's.
Task 6.01 Take immediate before and after photographs, followed by yearly photos of project development.

Objective 7: Administer and manage project.
Task 7.01 Maintain project records, submittal of fiscal forms and payment vouchers, and attainment of all required permits necessary for the project.
Task 7.02 Prepare and submit all required reports in a timely manner including quarterly progress reports and final project completion reports.

f. Facilities and equipment.

The Wahkiakum and Cowlitz Conservation Districts each have fully equipped offices in their respective counties. Every employee has a 486 computer or better with Microsoft Office installed. All databases are created and contained in MS Access. Field equipment is either owned by the Districts or the NRCS (which the Districts have use of). Equipment includes; field vehicles, shovels, augers, recording thermographs, measuring tapes, stadia rod, laser level, technical guides, etc.

g. References.

Not applicable

Section 8. Relationships to other projects

To the best of our knowledge there are no other projects by FWP in our work area.

Section 9. Key personnel

All staff employees have experience working with landowners, either one on one or in a group setting.

Darin Houpt - District Manager 0.5 FTE Cowlitz CD 0.5 FTE Wahkiakum CD
Responsible for managing programs, implementing projects, assisting landowners

Brett Freeman - Engineer/Conservation Technician 0.5 FTE Cowlitz CD 0.5 FTE Wahkiakum CD
Responsible for implementing engineering designs, assisting landowners

Jeanne Udd - Conservation Technician/Education Director 0.9 FTE Cowlitz CD 0.1 FTE Wahkiakum CD
Responsible for educational outreach, assisting landowners

Darin B. Houpt

Education

Oregon State University, Corvallis, OR March 1988 - June 1990
Graduate studies: Major-Forest Hydrology, Minor-Water Resources.

University of Missouri, Columbia, Mo August 1985 - December 1987
Bachelors of Science Forestry December 1987
Major: Forest Management Honors:XI SIGMA PI & Forester, Forestry Club

Johnson County Community College, Overland Park, KS August 1983 - May 1985
General Studies

Certification

Certified Analyst (Level I&II) for the Surface Erosion, Mass Wasting, Riparian, and Str
Channel modules of Department of Natural Resources Watershed Analysis.

Current Employer

Cowlitz and Wahkiakum Conservation District
October 1994 - Present
District Manager for Cowlitz Conservation District and Watershed Project Manager for Wahkiakum Conservation District.
Specific responsibilities include development and implementation of both Districts watershed management planning and implementation program, providing technical assistance to landowners, and day to day management of the Cowlitz Conservation Distr

Past Employment

Soil Conservation Service, Kelso Field Office, Forest Hydrologist/Forester, 10/91 - 10/94
US Forest Service, Wallowa-Whitman NF, Pine RD, Halfway, OR, Forest Hydrologist January 1991 - October 1991
US Forest Service, Wallowa-Whitman NF, Baker RD, Baker City, OR. Hydrologic Technician, July 1990 - December 1990
US Forest Service, Willamette NF, Oakridge RD, Oakridge, OR, Hydrologic Technicia 6/89-9/89 & 6/88-9/88

Experience

Expertise provided to the District includes:

- Leading and facilitating local consensus groups in the development and implementa of watershed management plans.
- Methods to assess natural resource conditions including data collection, data analysi and synthesis of data into a format meaningful to the lay person.
- Design and implementation of Best Management Practices to solve resource concern

Completions

Silver Lake Watershed Management Plan.
Arkansas Creek Watershed Management Plan.
Initiation of the Grays River Watershed Management Planning/Implementation Project
Management and Supervision of the Displaced Fisher Program

BRETT FREEMAN

Present Address:
236 Douglas St.
Longview, WA 98632
(360) 423-6141 (Home)

EDUCATION

Oregon State University, Corvallis, Oregon.
Bachelor of Science in Forest Engineering, June 1995

Clark Community College, Vancouver, Washington.
Arts and Science degree, June 1992.

EXPERIENCE

1997-Present **Engineer/Conservation Technician**. Wahkiakum/Cowlitz Conservation District, Longview, WA. Responsibilities include: providing technical assistance to landowners in forest management, streambank protection, Large Woody Debris placement projects, stream survey information, and watershed analysis information. I also prepare conservation plans, forest management plans, best management practices, presentations, and meetings with WDFW, landowners, and other interested parties.

1995-1997 **Forest Engineer**. Cavenham Forest Industries Div./Crown Pacific, Port Angeles, WA. Duties included: road layout, harvest unit layout, road and bridge construction supervision, contract administration, tree planting supervision, and retracing of old survey lines and monuments. I also aided in road maintenance supervision and the development of the five year harvest/road construction plan. June 1995-June 1997.

SKILLS

Forest Management. I have a broad knowledge of various forest management activities including: forest practice regulations, pre-commercial and commercial thinning, tree planting, timber cruising techniques, and harvest unit layout. I have designed and laid out over 70 miles of road and 180 mmbf of harvest units.

CERTIFICATION

EIT registration #11618EIT - Oregon
Xi Sigma Pi, Forestry Honorary Society
Timber cruising certificate - Atterbury Consultants

COMPLETIONS

Bioengineering Design Projects
Large Woody Debris Design and Implementation Project
Dairy Waste Management Plan and Design

JEANNE M. UDD
706 Eaton Court
Castle Rock, WA 98611
(360) 274-8445

EDUCATION

University of Washington, Seattle WA
Bachelor of Arts in Zoology, August 1994

EXPERIENCE

Natural Resources Technician/Education Director
(March 1996 - present)
Darin Houpt/Lyle Swanson - Cowlitz Conservation District, Longview, WA
Provide public with assistance and information to promote conservation practices--Includes writing riparian and land management plans, stream surveys, mapping of county watersheds, coordination of landowners to implement local watershed plan, coordination and implementation of annual tree sale, managing Natural Resources building at county fair, obtaining scholarships and sending students to the Natural Resources Youth Camp, and presenting educational programs at local schools.

Field/Lab Assistant University of Washington, Seattle, WA
January - December 1994, September 1995 -March 1996

SKILLS

- Maps - soils, geology, DNR streamtype, landuse, landownership
- Identification of aquatic insects (used for water quality determinations)
- Writing land management plans/working with landowners
- Stream surveys
- Computer skills: MS Word, Excel, Access; Eudora Light; On-Net 2.1, Netscape Navigator; Ami-Pro; Apple MacIntosh; Unix
- Public Speaking
- Grant writing

COMPLETIONS

- Leckler Creek Stream Surveys
- Forest management plan for Carrie Heltemes
- Coordination of 1996-1997 tree sale program
- 1997 educational activities

Section 10. Information/technology transfer

Technical information will be presented to landowners in each watershed through meetings, mailings, and news articles.