

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

Establishment Record

For

WET WEATHER CREEK RESEARCH NATURAL AREA

Olympic National Forest

Quilcene Ranger District

Jefferson County, Washington



SIGNATURE PAGE

for

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

Wet Weather Creek Research Natural Area

Olympic National forest

Jefferson County, Washington

The undersigned certify that all applicable land management planning and environmental analysis requirements have been met and that boundaries are clearly identified in accordance with FSM 4063.21, Mapping and Recordation and FSM 4063.41 5.e(3) in arriving at this recommendation

Prepared by

Joan Ziegltrum Date 10/2/97
Joan Ziegltrum, Ecologist, Olympic National Forest

Recommended by

B. O. Kizer Date 10/2/97
Benjamin O. Kizer, District Ranger, Quilcene District

Recommended by

Ronald R. Humphrey Date 10/2/97
Ronald R. Humphrey, Forest Supervisor, Olympic NF

Concurrence of

Thomas J. Mills Date 10/14/97
Thomas J. Mills, Station Director, PNW Research Station

ESTABLISHMENT RECORD FOR
THE WET WEATHER CREEK RESEARCH NATURAL AREA
WITHIN THE OLYMPIC NATIONAL FOREST
JEFFERSON COUNTY, WASHINGTON

TABLE OF CONTENTS

A.	INTRODUCTION	
	Land Management Planning.....	1
B.	OBJECTIVES	1
C.	JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA	1
D.	PRINCIPAL DISTINGUISHING FEATURES	2
E.	LOCATION	2
	1. Boundary	3
	2. Area	3
	3. Elevations	3
	4. Access	3
	5. Directions	3
F.	AREA BY COVER TYPES	4
G.	PHYSICAL AND CLIMATIC CONDITIONS	5
H.	DESCRIPTION OF VALUES	
	1. Flora	6
	2. Fauna	10
	3. Geology	12
	4. Soils	12
	5. Lands	13
	6. Cultural	13
	7. Other	13
I.	IMPACTS AND POSSIBLE CONFLICTS	
	1. Minerals	13
	2. Grazing	14
	3. Timber	14
	4. Watershed Values	14
	5. Recreation Values	14
	6. Wildlife and Plant Values	14
	7. Special Management Area Values	14
	8. Transportation Plans	14
J.	MANAGEMENT PRESCRIPTION	
	1. Vegetation Management	15
K.	ADMINISTRATION RECORDS AND PROTECTION	15
L.	ARCHIVING	16
M.	REFERENCES	17

APPENDICES

- A. Legal Description
- B. Management Prescription
- C. Mineral Resource Evaluation
- D. Vascular Plants of Silver Lake

ESTABLISHMENT RECORD FOR
THE WET WEATHER CREEK RESEARCH NATURAL AREA
WITHIN THE OLYMPIC NATIONAL FOREST
JEFFERSON COUNTY, WASHINGTON

A. INTRODUCTION

Wet Weather Creek Research Natural Area (RNA) is an excellent example of northeastern Olympic mountain ecosystems. The RNA includes the complete Wet Weather Creek drainage, from the lower elevation western hemlock forests (Tsuga heterophylla), through silver fir (Abies amabilis) and subalpine fir (Abies lasiocarpa) plant communities and up to the subalpine parkland ridges with krummholz and cushion plant communities. The RNA encompasses 1025 acres (415 hectares) located entirely on National Forest land, completely within the Buckhorn Wilderness (see Figures 1, 2 and 5).

Land Management Planning

The Wet Weather Creek RNA was proposed as a candidate RNA by the Olympic National Forest to meet the needs for representative areas of typical vegetation of the northeastern Olympics. It was designated a "proposed" RNA in the Olympic National Forest Land and Resource Management Plan (USDA Forest Service 1990a, 1990b).

B. OBJECTIVES

The objective of establishing the Wet Weather Creek RNA is to provide opportunities for research and education in typical mid- to high elevation forests of the eastern Olympic Peninsula, where natural processes are allowed to occur without intervention by people (USDA Forest Service 1990b). The RNA should provide a good baseline for comparison with other similar areas which are presently being managed. A complete stream drainage is an added feature, providing for a closed system in which to conduct management related studies (Greene 1981; see Fig. 7).

C. JUSTIFICATION STATEMENT FOR ESTABLISHMENT OF AREA

Wet Weather Creek RNA was selected to meet two RNA cell needs as identified in Research Natural Area Needs in the Pacific Northwest (Dryness et al. 1975, p. 22-23). The needs were: "Typical Douglas-fir - western hemlock forest on slopes, east side of peninsula: and "subalpine fir forest in northeastern portion of Olympic peninsula".

In addition, the area meets 3 ecosystem element needs described in the State of Washington Natural Heritage Plan (State of Washington 1995): (12) western hemlock / Pacific rhododendron community; (40) subalpine fir / big huckleberry community; and (66) mid-elevation stream and riparian system.

The proposed RNA also includes a documented population of the Forest Service and Washington State sensitive plant Carex obtusata (blunt sedge; see Fig. 8) and the Olympic endemic Viola flettii (Flett's violet, a narrow endemic plant found only in the Olympic mountains). Potential habitat for a number of other alpine and subalpine sensitive and endemic plant species also exists in the RNA (Roush and Weissbach 1993; Ziegltrum 1994).

D. PRINCIPAL DISTINGUISHING FEATURES

Wet Weather Creek RNA, an area of approximately 1025 acres, represents typical vegetation of the northeastern Olympics. The elevation ranges from 2800 to 6110 feet (854 to 1863 meters). Western hemlock / rhododendron - salal communities occur in lower Wet Weather Creek (Tsuga heterophylla / Rhododendron macrophyllum - Gaultheria shallon), including some doghair stands and rocky balds. At higher elevations, subalpine fir / common juniper (Abies lasiocarpa / Juniperus communis) and subalpine fir / white rhododendron (Abies lasiocarpa / Rhododendron albiflorum) communities occur, dominated by lodgepole pine (Pinus contorta).

Subalpine fir krummholz communities occur along the ridgetops. These are unique, shrublike growth forms of trees where dwarfing and wind and snow result in dense and low growth of trees. In the Wet Weather Creek RNA, there are subalpine fir and lodgepole pine trees 135 years old and only 8 - 10 ft high (2 - 3 m).

The area includes a perennial stream (Wet Weather Creek) that drains into the Big Quilcene River, the domestic water supply for the city of Port Townsend.

One documented population of the sensitive plant Carex obtusata (blunt sedge) occurs in the RNA (Fig. 8). This plant has a disjunct distribution in Washington and is known from six recent sitings in the Olympic Mountains in Clallam and Jefferson counties. One of these sites is in the RNA.

The narrow endemic plant, Viola flettii (Flett's violet) also has been documented in the RNA. This light purple-flowering violet is only found in the Olympic Mountains.

Potential habitat also exists in the RNA for other Forest Service Sensitive plants, Washington State Sensitive and State Threatened plants and Olympic endemics.

E. LOCATION

Figures 1 and 2 show the location of the Wet Weather Creek RNA entirely on National Forest land in the Buckhorn Wilderness, Olympic National Forest in Jefferson County, Washington. The center of the RNA is at latitude 47 degrees , 50 minutes north and longitude 123

degrees, 2 minutes, 30 seconds west. The RNA includes portions of sections 9, 10, 11, 15 and 16, T27N, R3W, Willamette Meridian.

1. Boundary

The legal description for the RNA is included in Appendix A.

2. Area

The Wet Weather Creek RNA encompasses 1025 acres (415 hectares).

3. Elevations

Elevations range from about 2800 feet (854 m) at the lower end of Wet Weather Creek up to 6110 feet (1863 m) at Welch Peaks.

4. Access

The Wet Weather Creek RNA is on the east side of the Olympic National Forest, on the Quilcene Ranger District in the Buckhorn Established Wilderness (see Figures 1 and 2). There are no hiking trails in the RNA, although there are established trails near the southern and northern boundaries of the area. Access is by auto on Forest Service Roads to trailheads, then by foot hiking close to one of the RNA boundaries, then by cross-country hiking into the RNA.

The following aerial photographs by the USDA Forest Service provide coverage of the RNA:

8-19-82	USDA 12	616090A	782-107
8-19-92	USDA 12	616090A	782-108
8-19-92	USDA 12	616090A	782-52

5. Directions: from Quilcene, Washington, drive on Highway 101 South 1.0 miles, turning right (west) on the Penny Creek Road to Forest Service Road No. 27. Continue as follows, for access to either the lowland or high country parts of the RNA (see Figure 10, Vicinity map).

Access to the southern, lowland part of the RNA: From Forest Road 27, continue 11 miles to the intersection with Road 2750. Bear left (west) on Road 2750 for approximately 5 miles to the Big Quilcene trailhead (Trail No. 833). Wet Weather Creek and Ten mile Shelter are at the parking area. Cross country access into the RNA may begin anywhere along the Big Quilcene trail (No. 833).

Access to the northern, high country part of the RNA: From Forest Road #27, continue north, turning left (west) on Road 2760 to the Mt. Townsend trailhead (Trail No. 839). Hike 4 miles to the junction with the Silver Lakes Trail (No. 842), then take the Silver Lakes Trail an additional 2.5 miles to the upper Silver Lake. The RNA may be

accessed by hiking a way trail from the southern end of upper Silver Lake to the pass and ridge above the lake. The boundary of the RNA is along the ridge south of upper Silver Lake. Further travel into the RNA is via cross-country hiking with no established trails.

F. AREA BY COVER TYPES

The vegetation of the Wet Weather Creek RNA has been sampled by the Area Ecology Program as part of the classification of forested plant associations. Table 1 includes acreages by SAF Cover Types (Eyre 1980), Kuchler Types (Kuchler 1964) and Olympic National Forest Vegetation Zones (Henderson et. al 1989; associated GIS coverage).

Figure 2 shows the vegetation zones in the RNA. See the section on "Flora" and also Table 2 for more descriptive information on plant associations. The plant associations are not mapped on the Forest, and a modelling effort is underway to predict plant association groups. The model needs further refinements before it can be used for the Wet Weather Creek area.

Table 1. Area by Cover Types for the Wet Weather Creek RNA

	Acres	Hectares
<u>SAF COVER TYPES (Eyre 1980)</u>		
230 Douglas-fir - western hemlock (with a small amount of 224 Western Hemlock)	401	162
206 Engelmann spruce - subalpine fir	475	193
Nonforested	149	60
Total	1025	415
<u>KUCHLER TYPES (1964) & OLYMPIC VEGETATION ZONES (Henderson et. al 1989) - Kuchler types in lower-case, corresponding Olympic Vegetation Zones in upper-case</u>		
K002 Thuja-Tsuga_Pseudo (Red cedar-western hemlock-Douglas-fir forest) OLYMPIC WESTERN HEMLOCK ZONE	401	162
K015 Picea-Abies (Subalpine fir-Englemann spruce forest) OLYMPIC SUBALPINE FIR ZONE	475	193
K052 Agros-Carex-Fest-Poa (Alpine meadows and Barren) OLYMPIC PARKLAND ZONE	149	60
Total	1025	415

G. PHYSICAL AND CLIMATIC CONDITIONS

The Wet Weather Creek RNA lies in the headwaters of the Big Quilcene River in the eastern portion of the Olympic Peninsula. A recent watershed analysis of the Big Quilcene Watershed provides valuable information on the physical and climatic conditions of the entire watershed, including the subwatershed containing the RNA (USDA Forest Service 1994, Big Quilcene Watershed Analysis, An Ecological Report at the Watershed Level).

The RNA includes a diversity of topographic features, from the subalpine ridges at its northern boundary at 6110 ft. (1863 m) to the forested valley of Wet Weather Creek and its confluence with the Big Quilcene River at 2800 ft. (854 m). Slopes are moderate to very steep.

The Northwest climate is wet and mild, due to the coastal location and effects of the marine air masses. The prevailing winds are from the southwest. This pattern of air masses and weather phenomena moving from west to east is common to much of western Washington. Most of the precipitation for the Wet Weather Creek RNA comes from weather systems moving across the Olympic Peninsula from the Pacific Ocean. The ocean provides relatively warmer moist air masses in the winter and cooler air in the summer as a contrast to air masses moving over continental areas.

The eastern portion of the Olympic Peninsula, in the vicinity of the City of Sequim, receives less precipitation due to the "rain shadow" effect of the surrounding Olympic Mountain peaks. The nearest weather station is at the Forest Service Ranger District Office in Quilcene, where the average annual precipitation is 51 inches (130 cm; Weather Station ID 450207, Quilcene, WA, approximately 8 miles (13 km) east of the RNA). Much of the precipitation in the Olympic Region occurs largely in the winter season and is greater in high-elevation areas than in the lowlands. Much accumulates as snowpack that contributes to spring and summer runoff. Over 80% of the precipitation falls between October through April while summers are relatively dry. The usual winter season precipitation occurs as rain below 2,000 ft. (610 m), rain and snow between 2,000 - 4,000 ft. (610 - 1220m), and snow above 4,000 ft. (USDA Forest Service 1994, Big Quilcene Watershed Analysis, 38 year climate record).

The average annual temperature for the Quilcene area is 50 degrees F. (10 degrees C.). The average temperature for January is 38 degrees F. (3 degrees C.) and the average temperature for July is 62 degrees F. (17 degrees C.) (USDA Forest Service 1994, Big Quilcene Watershed Analysis, 38 year climate record).

H. DESCRIPTION OF VALUES

1. Flora

The Wet Weather Creek RNA represents typical vegetation of the northeastern Olympics. Western hemlock / rhododendron - salal plant communities occur in lower Wet Weather Creek, including some doghair stands and rocky balds. The area has an extensive fire history, as evidenced by the lodgepole pine communities and fire scars on trees. Old growth forests exist in the valley bottom.

At higher elevations, subalpine fir / common juniper and subalpine fir / white rhododendron communities dominated by lodgepole pine are found. Subalpine fir krummholz and subalpine cushion plant communities occur along the ridgetops.

There are a number of botanically interesting features, including the subalpine fir krummholz, a population of Carex obtusata (a sedge on the sensitive species list) and Viola flettii (Flett's violet, a narrow Olympic Mountain endemic).

Death camas (Zigadenus venenosus) has also been found in the RNA (see Fig. 6). American Indians sometimes used this plant as an emetic, but because of its poisonous nature, it was usually avoided. The leaves of the death camas are similar to the choice blue camas (Camassia quamash), the latter valued for its edible bulbs. The blue camas bulbs were picked when the plant was in bloom, as the flowers of the blue camas are very different from those of the death camas (Gunther 1981).

See Section D, Principal Distinguishing Features, for more discussion of the RNA's unique features.

There are several sources of information concerning the flora of the Wet Weather Creek RNA. Vegetation sampling by the Forest Service's Area Ecology Program included 16 plots in the RNA (Henderson et. al 1989), and the Forest Botany Program included some limited inventories in the upper, subalpine areas in 1993 (Roush and Weissbach 1993).

The plant list in Table 2 is an initial list of species and plant associations, based on the above two sources. The latest reference, Flora of the Olympic Peninsula (Buckingham et. al 1995), is most up to date on taxonomic changes and is used as a reference. The more general, and older, floral reference is Flora of the Pacific Northwest (Hitchcock and Cronquist 1973).

Noted floral researcher, Nelsa Buckingham, compiled a list "Vascular Plants of Silver Lake", which included some of the ridgetop area that serves as the northwestern boundary of the RNA (Buckingham 1990; see Appendix D). Plants documented within the RNA are not specifically noted, and although many are highly likely within the RNA, they are not included in Table 2.

Table 2. Documented Flora of the Wet Weather Creek RNA (names from Hitchcock and Cronquist 1973; as updated by Buckingham et al. 1995; older, replaced names are enclosed in parenthesis)

SCIENTIFIC NAME	COMMON NAME	PLANT ASSOCIATION
Trees		
<u>Abies amabilis</u>	Pacific silver fir	4,7
<u>Abies lasiocarpa</u> var. <u>lasiocarpa</u>	subalpine fir	1,2,3,5,9
<u>Alnus viridis</u> ssp. <u>sinuata</u> (A. <u>sinuata</u>)	Sitka alder	2
<u>Chamaecyparis nootkatensis</u>	Alaska yellow cedar	1,4
<u>Pinus contorta</u>	lodgepole pine	2,5,9
<u>Pinus monticola</u>	western white pine	1,2
<u>Pseudotsuga menziesii</u>	Douglas-fir	1,2,4,6,7
<u>Taxus brevifolia</u>	Pacific yew	1,6,7
<u>Thuja plicata</u>	western redcedar	1,4,6,7
<u>Tsuga heterophylla</u>	western hemlock	1,2,4,5,6,7
<u>Tsuga mertensiana</u>	mountain hemlock	2
Shrubs		
<u>Acer circinatum</u>	vine maple	1,6
<u>Acer glabrum</u> var. <u>douglasii</u>	Douglas maple	2
<u>Arctostaphylos uva-ursi</u>	Kinnikinnick	3,8,9
<u>Berberis nervosa</u>	Oregongrape	1,2,4,6,7,8
<u>Gaultheria shallon</u>	salal	1,2,4,6,7,8
<u>Holodiscus discolor</u>	ocean-spray	1,8
<u>Juniperus communis</u> var. <u>montana</u>	common juniper	3,5,9
<u>Menziesia ferruginea</u>	fool's huckleberry	2
<u>Paxistima myrsinites</u>	Oregon boxwood	1,2,5,7,9
<u>Phyllodoce empetrifomis</u>	red mountain-heather	2
<u>Potentilla fruticosa</u>	shrubby cinquefoil	3,9
<u>Rosa gymnocarpa</u> var. <u>gymnocarpa</u>	baldhip rose	1,8
<u>Rhododendron albiflorum</u>	white rhododendron	2,5
<u>Rhododendron macrophyllum</u>	Pacific rhododendron	1,2,4,7,8
<u>Salix reticula</u> ssp. <u>nivalis</u>	snow willow	3
<u>Symphoricarpos hesperius</u> (S. <u>mollis</u>)	creeping snowberry	1,2,4,5
<u>Vaccinium alaskense</u>	Alaska huckleberry	7
<u>Vaccinium membranaceum</u>	thin-leaved huckleberry	2
<u>Vaccinium parviflorum</u>	red huckleberry	1,4,6

Herbaceous Vegetation

<u>Achillia millifolium</u>	common yarrow	3,5,9
<u>Achlys triphylla</u>	deerfoot vanillaleaf	1,2
<u>ssp. triphylla</u>		
<u>Allium cernuum</u>	noddling onion	-
<u>var. obtusum</u>		
<u>Anemone lithophila</u>	stone-loving anemone	-
<u>(A. drummondii)</u>		
<u>Anemone lyallii</u>	Lyall's anemone	2
<u>Antennaria media</u>	media pussytoes	3
<u>(A. alpina var. media)</u>		
<u>Antennaria racemosa</u>	raceme pussytoes	2,5
<u>Arnica cordifolia</u>	heart-leaved arnica	5
<u>Campanula piperi</u>	Piper's bellflower	9
<u>Campanula rotundifolia</u>	bluebells-of-Scotland	3
<u>Campanula scouleri</u>	Scouler's bellflower	1,2,8
<u>Carex obtusata</u>	blunt sedge	-
<u>Carex raynoldsii</u>	Raynold's sedge	-
<u>Castilleja sp.</u>	paintbrush	5
<u>Chimaphila menziesii</u>	little pipsissewa	7
<u>Chimaphila umbellata</u> ssp.	common pipsissewa	1,4
<u>occidentalis</u>		
<u>Cirsium sp.</u>	thistle	5,8
<u>Clintonia uniflora</u>	Queen's cup	2
<u>Cornus unalaschkensis</u>	unalaska bunchberry	2
<u>(C. canadensis)</u>		
<u>Epilobium minutum</u>	small-flowered willow-herb	8
<u>Erigeron compositus</u>	cut-leaf fleabane	9
<u>Erigeron flettii</u>	Olympic mountain fleabane	3,5
<u>Erigeron peregrinus</u>	wandering fleabane	-
<u>Eriogonum ovalifolium</u>	oval-leaved eriogonum	-
<u>Festuca occidentalis</u>	western fescue	8
<u>Festuca saximontana</u>	Rocky mountain fescue	3
<u>(F. ovina)</u>		
<u>Fragaria virginiana</u>	Virginia strawberry	5,8
<u>ssp. platypetala</u>		
<u>Gaultheria ovatifolia</u>	slender teaberry	2
<u>Gentianella amarella</u>	northern gentianella	-
<u>ssp. acuta</u>		
<u>(Gentiana amarella)</u>		
<u>Geum triflorum</u>	old man's whiskers	-
<u>Goodyera oblongifolia</u>	giant rattlesnake- plaintain	1,4
<u>Hedysarum occidentale</u>	western hedysarum	2,5,9
<u>Hieracium albiflorum</u>	white-flowered hawkweed	2,5
<u>Holcus lanatus</u>	common velvet grass	-
<u>Lilium columbianum</u>	Columbia lily	2
<u>Linnea borealis</u> ssp.	twinflower	1,2,4,6,7
<u>longiflora</u>		
<u>Listera cordata</u>	heart-leaved twayblade	4
<u>Lomatium martindalei</u>	Martindale's lomatium	2,5,9

<u>Lupinus latifolius</u>	broadleaved lupine	2,3
<u>ssp. latifolius</u>		
<u>Lupinus lepidus</u>	prairie lupine	3
<u>Lycopodium clavatum</u>	ground pine	2
<u>var. clavatum</u>		
<u>Maianthemum stellatum</u>	starry false Solomon's	1,2
(<u>Smilacina stellata</u>)	seal	
<u>Minuartia obtusiloba</u>	blunt-sepal sandwort	-
(<u>Arenaria obtusiloba</u>)		
<u>Minuartia rubella</u>	Boreal sandwort	3
(<u>Arenaria rubella</u>)		
<u>Moehringia macrophylla</u>	big-leaved sandwort	1,8
(<u>Arenaria macrophylla</u>)		
<u>Monotropa hypopithys</u>	pinemap	1,7
(<u>Hypopitys monotropa</u>)		
<u>Orthilia secunda</u>	sidebells	2,4,5
(<u>Pyrola secunda</u>)		
<u>Orthocarpus imbricatus</u>	mountain owl-clover	-
<u>Oxytropis monticola</u>	mountain oxytropis	-
<u>ssp. monticola</u>		
(<u>O. campestris</u>)		
<u>Pedicularis racemosa</u>	sickle-top lousewort	5
<u>ssp. racemosa</u>		
<u>Penstemon davidsonii</u>	Davidson's penstemon	9
<u>Penstemon procerus</u>	small-flowered penstemon	3,5,9
<u>var. tolmiei</u>		
<u>Phacelia sericea</u>	silky phacelia	3
<u>ssp. sericea</u>		
<u>Phlox diffusa</u>	spreading phlox	5,9
<u>Phlox gracilis</u>	slender phlox	8
(<u>Microsteris gracilis</u>)		
<u>Polystichum lonchitis</u>	Mountain holly-fern	8
<u>Polystichum munitum</u>	sword fern	1,4,6
<u>Polystichum imbricans</u>	imbricate sword fern	1
<u>ssp. imbricans</u>		
<u>Potentilla diversifolia</u>	varied-leaf cinquefoil	-
<u>Potentilla fruticosa</u>	Shrubby cinquefoil	-
<u>Pterospora andromedea</u>	pinedrops	6
<u>Pyrola asarifolia</u>	common pink pyrola	1,2,4
<u>Pyrola picta</u>	white-vein pyrola	7
<u>Rubus laciococcus</u>	dwarf bramble	2,5
<u>Rubus ursinus</u>	Pacific blackberry	1,4,8
<u>ssp. macropetalus</u>		
<u>Saxifraga bronchialis</u>	spotted saxifrage	3,9
<u>Saxifraga cespitosa</u>	tufted saxifrage	-
<u>Sedum rupicolum</u>	cliff-dwelling sedum	3
(<u>S. lanceolatum</u>)		
<u>Selaginella wallacei</u>	Wallace's selaginella	3,9
<u>Senecio flettii</u>	Flett's groundsel	5
<u>Senecio lugens</u>	black-tipped groundsel	5
<u>Solidago multiradiata</u>	northern goldenrod	3
<u>var. scopulorum</u>		
<u>Tiarella trifoliata</u>	trefoil foamflower	1,4

<u>Tiarella trifoliata</u>	trefoil foamflower	4
var. <u>unifoliata</u>		
<u>Trientalis borealis</u>	American starflower	1,4
ssp. <u>latifolia</u>		
(T. <u>latifolia</u>)		
<u>Trillium ovatum</u>	large white trillium	1,4
ssp. <u>ovatum</u>		
<u>Trisetum spicatum</u>	spike trisetum	3
<u>Valeriana sitchensis</u>	Sitka valerian	2,5
<u>Veratrum viride</u>	green false hellebore	2
<u>Viola flettii</u>	Flett's violet	-
<u>Viola orbiculata</u>	round-leaved violet	1,2,5
<u>Viola sempervirens</u>	evergreen violet	1,4,7
<u>Xerophyllum tenax</u>	beargrass	1,2
<u>Zigadenus venenosus</u>	death-camus	-

Plant Associations (see Henderson et. al 1989)

1. Tsuga heterophylla / Rhododendron macrophyllum - Gaultheria shallon (western hemlock / rhododendron - salal) - TSHE/RHMA-GASH
2. Abies lasiocarpa var. lasiocarpa / Rhododendron albiflorum (subalpine fir / white rhododendron) - ABLA2/RHAL
3. alpine dwarf shrub community, dominated by Salix reticula ssp. nivalis (snow willow)
4. Tsuga heterophylla / Rhododendron macrophyllum (western hemlock / rhododendron) - TSHE/RHMA
5. Abies lasiocarpa var. lasiocarpa / Juniperus communis var. montana (subalpine fir / common juniper) - ABLA2/JUCO
6. Tsuga heterophylla / Gaultheria shallon (western hemlock / salal) - TSHE/GASH
7. Abies amabilis / Rhododendron macrophyllum (Pacific silver fir / rhododendron) - ABAM/RHMA
8. rocky bald (dominated by Arctostaphylos uva-ursi (kinnikinnick))
9. Abies lasiocarpa var. lasiocarpa Krummholz (subalpine fir Krummholz) - ABLA2 Krummholz

2. Fauna

The Wet Weather Creek RNA provides habitat for two Federally listed, threatened species, the marbled murrelet (Brachyramphus marmoratus) and the northern spotted owl (Strix occidentalis). The U.S. Fish & Wildlife Service has also designated "critical habitat" for both of these birds.

The marbled murrelet is a unique, small seabird that forages in the near-shore marine environment and nests in large trees in coniferous forests. Nests and young birds have been found up to 30 miles (48 km) inland from the ocean. Surveys have shown that the RNA contains "occupied habitat" for the marbled murrelet.

Although there are no documented spotted owl nest sites within the RNA, there are three adjacent to the area and the RNA provides roosting and foraging habitat (Lemieux 1996).

The bald eagle (Haliaeetus leucocephalus), another Federally threatened species, has been observed in the RNA.

Other faunal species have not been systematically inventoried in the Wet Weather Creek RNA. Table 3 provides a partial list of wildlife species based on observational data and knowledge from forest wildlife biologists and the Area Ecology plots. It is an incomplete listing, as there are likely many more species using the area.

There is little information on aquatic species in the RNA. An inventory of the lower Wet Weather Creek indicated that no fish were found below the Ten Mile Shelter (Donald 1996).

Table 3. Fauna of the Wet Weather Creek RNA (scientific names by Peterson 1961; Burt and Grossenheider 1976)

Species documented in the RNA:

Columbian black-tail deer	<u>Odocoileus hemionus columbianus</u>
Cougar	<u>Felis concolor</u>
Olympic marmot	<u>Marmota olympus</u>
Chipmunk	<u>Eutamias spp.</u>
Bald eagle	<u>Haliaeetus leucocephalus</u> (Fed. threatened)
Rufous hummingbird	<u>Selasphorus rufus</u>
Red-breasted nuthatch	<u>Sitta canadensis</u>
Golden-crowned kinglet	<u>Regulus satrapa</u>

Species very likely to occur in the RNA:

Northern spotted owl	<u>Strix occidentalis</u> (Fed. threatened)
Marbled murrelet	<u>Brachyramphus marmoratus</u> (Fed. threatened)
Douglas squirrel	<u>Tamiasciurus douglasi</u>
Blue grouse	<u>Dendragapus obscurus</u>
Winter wren	<u>Troglodytes troglodytes</u>
Gray jay	<u>Perisoreus canadensis</u>
Dark-eyed junco	<u>Junco hyemalis</u>
Hermit thrush	<u>Catharus guttatus</u>
Northern flicker	<u>Colaptes auratus</u>
Olive-sided flycatcher	<u>Contopus borealis</u>
Chestnut-backed chickadee	<u>Parus rufescens</u>
Black bear	<u>Ursus americanus</u>
Mountain goat (introduced)	<u>Oreamnos americanus</u>

3. Geology

The Olympic Peninsula has been reshaped geologically through time. The Olympic Mountains are a young range raised from seafloor sediments and basalt during the Pliocene and probably still being uplifted. During the "ice age", glaciers repeatedly covered the Olympic Region and alpine glaciers are thought to have extended down the major river courses beyond the mountain front at some time. The Olympic alpine glaciers and snow fields have shaped the rugged interior mountain peaks and high river canyons, but the major reshaping of the foothills and lowlands in the northern Olympic region has been accomplished by probably four or more cordilleran ice sheets moving down from British Columbia (USDA Forest Service 1994, Big Quilcene Watershed Analysis).

4. Soils

Wet Weather Creek RNA includes glacial cirques and alpine ridges, glaciated valleys and glaciated mountain sideslopes. Soil information on the area is available from the Olympic National Forest Soil Resource Inventory. See Figure 11 for the map and Table 4 below.

Table 4. Soils of the Wet Weather Creek RNA

<u>LANDFORM</u>	<u>SOIL RESOURCE INVENTORY MAPPING UNITS</u>	<u>DESCRIPTION</u>
<u>Glacial cirques & alpine ridges</u>	5-60C, 5-60rC 5-60rD	Bedrock outcrops, craggy peaks, shallow colluvial soils; inclusions of small lakes and wetlands
<u>Glaciated mountain sideslopes</u>	60-61C; 61-60C 5-60dC; 60rC; 60r-61C; 61C 60rD; 6-61C	Very steep slopes; shallow to moderately deep colluvial soils; well drained
<u>Glaciated valleys</u>	16-6c; 3c	Deep colluvial soils on mountain toe slopes; compact glacial tills with cement layer at approximately 24 inches (61 cm) that produces springs & seasonal water tables

*source: Jennings et. al 1982. The Olympic National Forest Soil Resource Inventory Update Report; Sasich 1993

5. Lands

Lands within and surrounding the RNA are reserved National forest lands. The RNA lies wholly within the Buckhorn Wilderness (established by the Washington State Wilderness Act in 1984) and is already withdrawn from mineral entry.

6. Cultural

There are no known cultural resource sites within the RNA (Halverson 1993). The closest site is the Ten Mile Shelter, located near the Big Quilcene Trailhead (no. 833) outside the southern RNA boundary. This historical shelter was build in the early 1930's by the Civilian Conservation Corps.

7. Other

The RNA is in the headwaters of the Big Quilcene watershed. Wet Weather Creek drains into the Big Quilcene River, which is the domestic water supply for the city of Port Townsend, Washington.

I. IMPACTS AND POSSIBLE CONFLICTS

1. Minerals

The mineral resources of the Wet Weather Creek RNA were evaluated by John D. Simmons, Area Mineral Examiner and the following is extracted from his report (Simmons 1993; entire report included in Appendix C):

" In summary, it appears that the subject land is not encumbered by mining claims, mineral leases or mineral permits. It does not have any reported mineral resource occurrences, and the potential for the occurrence of such appears to be relatively low. The BLM has classified the area as an "area of critical mineral potential", which is probably due to its geology and related potential for the occurrence of copper and manganese deposits. However, based upon a review of available literature it appears that the actual potential for the occurrence of such is low. The area is classified as being prospectively valuable for oil and gas, but it is not prospectively valuable for other leasable minerals and the actual potential for the occurrence of oil and gas is relatively low. Available information indicates that industry has negligible interest in the area, and it is not anticipated to increase. Since the area lies within the Buckhorn Wilderness and, as a consequence, is not subject to entry under the mining laws, designation as a RNA will have no affect on the availability of mineral resources." (Simmons 1993)

2. Grazing

There is no domestic livestock grazing use in the RNA.

3. Timber

The RNA is entirely within the Buckhorn Established Wilderness, and unavailable for timber harvest. Therefore, there are no commercial timber values of concern.

4. Watershed Values

As part of the Big Quilcene Watershed, the watershed values of the RNA are high. Wet Weather Creek is a headwater tributary to the Big Quilcene River, a domestic water supply for the City of Port Townsend. The RNA status of the area serves as a benefit to maintenance of these high watershed values.

5. Recreation Values

There are no hiking trails or other recreation facilities within the RNA. Although there is high recreation use on the Big Quilcene Trail (No. 833), there is no trail access into the RNA from the lower, southern end. There is high recreation use of the Silver Lakes area in the Buckhorn Wilderness, and a way trail from upper Silver Lake to the ridge that forms the northern boundary of the RNA. However, the ridgetop is composed of steep, scree slopes, and unlikely to receive significant impact from hikers off the ridgetop. Recreational values are unlikely to conflict with the RNA values.

6. Wildlife and Plant Values

The RNA provides habitat for threatened and endangered birds and sensitive plants, as described in sections D and H. Establishment of the RNA will not conflict with these values, and offers opportunities for research and monitoring that may be beneficial to these species.

7. Special Management Area Values

Establishment of the Wet Weather Creek RNA will not impact the Wilderness values of the Buckhorn Established Wilderness.

8. Transportation Plans

There are no transportation plans that would adversely impact the RNA, nor will the RNA establishment affect the forest's transportation system.

J. MANAGEMENT PRESCRIPTION

The Olympic National Forest Land and Resource Management Plan (USDA FS 1990b; pp. IV-105 - IV-107) sets goals, desired future conditions and standards and guidelines for Research Natural Areas as follows:

"Goal: Provide opportunities for research and education on areas of National Forest land where natural processes are allowed to occur without intervention by people."

"Desired Future Condition: A land area where the ecological community is evolving through natural processes, and where preservation of natural features and conditions is not jeopardized by human activity."

Standards and Guidelines: standards for management are provided for each resource element, including Recreation, Wildlife and Fish, Timber, Water, Soil and Air, Minerals and Energy, Facilities and Protection. See Appendix B for a copy of the specific management standards.

1. Vegetation Management

The Forest Plan Management Prescription for the RNA prohibits livestock grazing. Use of prescribed fire may be considered to perpetuate the ecological conditions the RNA is meant to represent. However, there is no prescribed fire plan in effect, nor plans to develop one at the current time.

K. ADMINISTRATION RECORDS AND PROTECTION

Administration and protection of the Wet Weather Creek RNA is the responsibility of the Olympic National Forest. The District Ranger of the Quilcene District has direct responsibility.

The Regional Forester of the Pacific Northwest Region will be responsible for any studies or research conducted in the area, and requests to conduct research should be referred to him/her.. The Regional Forester will evaluate research proposals and coordinate all studies and research in the area with the Forest Supervisor and the Director of the Pacific Northwest Research Station. All plant and animal specimens collected in the course of research conducted in the area will be properly preserved and maintained within university or federal agency herbaria and museums, approved by the Pacific Northwest Regional Forester.

Records for the Wet Weather Creek RNA will be maintained in the following offices:

Regional Forester, Pacific Northwest Region, Portland, Oregon
Forest Supervisor, Olympic National Forest, Olympia, Washington
District Ranger, Quilcene Ranger District, Quilcene, Washington
Director, Pacific Northwest Forest & Range Experiment Station,
Portland, Oregon

L. ARCHIVING

The Corvallis office of the Pacific Northwest Forest and Range Experiment Station will be responsible for maintaining the Wet Weather Creek RNA research data file and list of herbarium and other collected specimens.

M. REFERENCES

- Buckingham, N.M. 1990. Vascular Plants of Silver Lake; April 26, 1990 letter.
- Buckingham, N.M., E.G. Schreiner, T.N. Kaye, J.E. Burger and E.L. Tisch. 1995. Flora of the Olympic Peninsula. Northwest Interpretive Association and the Washington Native Plant Society, Seattle, WA. 199pp.
- Burt, William H. and Richard P. Grossenheider. 1976. A Field Guide to the Mammals. Houghton Mifflin Co., Boston. 289 pp.
- Donald, M. 1996. Personal communication; Quilcene Ranger District Fisheries Biologist.
- Dyrness, C.T., Jerry F. Franklin, Chris Maser, Stanton A. Cook, James D. Hall and Glenda Faxon. 1975. Research Natural Area Needs in the Pacific Northwest; A Contribution to Land-Use Planning. Pacific Northwest Forest and Range Experiment Station, USDA Forest Service, Portland, Oregon. 231 pp.
- Eyre, F.H. 1980. Forest Cover Types of the United States and Canada. Society of American Foresters, Washington, D.C. 148pp.
- Greene, Sarah. 1981. RNAs in the Forest Plan. 4060 Letter, dated October 15, 1981 from Sarah Greene, Research Natural Area Scientist, Pacific Northwest Region to Richard Beaubien, Forest Supervisor, Olympic National Forest.
- Gunther, E. 1981. Ethnobotany of Western Washington: the Knowledge and Use of Indigenous Plants by Native Americans. University of Washington Press, Seattle.
- Halverson, J. 1993. Personal communication; Quilcene Ranger District Cultural Resource Technician.
- Henderson, J.A., D.H. Peter, R.D. Leshner and D.C. Shaw. 1989. Forested Plant Associations of the Olympic National Forest. USDA Forest Service, Pacific Northwest Region, R6 Ecol Technical paper 001-88; U.S. Government Printing Office :1989-693-478. 502pp.
- Hitchcock, C.L. and A. Cronquist. 1973. Flora of the Pacific Northwest; an Illustrated Manual. University of Washington Press, Seattle, WA. 730pp.
- Jennings, W., M. May, G. Sheehy and N. Darling. 1982. The Olympic National Forest Soil Resource Inventory Update Report. USDA Forest Service, Olympic National Forest, Olympia, Washington.
- Lemieux, S. 1996. Personal communication; Quilcene Ranger District Wildlife Biologist.

Peterson, Roger Tory. 1961. A Field Guide to Western Birds. Houghton Mifflin Co., Boston. 309pp.

Roush, D. and M. Weissbach. 1993. CCS Botanical Surveys, 1993, Galium kamtschaticum, Woodwardia fimbriata, Buckhorn Wilderness. Olympic National Forest internal Report, 18pp.

Sasich, J. 1993. Personal communication; Olympic National Forest Watershed Program Manager.

Simmons, J. D. 1993. Mineral Resources, Proposed Wet Weather Creek RNA. Olympic National Forest internal report, 6pp.

USDA Forest Service. 1994. Big Quilcene Watershed Analysis; an Ecological Report at the Watershed Level. Olympic National Forest, Olympia, WA.

USDA Forest Service. 1990a. Final Environmental Impact Statement, Land and Resource Management Plan, Olympic National Forest, Pacific Northwest Region, US Government Printing Office: 1990 - 794-319 Region No. 10.

USDA Forest Service. 1990b. Land and Resource Management Plan, Olympic National Forest, Pacific Northwest Region, US Government Printing Office: 1990 - 794-319 Region No. 10.

USDA Forest Service & USDI Bureau of Land Management. 1994. Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl, 74 pp.

Washington State Department of Natural Resources. 1995. Washington State Natural Heritage Plan: 1993/1995 update. Olympia, WA. 191pp.

Ziegltrum, J. 1994. Olympic National Forest Plants of Concern Identification Guide. USDA Forest Service, Olympia, WA.

APPENDIX A

Legal Description

United States
Department of
Agriculture

For
Service

Olympic
National
Forest

1835 B .k Lake Blvd. S.W.
Olympia, WA 98512-5623
Phone (360) 956-2300
Telefax (360) 956-2330

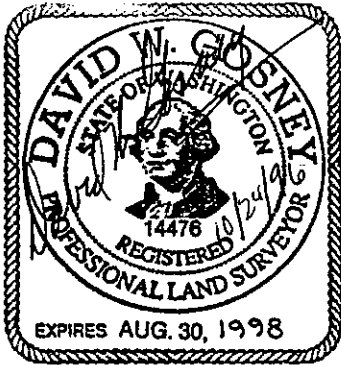
Reply To: 4060/7150

Date: October 24, 1996

Subject: Wet Weather Creek R.N.A. Legal Description

To: Ronald Humphrey, Forest Supervisor

I certify that the enclosed boundary description of the Wet Weather Creek
Research Natural area was prepared under my direct supervision.

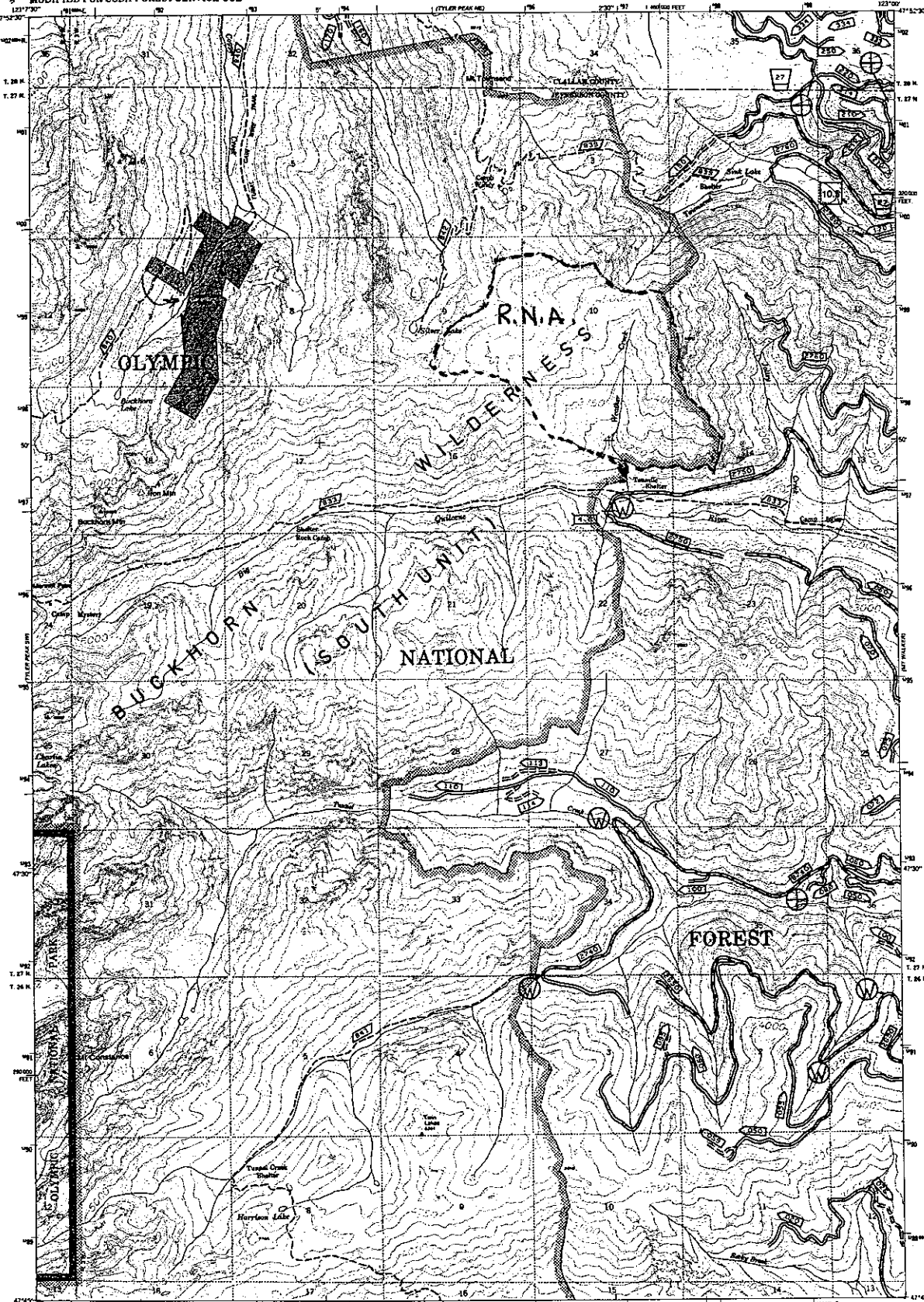


David W. Gosney

David W. Gosney
Forest Land Surveyor

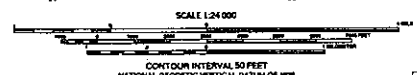
10/24/96

Date

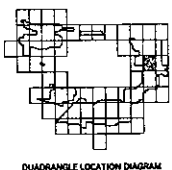


TRANSPORTATION SYSTEM UPDATE	
	PRIMARY ROAD
	SECONDARY ROAD
	IMPROVED ROAD
	UNIMPROVED ROAD
	TRAIL
	STATE HIGHWAY
	US HIGHWAY
	OREGON STATE HIGHWAY
	WASHINGTON STATE HIGHWAY
	COUNTY ROAD
	HWY INTERL.
	HWY COLLECTION
	HWY LOOP
	TRAIL
	FOREST BOUNDARY
	PRIVATE ROAD
	BRIDGE
	ROAD TURNPIKE
	GATE
	BLOCKED ROAD
	ROAD PARTIALLY OPENED

Base map prepared by the U.S. Geological Survey
Control by USGS, USCGS, and USACE
Topography by photogrammetric methods from
aerial photography taken Field checked
Polyconic projection, 1927 North American datum
10,000-foot grid based on Washington coordinate system,
north zone
3000-meter Universal Transverse Mercator grid ticks,
zone 10
Modification to USGS base map by the Geomatics
Service Center from 1980 & 1981 aerial photography,
1980 orthorectification and 1984 correction tables,
furnished by the Pacific Northwest Region
Land use revised according to additional
Forest Service evidence
INTERIM EDITION

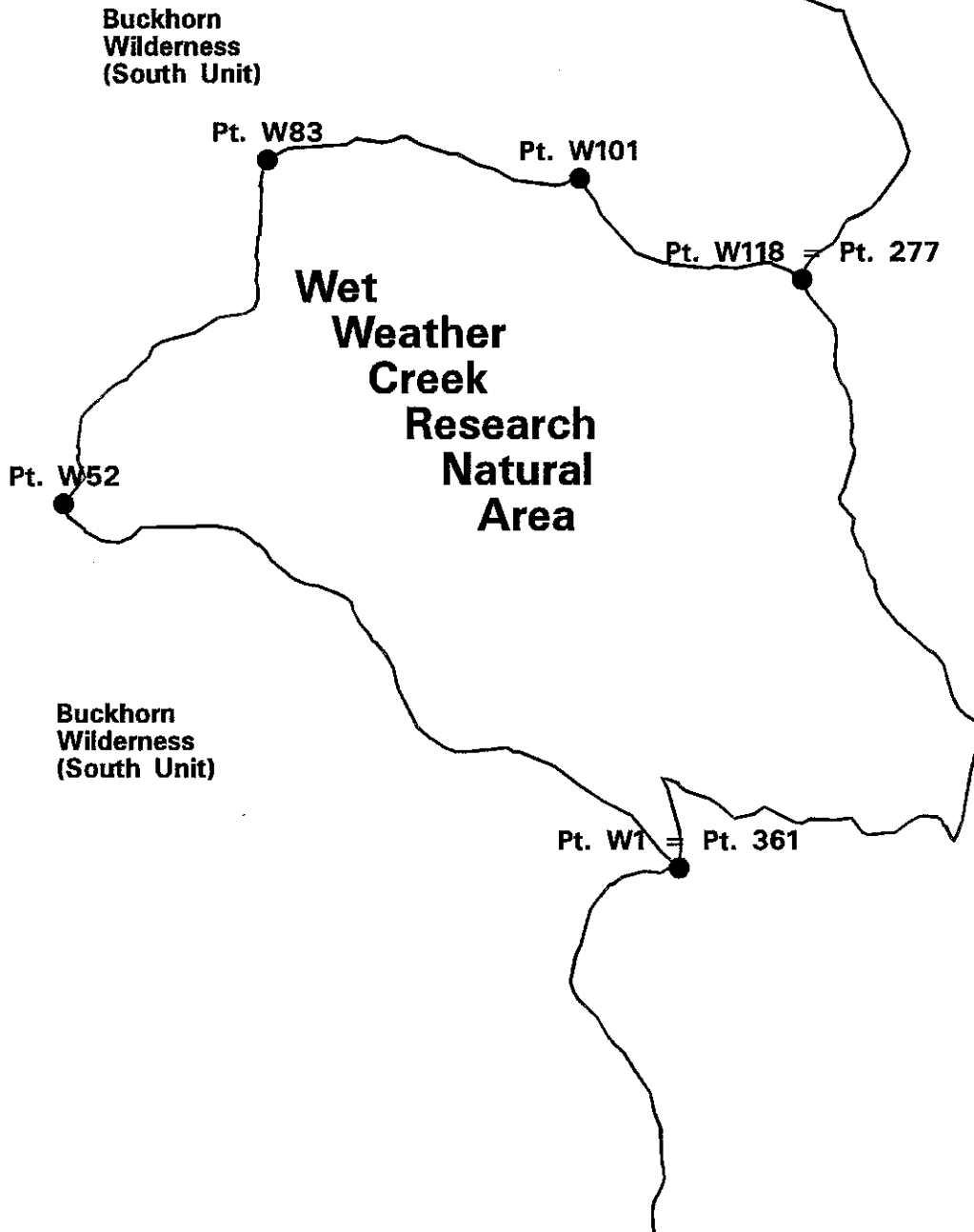


National Forest Boundary
Aforested land within the National
Forest Boundary as of 1964
Special Area Boundary
TOWNSHIP AND SECTION LINE CLASSIFICATION
Surveyed, Location Reliable
Surveyed, Location Unreliable
Unsurveyed, Location Unreliable



MOUNT TOWNSEND
TYLER PEAK SE, WASH.
N4745-W12300/7.5
1946

Olympic National Forest Wet Weather Creek Research Natural Area



LEGEND



wet1 by D.Nash October 29, 1986

Scale is 1 inch = 2000 Feet

OLYMPIC NATIONAL FOREST
WET WEATHER RESEARCH NATURAL AREA BOUNDARY DESCRIPTION

All bearings and distances shown in the following description are based on the Washington State Plane coordinate grid system, North Zone, and are included for descriptive purposes only. Elevations, natural features and record distances as described in the DESCRIPTION portion of this document will prevail.

QUAD SHEET NAME	ANGLE POINT	BEARING	DISTANCE FEET (METERS)	DESCRIPTION
MOUNT TOWNSEND	277			Beginning at Point # 277 on the Buckhorn Wilderness Boundary (South Unit). A high point on ridge, elevation 4,750 ft. (1,447.8 m.) Washington State Grid North Zone coordinate (NAD27) X:1,459,755 and Y:316,748.
	278	S24-58E	81 (24.7)	
	279	S26-59E	185 (56.4)	
	280	S32-22E	204 (62.2)	Along ridge top and Wilderness boundary.
	281	S22-20E	158 (48.2)	
	282	S11-29E	136 (41.5)	
	283	00-00S	172 (52.4)	
	284	S07-21E	125 (38.1)	
	285	S15-41E	152 (46.3)	
	286	S25-04E	120 (36.6)	
	287	S30-24E	87 (26.5)	
	288	S01-35E	72 (21.9)	
		S03-56W	102 (31.1)	
	289			A high point on a ridge, elevation 4,870 ft. (1,484.4 m.).
	290	S01-30W	230 (70.1)	
	291	S02-41W	192 (58.5)	Descend ridge between Jolly Creek and Wet Weather Creek and along Wilderness boundary.
		S08-01W	294 (89.6)	

QUAD SHEET NAME	ANGLE POINT	BEARING	DISTANCE FEET (METERS)	DESCRIPTION
MOUNT TOWNSEND	292			
		S13-19W	174 (53.0)	
	293			
		S03-22W	68 (20.7)	
	294			
		S16-09E	111 (33.8)	Descend ridge between Jolly Creek and Wet Weather Creek and along Wilderness boundary.
	295			
		S49-19E	75 (22.9)	
	296			
		S41-44E	50 (15.2)	
	297			
		S00-33W	104 (31.7)	
	298			
		S06-42E	283 (86.3)	
	299			
		S22-09E	239 (72.8)	
	300			
		S22-40E	270 (82.3)	
	301			
		S16-11E	65 (19.8)	
302				
	S33-41E	94 (28.7)		
303				
	S40-21E	175 (53.3)		
304				
	S50-16E	216 (65.8)		
305				
	S53-31E	205 (62.5)		
306				
	S52-28E	120 (36.6)		
307				
	S38-19E	127 (38.7)		
308				
	S12-30E	208 (63.4)		
309				
	S14-50E	191 (58.2)		
310				
	S42-57E	178 (54.3)		
311				
	S50-03E	145 (44.2)		
312				
	S35-35E	143 (43.6)		
	313			A point on a ridge between Jolly Creek and Wet Weather Creek, elevation 3,850 ft. (1,173.5 m.).
		S02-17W	100 (30.5)	
	314			
		S12-38W	188 (57.3)	Descend spur ridge and Wilderness boundary.
	315			

QUAD SHEET NAME	ANGLE POINT	BEARING	DISTANCE FEET (METERS)	DESCRIPTION	
MOUNT TOWNSEND	316	S08-57W	199 (60.7)		
	317	S12-32W	74 (22.6)		
	318	S01-00E	58 (17.7)	Descend spur ridge and Wilderness boundary.	
	319	S02-18W	174 (53.0)		
	320	S22-43W	127 (38.7)		
	321	S21-14W	130 (39.6)		
	322	S16-51W	114 (34.7)		
	323	S09-52W	93 (28.3)		
		323	S18-42W	69 (21.0)	
		324			A point on spur ridge, elevation 3,000 (914.4 m.)
		325	N72-31W	57 (17.4)	
		326	N48-24W	143 (43.6)	
		327	N13-50W	67 (20.4)	Along the 3,000 ft. (914.4 m.) contour and Wilderness boundary.
	328	N17-43W	76 (23.2)		
	329	N86-25W	64 (19.5)		
	330	S81-46W	154 (46.9)		
	331	S79-48W	141 (43.0)		
	332	S58-05W	72 (21.9)		
	333	S57-56W	98 (29.9)		
	334	S78-07W	97 (29.6)		
	335	S88-19W	102 (31.1)		
	336	N77-22W	188 (57.3)		
	337	N58-24W	76 (23.2)		
	338	N36-40W	59 (18.0)		
	339	N14-41W	43 (13.1)		

QUAD SHEET NAME	ANGLE POINT	BEARING	DISTANCE FEET (METERS)	DESCRIPTION		
MOUNT TOWNSEND	340	S82-52W	81 (24.7)			
	341	S71-21W	169 (51.5)			
	342	S83-42W	137 (41.8)	Along the 3,000 ft. (914.4 m.) contour and Wilderness boundary.		
	343	S87-44W	152 (46.3)			
	344	N85-47W	176 (53.6)			
	345	N66-41W	134 (40.8)			
	346	N54-33W	72 (21.9)			
	347	S71-52W	61 (18.6)			
	348	S72-12W	200 (61.0)			
	349	S73-04W	120 (36.6)			
	350	N84-39W	96 (29.3)			
	351	N68-05W	198 (60.4)			
	352	N48-01W	121 (36.9)			
	353	N58-38W	48 (14.6)			
	354	N71-46W	89 (27.1)			
	355	N58-29W	88 (26.8)			
	356	N37-02W	71 (21.6)			
	357	N63-58W	48 (14.6)			
		357	S66-40W		56 (17.1)	
		358				A point on the 3,000 ft. (914.4 m.) contour on the west bank of Wet Weather Creek.
		359	S08-51E		169 (51.5)	
		360	S01-32E		223 (68.0)	Descend along the west bank of Wet Weather Creek and Wilderness boundary.
			S04-30E		331 (100.9)	

QUAD SHEET NAME	ANGLE POINT	BEARING	DISTANCE FEET (METERS)	DESCRIPTION
MOUNT TOWNSEND	361 - W1			A point on the west bank of Wet Weather Creek, 500 ft. (152.4 m.) from and perpendicular to the centerline of Forest Service Road No. 2720. Point # 361 on the Buckhorn Wilderness Boundary (South Unit) is Point # W1 on the Wet Weather Creek Research Natural Area Boundary. Washington State Grid North Zone coordinates (NAD27) X:1,458,228 and Y:310,351.
		N47-38W	254 (77.4)	
	W2	N37-23W	522 (159.1)	
	W3	N88-20W	20 (6.1)	Ascend ridge between Wet Weather Creek and Big Quilcene River.
	W4	N43-40W	58 (17.7)	
	W5	N63-36W	297 (90.5)	
	W6	N54-37W	307 (93.6)	
	W7	N50-41W	325 (99.1)	
	W8	N65-46W	422 (128.6)	
	W9	N86-54W	63 (19.2)	
	W10	N41-43W	29 (8.8)	
	W11	N61-32W	47 (14.3)	
	W12	S85-52W	409 (124.7)	
	W13	N88-24W	170 (51.8)	
	W14	N66-27W	110 (33.5)	
	W15	N54-44W	222 (67.7)	
	W16	N48-52W	160 (48.8)	
	W17	N27-16W	171 (52.1)	
	W18	N12-36W	80 (24.4)	
	W19	N27-02W	215 (65.5)	
	W20	N12-29W	250 (76.2)	

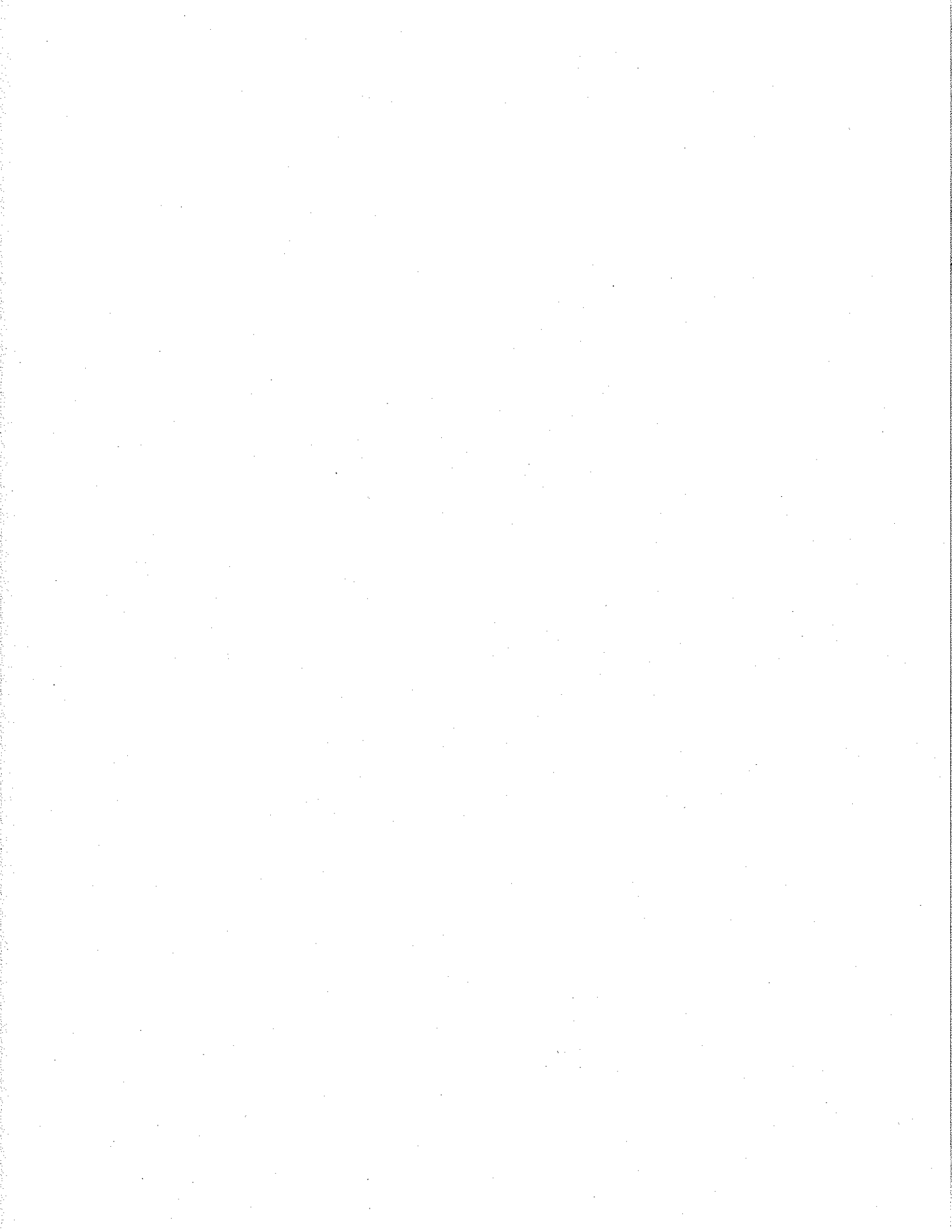
QUAD SHEET NAME	ANGLE POINT	BEARING	DISTANCE FEET (METERS)	DESCRIPTION	
MOUNT TOWNSEND	W21	N28-03W	166	(50.6)	
	W22	N37-49W	161	(49.1)	
	W23	N88-24W	20	(6.1)	Ascend ridge between Wet Weather Creek and Big Quilcene River.
	W24	N43-24W	30	(9.1)	
	W25	N16-42W	64	(19.5)	
	W26	N38-18W	163	(49.7)	
	W27	N27-58W	164	(50.0)	
	W28	N12-07W	83	(25.3)	
	W29				
		N41-27W	61	(18.6)	
W30		N57-21W	118	(36.0)	
W31		N70-26W	133	(40.5)	Ascend ridge between Wet Weather Creek and Big Quilcene River.
W32		N66-26W	110	(33.5)	
W33		N78-35W	125	(38.1)	
W34		N65-02W	157	(47.9)	
W35		N48-37W	321	(97.8)	
W36		N29-33W	119	(36.3)	
W37		N43-03W	88	(26.8)	
W38		N88-27W	21	(6.4)	
W39		N47-59W	160	(48.8)	
W40		N57-31W	122	(37.2)	
W41		N78-05W	229	(69.8)	
W42		N89-45W	824	(251.2)	
W43		S46-31W	146	(44.5)	
W44		S68-39W	156	(47.5)	

QUAD SHEET NAME	ANGLE POINT	BEARING	DISTANCE FEET (METERS)	DESCRIPTION	
MOUNT TOWNSEND	W45	N88-22W	44 (13.4)		
	W46	N80-26W	142 (43.3)		
	W47	N59-19W	213 (64.9)	Ascend ridge between Wet Weather Creek and Big Quilcene River.	
	W48	N01-41E	21 (6.4)		
	W49	N51-07W	233 (71.0)		
	W50	N19-56W	113 (34.4)		
	W51	N02-22E	39 (11.9)		
	W52			High point on major ridge, elevation 6,030 ft. (1,837.9 m.).	
			N39-07E	145 (44.2)	
		W53	N39-56E	224 (68.3)	
		W54	N22-31W	201 (61.3)	Along ridge top between Silver Creek and Wet Weather Creek.
W55		N00-53E	41 (12.5)		
W56		N46-30E	30 (9.1)		
W57		N02-11E	62 (18.9)		
W58		N48-16W	28 (8.5)		
W59		N09-11E	311 (94.8)		
W60		N35-35E	75 (22.9)		
W61		N46-34E	357 (108.8)		
W62		N53-57E	124 (37.8)		
W63		N69-15E	112 (34.1)		
W64		N38-13E	104 (31.7)		
W65		N50-25E	244 (74.3)		
W66	N22-51E	113 (34.4)			
W67			High point on ridge, elevation 6,000 ft. (1,828.8 m.).		

QUAD SHEET NAME	ANGLE POINT	BEARING	DISTANCE FEET (METERS)	DESCRIPTION	
MOUNT TOWNSEND	W68	N60-52E	122 (37.2)		
		N76-12E	383 (116.7)		
		N58-14E	295 (89.9)	Along ridge top between Silver Creek and Wet Weather Creek.	
		N83-27E	289 (88.1)		
		N60-51E	122 (37.2)		
	W72			High point on ridge, elevation 5,920 ft. (1,804.4 m.).	
	W73	N23-29E	111 (33.8)		
		N01-38E	105 (32.0)		
		N09-39W	104 (31.7)	Along ridge top between Silver Creek and Wet Weather Creek.	
		N08-03E	185 (56.4)		
		N16-18W	66 (20.1)		
		N06-59E	227 (69.3)		
		N47-20E	28 (8.5)		
		N03-55E	516 (157.3)		
		N43-11W	28 (8.5)		
		N10-53E	249 (75.9)		
		N46-12E	60 (18.3)		
		W83			One peak of Welch Peaks, elevation 6,110 ft. (1,862.3 m.).
		W84	N63-01E	257 (78.3)	
	N88-05E		639 (194.8)	Along ridge top between Townsend Creek and Wet Weather Creek.	
	W85	N60-35E	121 (36.9)		
	W86			One peak of Welch Peaks, elevation 5,920 ft. (1,804.4 m.).	
	W87	S78-03E	229 (69.8)	Along ridge top between Townsend Creek and Wet Weather Creek.	
		S88-24E	66 (20.1)		
	W88				

QUAD SHEET NAME	ANGLE POINT	BEARING	DISTANCE FEET (METERS)	DESCRIPTION
MOUNT TOWNSEND		N80-37E	103 (31.4)	
	W89	N69-33E	109 (33.2)	
	W90	S88-23E	62 (18.9)	Along ridge top between Townsend Creek and Wet Weather Creek.
	W91	S58-54E	167 (50.9)	
	W92	S40-41E	345 (105.2)	
	W93	S89-33E	81 (24.7)	
	W94	S59-42E	260 (79.2)	
	W95	S74-54E	169 (51.5)	
	W96	S59-35E	259 (78.9)	
	W97	S80-43E	455 (138.7)	
	W98	N81-34E	104 (31.7)	
	W99	N61-45E	168 (51.2)	
	W100	S45-00E	29 (8.8)	
	W101			
W102	S15-44E	64 (19.5)		
W103	S36-11E	237 (72.2)		
W104	S21-13E	158 (48.2)	Descend ridge between Townsend Creek and Wet Weather Creek.	
W105	S40-39E	581 (177.1)		
W106	S68-36E	305 (93.0)		
W107	S88-23E	63 (19.2)		
W108	S42-15E	27 (8.2)		
W109	S82-44E	433 (132.0)		
W110	N74-12E	66 (20.1)		
W110				Low point on ridge, elevation 4,460 ft. (1,359.4 m.).
	S83-25E	228 (69.5)		

QUAD SHEET NAME	ANGLE POINT	BEARING	DISTANCE FEET (METERS)	DESCRIPTION
MOUNT TOWNSEND	W111	N83-15E	147 (44.8)	
	W112	N77-23E	167 (50.9)	
	W113	S88-22E	85 (25.9)	Ascend ridge between Townsend Creek and Wet Weather Creek.
	W114	S41-22E	31 (9.4)	
	W115	S67-35E	176 (53.6)	
	W116	S51-15E	99 (30.2)	
	W117	S63-10E	81 (24.6)	
	W118 = 277			



APPENDIX B

Management Prescription

Olympic National Forest Land and Resource Management Plan

MANAGEMENT PRESCRIPTION J2 - RESEARCH NATURAL AREAS (EXISTING AND POTENTIAL)

GOAL: Provide opportunities for research and education on areas of National Forest land where natural processes are allowed to occur without intervention by people. Potential areas will be identified based on the latest version of the publication "Research Natural Area Needs in the Pacific Northwest."

DESIRED FUTURE CONDITION: A land area where the ecological community is evolving through natural processes, and where preservation of natural features and conditions is not jeopardized by human activity. This future condition is identified in the Research Natural Area Establishment Plan for the area.

APPLICABLE NATIONAL FOREST AREAS: The existing Quinault Research Natural Area (RNA) is included, and will be managed to achieve the Desired Future Condition. One potential RNA, Wet Weather Creek, is recommended in this Plan.

MANAGEMENT INTENSITIES: As necessary to meet the Goal and Desired Future Condition for each area.

STANDARDS AND GUIDELINES:

General: While some preliminary planning may take place, the Director for the Pacific Northwest Forest and Range Experiment Station and the Forest Supervisor shall be notified before any specific activity is proposed.

A. Recreation

1. Any new trail development should be only to the level needed to access the area and as agreed to between the Forest and the RNA Committee.
2. Existing recreational trails should be maintained in their current condition or, when appropriate, rerouted outside the RNA boundary.
3. Off-trail dispersed recreation activities should be discouraged.
4. Recreational camping and open fires should not be permitted.
5. Criteria for educational use should: (1) Minimize influence on the natural character of the RNA; (2) minimize influence on existing research activities; (3) minimize size, frequency, and intensity of group use; and (4) maximize provisions for supervising and controlling group activities.
6. Publicity that attracts the general public should be avoided.
7. Developed recreation sites shall be prohibited.
8. Collection of native plants and their seeds and parts shall be prohibited unless a scientifically-based collection permit is approved by the Forest Supervisor.

B. Wilderness

For RNAs, or portions thereof, that fall within designated Wildernesses, provisions of the Wilderness Act must be met (see **Prescription B1-Wilderness**).

STANDARDS AND GUIDELINES - MANAGEMENT AREA PRESCRIPTIONS

C. Wildlife and Fish

1. Species of special interest should be managed within RNAs according to standards and guidelines for those species. Management practices that are consistent with natural ecological processes should be used.
2. Aquatic and terrestrial habitats should not be stocked with non-native fish or wildlife species.
3. Control of excessive animal populations may take place where such populations threaten naturally occurring habitat.

D. Range

No grazing shall be permitted within RNAs for either recreational or commercial livestock.

E. Timber

1. Timber harvest shall not be scheduled.
2. Logging, including fuelwood cutting, should not be permitted following fire, windthrow, insect attack, or disease, unless it is consistent with the objectives of the RNA and is approved by the RNA committee and the Forest Supervisor.
3. Hazard tree removal may only be permitted along roads when required for safety.

F. Water, Soil, and Air

Meet minimum State standards.

G. Minerals and Energy

1. RNAs shall be recommended for withdrawal from mineral entry.
2. FERC licenses or permits should not be recommended.

H. Lands

Existing right-of-way easements shall be honored, but upgrading or issuing new permits should be discouraged.

I. Facilities

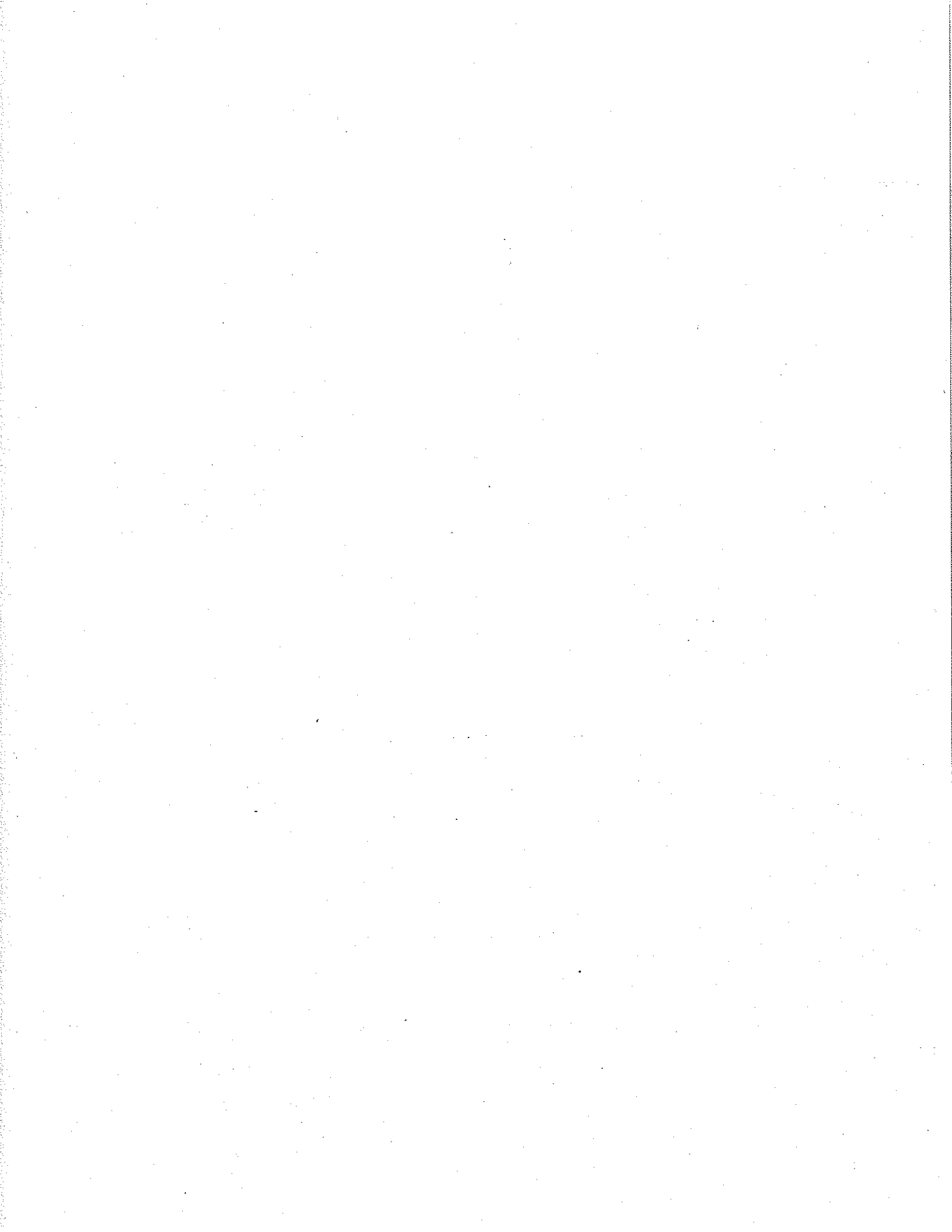
1. Dispersed recreation facilities, such as trails, trail shelters, and toilets, should be prohibited unless they are consistent with the Desired Future Condition for these areas.
2. Road construction shall not be permitted unless specifically approved by the RNA committee and the Forest Supervisor.
3. Use of existing utility corridors may be continued. Upgrading or expansion shall be discouraged, and corridors should be phased out as the opportunity occurs.

STANDARDS AND GUIDELINES - MANAGEMENT AREA PRESCRIPTIONS

4. Development of new utility corridors shall not be permitted unless specifically approved by the RNA committee and the Forest Supervisor.

J. Protection

1. Use of prescribed fire may be considered to perpetuate the ecological conditions the RNA is meant to represent. Prescribed burn plans shall be submitted to the Pacific Northwest RNA Committee for review and recommendations.
2. For moderate to high intensity wildfire (flame length over two feet), the appropriate response (strategy) should be *Control*.
3. Fuels should be allowed to accumulate at natural rates.
4. Pest infestations and animal impacts that may threaten the RNAs or adjacent areas should be monitored.
5. Control or suppression of pest outbreaks may be considered to meet RNA objectives or to prevent excessive damage to adjacent areas. Suppression plans shall be submitted to the RNA Committee and the Forest Supervisor. Biological methods are preferred.



APPENDIX C

Mineral Resource Evaluation



United States
Department of
Agriculture

Forest
Service

Wenatchee
National
Forest

301 Yakima Street
P.O. Box 811
Wenatchee, WA 98807-0811
(509) 662-4335

Reply To: 2800

Date: September 22, 1993

Subject: Mineral Resource Evaluation
Wet Weather NRA

To: Elizabeth Scofield
Olympic National Forest, S.O.

Per your request, enclosed is a mineral evaluation report for the proposed Wet Weather Creek NRA. It is based solely on a literature review, and should not be used for purposes other than for which it was prepared.

If you need additional information, or need the report in a different format, please let me know.

JOHN D. SIMMONS
Area Mineral Examiner

Enclosure

cc: w/enclosure
Joan Ziegltrum, Olympic N.F., S.O.



Caring for the Land and Serving People

MINERAL RESOURCES
PROPOSED WET WEATHER CREEK NRA

SUMMARY AND CONCLUSIONS

In summary, it appears that the subject land is not encumbered by mining claims, mineral leases or mineral permits. It does not have any reported mineral resource occurrences, and the potential for the occurrence of such appears to be relatively low. The BLM has classified the area as an "area of critical mineral potential", which is probably due to its geology and related potential for the occurrence of copper and manganese deposits. However, based upon a review of available literature it appears that the actual potential for the occurrence of such is low. The area is classified as being prospectively valuable for oil and gas, but it is not prospectively valuable for other leasable minerals and the actual potential for the occurrence of oil and gas is relatively low. Available information indicates that industry has negligible interest in the area, and it is not anticipated to increase. Since the area lies within the Buckhorn Wilderness and, as a consequence, is not subject to entry under the mining laws, designation as a NRA will have no effect on the availability of mineral resources.

This mineral potential evaluation was based solely upon a review of available literature, and it should not be used for purposes other than that for which it was prepared.

INTRODUCTION

The area is being proposed for designation as a Natural Resource Area, and the mineral resources must be addressed as part of the evaluation.

LANDS INVOLVED

Portions of Sections 9,10,11,14,15 and 16, T.27N.,R.3W., WM (see Map No.1). The land lies on the Olympic Peninsula, within the boundaries of the Olympic National Forest and the Buckhorn Wilderness area, and in Jefferson County, Washington.

STATUS RECORD

The land has been withdrawn for inclusion into the Olympic National Forest; and has been withdrawn as part of the Buckhorn Wilderness area. The wilderness designation closes it to entry under the mining laws. The area is not encumbered by mining claims, and is not encumbered by mineral leases and permits or applications for such.

REGIONAL GEOLOGY

As map No.2 indicates, the subject lands lie on the east side of the Olympic Peninsula. The Peninsula is made up of two major bedrock terranes, the Core Rocks and the Peripheral Rocks. The subject land lies within the Peripheral Rock terrane.

the 20's and 30's has subsequently been followed by intermittent prospecting and exploration activities conducted by industry, and by extensive studies conducted by the U.S. Bureau of Mines in 1939-1940 and 1954-55. The report written by E.A. Magill (1978) is a summary of the Bureau's investigation on 67 properties, none of which lie on the subject land. Based upon this history of exploration and studies, it is surmised that the subject land was also considered along with the adjacent lands, and it was concluded that it has no reported occurrences and the potential for such is low.

As indicated above, the peninsula has experienced oil and gas exploration for some time but has not experienced any production of petroleum resources. Most of the activity has concentrated on the northern, western and southern margins of the peninsula. None of it appears to have been conducted specifically in the vicinity of the subject land, which is probably due to the geologic environment of the area and its lack of potential. The exploration that has been done west and north of the subject land has encountered some hydrocarbons, but none to date has justified commercial development.

MINERAL PRODUCTION AND MARKETING

Since the subject land has no known or reported occurrences of mineral resources, production and marketing do not appear to be pertinent to this evaluation.

MINERAL POTENTIAL

Based upon the available information, it appears that the potential for the occurrence of locatable and leasable mineral resources is relatively low, and the level of certainty for this conclusion is considered to be "B".

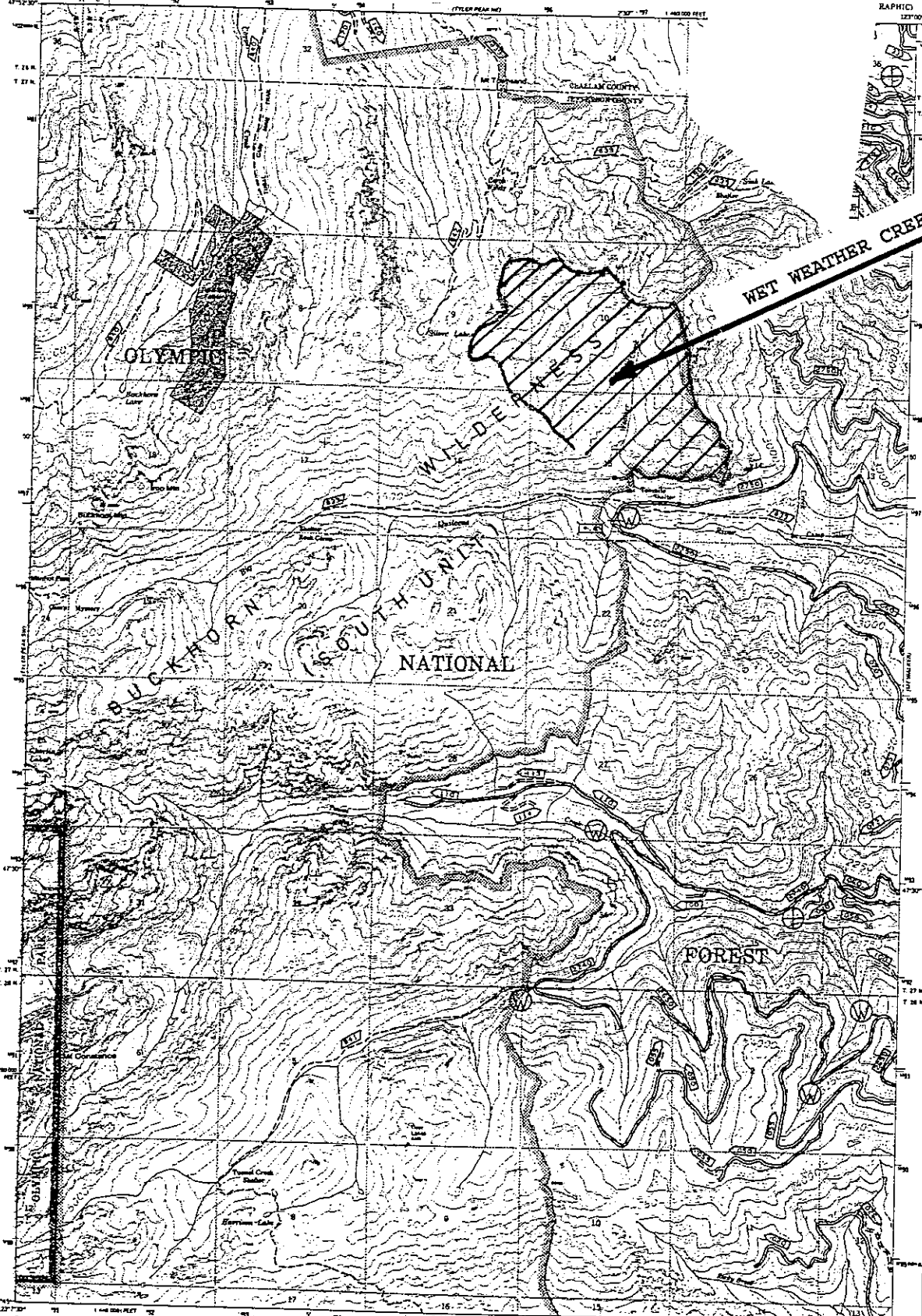
The parcels do have common variety mineral resources, however, resources of a similar nature are abundant throughout the area. Therefore, the potential for the occurrence of commercial deposits of such appears to also be relatively low, and the level of certainty for this conclusion is "B".

FIELD WORK, SAMPLING AND ANALYTICAL METHODS

This evaluation is based upon a literature search only, and no field work was conducted and no sampling and analytical testing was done.

John D. Simmons
9/22/93

- Hill, Thomas B., Melrose, J.W., 1940, Olympic Peninsula manganese: Washington State Department of Conservation and Development, Division of Mines and Mining
- Huntting, Marshall T., Bennett, W.A.G., Livingston, Vaughn E., Moen, Wayne, 1961, Geologic Map of Washington: Washington Department of Conservation, Division of Mines and Geology
- Huntting, Marshall T., 1960, Inventory of Washington minerals, part I. Second edition, Nonmetallic minerals: State of Washington, Department of Conservation, Division of Mines and Geology Bulletin 37
- Huntting, Marshall T., 1956, Inventory of Washington minerals, part II, Metallic minerals: State of Washington, Department of Conservation, Division of Mines and Geology Bulletin 37
- Korosec, K.L. Kaler, and Schuster, J.E., 1981, Geothermal resources of Washington: Division of Geology and Earth Resources, Washington Department of Natural Resources Geologic Map GM-25.
- Livingston, Vaughn E. Jr., 1978, Geology of Washington: Washington State Department of Natural Resources, Division of Geology and Earth Resources Reprint 12, 51 pp.
- Lucas, John M., 1975, The availability of nickel, chromium and silver in Washington: Washington State Department of Natural Resources, Division of Geology and Earth Resources Open-file Report 75-14.
- Magill, E.A. 1960, Manganese deposits of the olympic Peninsula, Washington: U.S. Bureau of Mines Report of Investigation 5530, U.S. Bureau of Mines
- Moen, Wayne S., 1978, Mineral resource maps of Washington: Washington State Department of Natural Resources, Division of Geology and Earth Resources Map GM-22
- Moen, Wayne S., 1976, Silver occurrences of Washington: Washington Department of Natural Resources Division of Geology and Earth Resources Bulletin No. 69, pp 149-159.
- Moen, Wayne S., 1964, Barite in Washington: State of Washington, Department of Conservation, Division of Mines and Geology Bulletin No. 51
- Muller, J.E., Snavely, Jr., P.D., and Tabor, R.W., 1983, Field trip guidebook trip 12, the Tertiary Olympic terrane, southwest Vancouver Island and northwest Washington: Geological Association of Canada, Mineralogical Association of Canada and Canadian Geophysical Union
- Park, Charles F., jr. 1942, Manganese Resources of the Olympic Peninsula: Washington Geological Survey Bulletin 931-R, pp 435-457
- Purdy, C. Phillips, Jr., 1954, Molybdenum occurrences of Washington: State of



WET WEATHER CREEK NRA

T. 27N.

TRANSPORTATION SYSTEM UPDATE	
	PRIMARY HWY
	SECONDARY HWY
	IMPROVED ROAD PAVED
	IMPROVED ROAD GRAVEL
	IMPROVED ROAD LUFF
	UNIMPROVED RD
	TRAIL
	INTERSTATE HIGHWAY
	US HIGHWAY
	OREGON STATE HIGHWAY
	WASHINGTON STATE HIGHWAY
	COUNTY ROAD
	ARTERIAL
	COLLECTOR
	LOCAL
	TRAIL
	FOREST HIGHWAY
	PRIVATE ROAD
	BRIDGE
	ROAD TERMIN
	CITY
	BLOCKED ROAD
	ROAD PARALLEL GRADES

CONTRACTOR IN THE REGIONAL OFFICE, PORTLAND, OREGON, IS TO BE PAID FROM U.S. FOREST SERVICE PROPERTY AND SHOULD BE ADVISED OF ALL FEDERAL, STATE, COUNTY, AND LOCAL LAWS, ORDINANCES, AND REGULATIONS BY THE REGIONAL OFFICE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND LICENSES FROM THE APPROPRIATE AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND LICENSES FROM THE APPROPRIATE AGENCIES.

Scale 1:50,000
Photography by stereoscopic methods from aerial photography taken
1950-52
Topographic projection, 1927 North American datum
1:50,000 scale and based on Washington coordinate system, north zone
1:50,000 scale Universal Transverse Mercator grid zone, zone 18
Modified to USGS base map by the Geographic Service Center from 1963 & 1961 aerial photography, 1960 orthorectification and 1964 contour update, furnished by the Pacific Northwest Region
Unrevised according to additional Forest Service assistance
NOTE: THIS EDITION



Needs Forest Boundary
Assumed lines within the Assumed
USGS boundary as of 1964
Social Area Boundary
TOWNSHIP AND SECTION LINE CLASSIFICATION
Survival, Location Remarks
Survival, Location Unrevised
Not Atraced

MAP NO. 1: GEOGRAPHIC LOCATION OF THE WET WEATHER CREEK NRA

APPENDIX D

Vascular Plants of Silver Lake

FLORA OF THE OLYMPIC PENINSULA, WASHINGTON

Nelsa M. Buckingham, floral researcher
1127 West Seventh Street
Port Angeles, WA 98362 (206)457-1891

April 26, 1990

VASCULAR PLANTS OF SILVER LAKE
(T27N R3W S9 5400'-6150)

This area consists of a cirque basin, a small lake and a col. It lies between Mt. Townsend and the Buckhorn Mt. area at the head of Silver Creek in the Dungeness drainage. It may be reached by the Silver Lake way trail or from Mt. Townsend.

NOTE; the nomenclature follows that of the soon to be published catalog of the vascular plants of the Olympic Peninsula. Hitchcock, et al names are given in synonymy.

B = plants in the basin area
R = plants of the col and ridge

TAXON	HITCHCOCK SYNONYM
<i>Abies lasiocarpa</i>	
var. <i>lasiocarpa</i> [B,R]	
<i>Achillea millefolium</i>	
var. <i>alpicola</i> [B,R]	
<i>Agoseris aurantiaca</i>	
var. <i>aurantiaca</i> [B,R]	
<i>Agoseris glauca</i>	
var. <i>dasycephala</i> [R]	
<i>Agropyron trachycaulum</i>	<i>Agropyron caninum</i>
var. <i>latiglume</i> [R]	<i>ssp. majus</i>
	var. <i>latiglume</i>
<i>Agrostis scabra</i>	
var. <i>geminata</i> [B,R]	
<i>Agrostis thurberiana</i> [B]	
<i>Allium cernuum</i> [R]	
<i>Allium crenulatum</i> [R]	
<i>Anemone</i> see also <i>Pulsatilla</i>	
<i>Anemone multifida</i>	<i>Anemone multifida</i>
var. <i>hudsoniana</i> [R]	NOT var. <i>multifida</i>
var. <i>saxicola</i> [R]	≈ var. <i>hirsuta</i>
<i>Antennaria alpina</i>	
var. <i>media</i> [B,R]	

TAXON	HITCHCOCK SYNONYM
Antennaria microphylla [B,R]	
Antennaria racemosa [B,R]	
Antennaria umbrinella [B,R]	
Arabis hirsuta	
var. glabrata [R]	
Arabis holboellii	
var. holboellii [R]	
var. pendulocarpa [R]	
Arabis lyallii	
var. lyallii [R]	
Arctostaphylos uva-ursi	
ssp. uva-ursi [B]	
Arenaria see also Minuartia and Moehringia	
Arenaria capillaris	
ssp. americana [R]	
Arnica cordifolia	
var. cordifolia [B]	
Arnica diversifolia [R]	
Arnica latifolia	
var. gracilis [B,R]	
var. latifolia [B,R]	
Arnica parryi	
var. parryi [B]	
Athyrium filix-femina	
var. cyclosorum [B]	
Botrychium pinnatum [R]	NOT Botrychium boreale
Botrychium lanceolatum	
var. lanceolatum [R]	
Bromus immature	
Caltha leptosepala	≈ Caltha biflora
ssp. howellii [B]	var. biflora
ssp. leptosepala	Caltha leptosepala
var. leptosepala [B]	
Campanula piperi [R]	
Campanula rotundifolia [R]	
Cardamine oligosperma [B]	no varieties
Cardamine umbellata [R]	Cardamine oligosperma
	var. kamtschatica
Carex albonigra [R]	
Carex illota [B]	
Carex obtusata [R]	
Carex phaeocephala [B,R]	
Carex raynoldsii [B,R]	
Carex spectabilis [B,R]	
Cassiope mertensiana	
var. mertensiana [B,R]	
Castilleja miniata	
var. miniata [B,R]	
Castilleja parviflora	
var. olympica [B,R]	

TAXON	HITCHCOCK SYNONYM
<i>Cerastium arvense</i>	
var. <i>viscidulum</i> [B,R]	
<i>Cirsium edule</i> [B]	
<i>Claytonia cordifolia</i> [B]	<i>Montia cordifolia</i>
<i>Cryptogramma crispa</i>	
ssp. <i>acrostichoides</i>	
var. <i>acrostichoides</i> [B]	
<i>Cystopteris fragilis</i>	
var. <i>fragilis</i> [B,R]	
<i>Deschampsia atropurpurea</i>	
var. <i>latifolia</i> [B,R]	
<i>Douglasia laevigata</i>	
var. <i>ciliolata</i> [B,R]	
<i>Draba albertina</i> [B]	≈ <i>Draba stenoloba</i> var. <i>nana</i>
<i>Draba incerta</i> [R]	
<i>Draba paysonii</i> [R]	no varieties
<i>Draba praealta</i> [R]	
<i>Epilobium anagallidifolium</i> [B,R] ≈	<i>Epilobium alpinum</i> var. <i>alpinum</i>
<i>Epilobium angustifolium</i>	
var. [B]	
<i>Epilobium ciliatum</i>	
ssp. <i>glandulosum</i> [R] - ≈	<i>Epilobium glandulosum</i> var. <i>glandulosum</i> <i>Epilobium alpinum</i> var. <i>clavatum</i>
<i>Epilobium clavatum</i> [B]	
<i>Epilobium hornemannii</i>	
ssp. <i>hornemannii</i> [B] ≈	var. <i>nutans</i> var. <i>lactiflorum</i>
<i>Epilobium lactiflorum</i> [R]	
<i>Erigeron compositus</i>	
var. <i>discoideus</i> [R]	
var. <i>glabratus</i> [R]	
<i>Erigeron flettii</i> [B,R]	
<i>Erigeron peregrinus</i>	
ssp. <i>callianthemus</i>	
var. <i>angustifolius</i> [B,R]	
<i>Eriophyllum lanatum</i>	NOT <i>Eriophyllum lanatum</i> var. <i>achillaeoides</i>
var. <i>leucophyllum</i> [R]	
<i>Erysimum capitatum</i>	<i>Erysimum arenicola</i> both varieties
ssp. <i>arenicola</i> [R]	
<i>Festuca idahoensis</i>	<i>Festuca idahoensis</i> both varieties
var. <i>roemerii</i> [B,R]	
<i>Festuca saximontana</i>	<i>Festuca ovina</i> var. <i>brevifolia</i>
var. <i>saximontana</i> [R]	
<i>Festuca subuliflora</i> [B]	
<i>Fragaria virginiana</i>	
ssp. <i>platypetala</i> [B,R]	
<i>Gentianella amarella</i>	<i>Gentiana amarella</i>
ssp. <i>acuta</i> [R]	
<i>Geum triflorum</i>	
var. <i>campanulatum</i> [R]	

TAXON	HITCHCOCK SYNONYM
Habenaria see Platanthera	
Hedysarum occidentale	
var. occidentale [B,R]	
Heuchera micrantha	
var. diversifolia [B,R]	
Hieracium albiflorum [B]	
Hieracium gracile	
var. gracile [B,R]	
Juncus drummondii	
var. subtriflorus [B]	
Juncus parryi [B]	
Juniperus communis [B]	no varieties
Lathyrus nevadensis	
ssp. lanceolatus	
var. pilosellus [R]	
Leptarrhena pyrolifolia [B,R]	
Lewisia columbiana	
var. rupicola [B]	
Lloydia serotina	
ssp. serotina [R]	
Lomatium martindalei [B,R]	no varieties
Lonicera utahensis [B,R]	
Luetkea pectinata [B,R]	
Luina hypoleuca [B]	
Lupinus arcticus	Lupinus latifolius
ssp. subalpinus [R]	var. subalpinus
Lupinus latifolius	
ssp. latifolius [B,R]	
Lupinus lyallii	Lupinus lepidus
ssp. lyallii	var. lobbii
var. lyallii [R]	
Luzula multiflora	Luzula campestris
ssp. frigidua [B]	var. frigida
Luzula parviflora	
ssp. parviflora [R]	
Luzula piperi [B,R]	
Luzula spicata [R]	
Lycopodium clavatum	
var. clavatum [B]	
Minuartia rubella [B,R]	Arenaria rubella
Mitella pentandra [B,R]	
Moehringia macrophylla [B]	Arenaria macrophylla
Montia see Claytonia	
Orthilia secunda [B]	Pyrola secunda
	no varieties
Orthocarpus imbricatus [B]	
Oxyria digyna [B,R]	
Oxytropis monticola	NOT Oxytropis campestris
var. monticola [R]	var. gracilis
Pachistima myrsinites [B]	

TAXON	HITCHCOCK SYNONYM
<i>Pedicularis groenlandica</i>	
ssp. <i>surrecta</i> [B]	
<i>Pedicularis racemosa</i>	
var. <i>racemosa</i> [B,R]	
<i>Penstemon davidsonii</i>	
var. <i>menziesii</i> [B,R]	
<i>Penstemon procerus</i>	
var. <i>tolmiei</i> [B,R]	
<i>Petasites frigidus</i>	
var. <i>nivalis</i> [B]	
<i>Phacelia sericea</i>	
ssp. <i>sericea</i> [B,R]	
<i>Phleum alpinum</i> [B,R]	
<i>Phlox diffusa</i>	
ssp. <i>longistylis</i> [B,R]	
<i>Phyllodoce empetriflora</i> [B,R]	
<i>Phyllodoce glanduliflora</i> [B]	
<i>Phyllodoce x intermedia</i> [B]	
<i>Pinus contorta</i>	
var. <i>latifolia</i> [B]	
<i>Platanthera dilatata</i>	<i>Habenaria dilatata</i>
var. <i>dilatata</i> [B]	var. <i>dilatata</i>
<i>Poa annua</i>	
var. <i>reptans</i> [B]	
<i>Poa arctica</i>	<i>Poa grayana</i>
ssp. <i>grayana</i> [B]	
<i>Poa epilix</i> [R]	<i>Poa cusickii</i>
	var. <i>epilix</i>
<i>Poa gracillima</i>	
var. <i>gracillima</i> [B,R]	
<i>Poa incurva</i> [B,R]	
<i>Poa paucispicula</i> [R]	<i>Poa leptocoma</i>
	var. <i>paucispicula</i>
<i>Polemonium pulcherrimum</i>	
var. <i>calycinum</i> [B,R]	
var. <i>pulcherrimum</i> [R]	
<i>Polygonum viviparum</i>	
var. <i>viviparum</i> [B]	
<i>Polypodium amorphum</i> [B,R]	NOT <i>Polypodium hesperium</i>
<i>Polystichum lonchitis</i> [R]	
<i>Potentilla diversifolia</i>	
var. <i>diversifolia</i> [B,R]	
<i>Potentilla drummondii</i>	
ssp. <i>drummondii</i> [B]	
<i>Potentilla flabellifolia</i>	
var. <i>flabellifolia</i> [R]	
<i>Potentilla fruticosa</i>	
ssp. <i>floribunda</i> [R]	
<i>Potentilla gracilis</i>	
var. <i>gracilis</i> [R]	

TAXON	HITCHCOCK SYNONYM
Potentilla villosa [R]	no varieties
Pulsatilla occidentalis [B]	Anemone occidentalis
Fyrola see Orthilia	
Ranunculus eschscholtzii	
var. eschscholtzii [B,R]	
var. suksdorfii [B,R]	
Rhododendron albiflorum [B]	
Ribes howellii [B]	
Ribes lacustre [B]	
Rubus lasiococcus [B]	
Rubus parviflorus	
var. parviflorus [B]	
Rubus pedatus [B]	
Rumex acetosella	
ssp. angiocarpus [B]	
Sagina saginoides [B]	
Salix barclayi [B]	
Salix commutata [B]	
Saxifraga bronchialis	
ssp. austromontana [B,R]	
Saxifraga cespitosa	
ssp. cespitosa	
var. emarginata [R]	
Saxifraga ferruginea	Saxifraga ferruginea
var. vreelandii [B]	var. macounii
Saxifraga mertensiana [R]	
Saxifraga nelsoniana	Saxifraga punctata
ssp. cascadiensis [B]	var. cascadiensis
Saxifraga odontoloma [B]	NOT Saxifraga arguta
Sedum divergens [B,R]	
Sedum rupicolum [B,R]	Sedum lanceolatum
	var. rupicolum
Sedum stenopetalum	
ssp. monanthum [B,R]	
Selaginella densa	
var. scopulorum [R]	
Senecio flettii [B]	
Senecio lugens [B,R]	
Sibbaldia procumbens [R]	
Silene acaulis	Silene acaulis
var. acaulis [R]	var. exscapa
Silene parryi [B,R]	
Sitanion hystrix	
var. hystrix [R]	
Smelowskia calycina	
var. americana [R]	
Solidago multiradiata	
var. scopulorum [B,R]	
Sorbus sitchensis	
ssp. grayi [B]	
Stellaria simcoei [B]	

TAXON	HITCHCOCK SYNONYM
Synthyris pinnatifida	
var. lanuginosa [R]	
Taraxacum ceratophorum [R]	
Trisetum spicatum	
var. alaskanum [B,R]	
Trollius laxus	
ssp. albiflorus [B]	
Tsuga mertensiana [B]	
Vaccinium deliciosum [B]	
Vaccinium membranaceum [B,R]	
Valeriana sitchensis	
ssp. sitchensis [B,R]	
Veratrum viride	
ssp. eschscholtzii [B,R]	
Veronica americana [B]	
Veronica cusickii [B]	
Veronica serpyllifolium	
var. humifusa [B]	
Veronica wormskjoldii	
ssp. [B,R]	
Viola adunca	
var. adunca [B]	
Viola orbiculata [B]	
Zigadenus elegans	
ssp. elegans [R]	

DECISION NOTICE/DESIGNATION ORDER
AND
FINDING OF NO SIGNIFICANT IMPACT

Wet Weather Creek Research Natural Area
(Jefferson County, Washington)

USDA-Forest Service
Olympic National Forest
Quilcene Ranger District

Introduction

The purpose of establishing the Wet Weather Creek RNA is to contribute to a series of RNAs designed to "illustrate adequately or typify for research or education purposes, the important forest and range types in each forest region, as well as other plant communities that have special or unique characteristics of scientific interest and importance" (36 CFR 251.23).

Decision

By virtue of the authority delegated to me by the Chief of the Forest Service in Forest Service manual Section 4063, I hereby establish the Wet Weather Creek Research Natural Area (RNA). It shall be comprised of 1025 acres of lands in Jefferson County, Washington, on the Quilcene District of the Olympic National Forest, as described in the section of the Establishment Record entitled "Location." (See Figure 1)

The Regional Forester recommended the establishment of this RNA in the Record of Decision for the Olympic National Forest Land and Resource Management Plan in 1990. That recommendation was the result of an analysis of the factors listed in 36 CFR 219.25 and Forest Service Manual 4063.41. Results of the Regional Forester's analysis are documented in the Forest Plan and Final Environmental Impact Statement which are available to the public.

The Regional Forester has reexamined the Wet Weather Creek area to ensure that the environmental effects of establishing the area as an RNA have not changed since 1990. This analysis is documented in the attached environmental assessment. Based on the analysis in the environmental assessment, it is my decision to adopt Alternative A, to establish Wet Weather Creek as an RNA. Alternative A is selected because it provides long-term protection and recognition of two typical vegetation types of the northeastern Olympics: Douglas-fir / western hemlock forest on slopes on the east side of the Olympic Peninsula; and subalpine fir forest in the northeastern portion of the Peninsula. The Wet Weather Creek RNA will be managed in compliance with all relevant laws, regulations, and Forest Service Manual direction regarding RNA's, and in accordance with the management direction identified in the Forest Plan.

Alternative A would designate a 1025 acre area as the Wet Weather Creek RNA. Wet Weather Creek was estimated to be 1100 acres in the Forest Final EIS (p. IV-13). The more precise measurement sets the acreage at 1025 acres as described in the "Location" section of the Establishment Record. The manage-

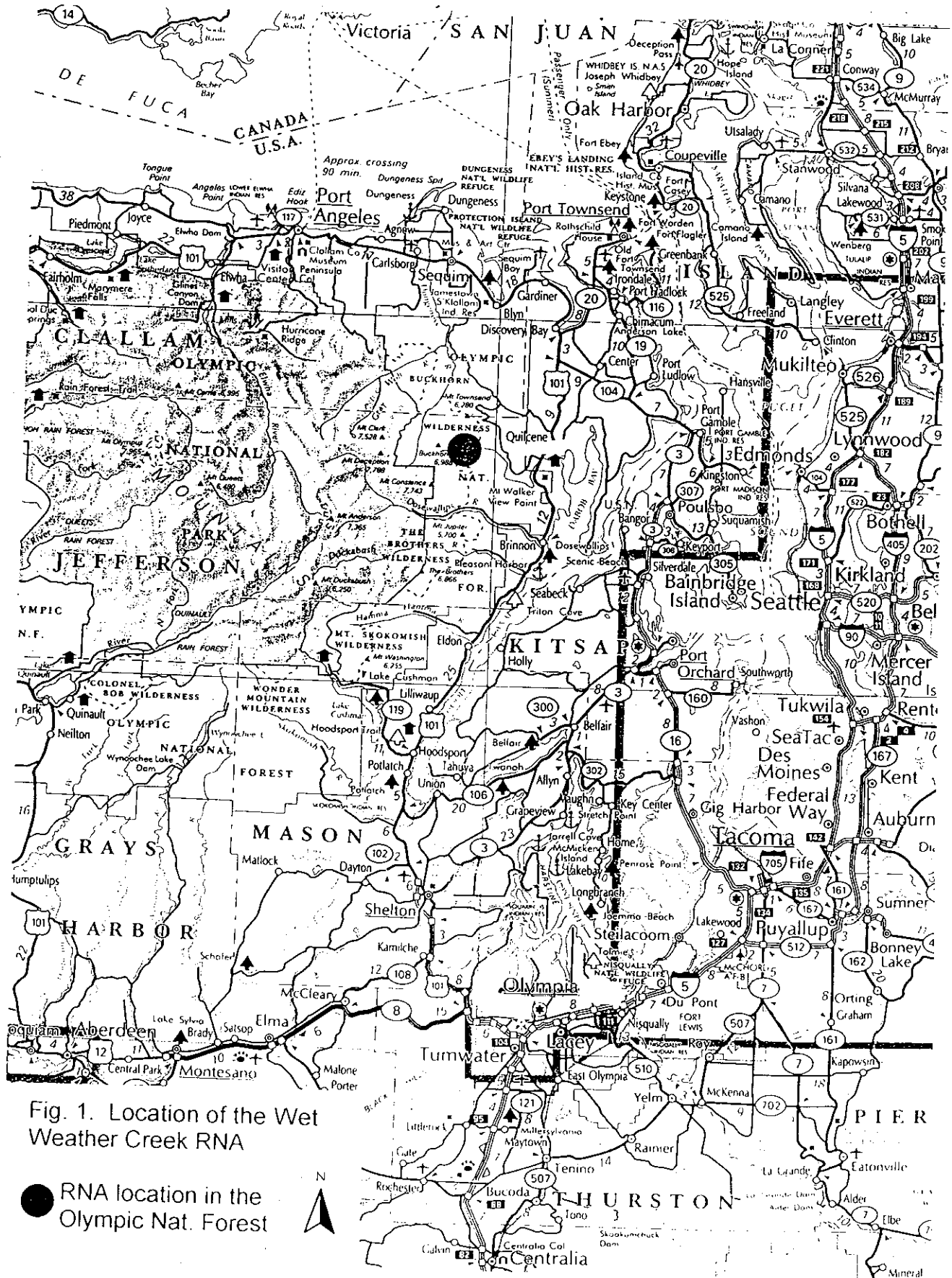


Fig. 1. Location of the Wet Weather Creek RNA

● RNA location in the Olympic Nat. Forest

ment goal for the area is to provide opportunities for research and education on areas of National Forest land where natural processes are allowed to occur without intervention by people (Forest Plan, pp. IV-105-107). Since the area is totally within the Buckhorn Wilderness, provisions of the Wilderness Act are also applicable (Forest Plan, pp. IV-82-85). Although Alternative A is consistent with the management direction, it is not consistent with the land allocation for the Wet Weather Creek RNA area in the Forest Plan. The Forest Plan is hereby amended to change the allocation of the Wet Weather Creek area from a "proposed" to an "established" RNA. This is a non-significant amendment to the Forest Plan [36 CFR 219.10(f)]. (See Figure 2)

Alternatives

The other alternative considered was Alternative B, the "No Action" alternative which would continue management of Wet Weather Creek as a "proposed" RNA. Alternative B was not selected because it would not provide for the long-term research or educational focus for two important vegetation types of the northeastern Olympic Mountains.

Public Involvement

During the review of the draft Olympic Land and Resource Management Plan EIS, several public comments were received regarding Research Natural Areas. There was a support for the existing Quinault RNA. Most of the public comments supported the Wet Weather Creek proposed RNA. Although there were some groups not interested in RNA establishments due to the loss of commodity production. This RNA lies entirely within the existing Buckhorn Wilderness. Since the RNA is in Wilderness these commodity comments would not apply to the Wet Weather Creek RNA area (Final EIS, Appendix K, Public Comment and Responses).

Finding of No Significant Impact

Based on an environmental analysis documented in an environmental assessment, it has been determined that this decision (Alternative A) is not a major federal action that would significantly affect the quality of the human environment. Therefore, an environmental impact statement is not required. This determination is based on the following factors (40 CFR 1508.27).

Context

Although this is an addition to the National network of RNAs, both short-term and long-term physical and biological effects are limited to the local area (Establishment Record, pp. 13-15).

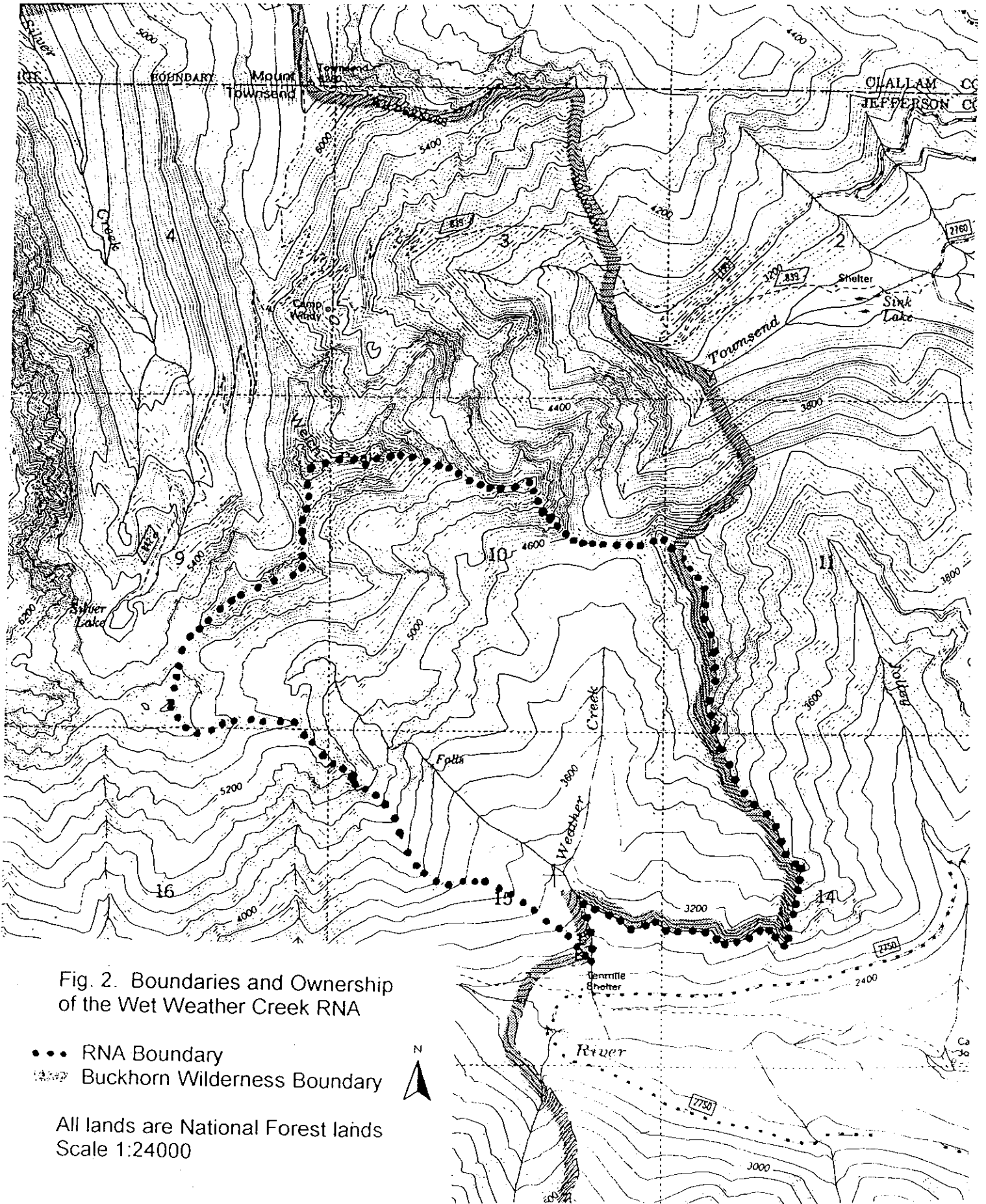


Fig. 2. Boundaries and Ownership
of the Wet Weather Creek RNA

- RNA Boundary
- - - Buckhorn Wilderness Boundary

All lands are National Forest lands
Scale 1:24000

Intensity

*There are no known effects on public health and safety.

*There are no known effects on historic or cultural resources, actual or eligible National Register of Historic Places, sites, park lands, prime farm lands, wetlands, or wild and scenic rivers. No significant adverse effects are anticipated to any environmentally sensitive or critical area (see EA pp. 3, Establishment Record pp. 6-15).

*Effects on the human environment are uncertain, do not involve unique or unknown risks, and are not likely to be highly controversial.

*The action is not likely to establish a precedent for future actions with significant effects.

*No significant direct, indirect, or cumulative impact to the natural resources or other components of the human environment are anticipated.

*The decision will not adversely affect any federally listed or proposed endangered or threatened species or regionally sensitive species of plants or animals or their critical habitat (see EA p. 4, Establishment Record pp. 6-15).

*The proposed action is consistent with Federal, State, and local laws and requirements for the protection of the environment. The Wet Weather Creek RNA lies entirely with the existing Buckhorn Wilderness Area.

Implementation

Implementation of this decision shall not occur within 7 calendar days following publication of the legal notice of the decision in the The Seattle Post-Intelligencer.

The Forest Supervisor of the Olympic National Forest shall notify the public of this decision and mail a copy of this Decision Notice/Designation Order to those who, in writing, have requested it and to those who are known to have participated in the decisionmaking process.

Appeal Opportunities

This decision is subject to appeal pursuant to 36 CFR Part 217. A copy of the Notice of Appeal must be in writing and submitted to:

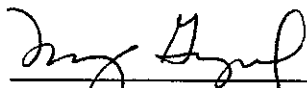
Chief, USDA - Forest Service
ATTN: NFS Appeals
14th and Independence Avenue, S.W.
P.O. Box 96090
Washington, D.C. 20090-6090

Any written Notice of Appeal of this decision must be fully consistent with 36 CFR 217.9 (Content of a Notice of Appeal) and must include the reasons for appeal and be submitted within 45 days from the date of legal notice of this decision in The Seattle Post-Intelligencer.

Contact Person

For information on Wet Weather Creek RNA, contact Joan Ziegltrum, Olympic National Forest, 1835 Black Lake Boulevard S.W., Olympia, Washington 98512-5623, Phone 360-956-2320.

E-mail: /s=j.ziegltrum/ou1=r6f9a@mhs-fswa.attmail.com



ROBERT W. WILLIAMS
Regional Forester
Pacific Northwest Region (R6)

January 21, 1998

Date

(signed by Nancy Graybeal
Deputy Regional Forester)

Seattle Post-Intelligencer

January 28, 1998

PUBLIC NOTICES

380 Legal Notices

NOTICE OF DECISION

On January 21, 1997, USDA, Forest Service, Pacific Northwest Regional Forester made a decision to establish the 1.025 acre Wet Weather Creek Research Natural Area on the Quilcene Ranger District of the Olympic National Forest in Jefferson County, Washington. This decision will be implemented after February 4, 1998.

A copy of the Decision Notice/Designation Order and Finding of No Significant Impact is available upon request from the Regional Office, Environmental Coordination, P.O. Box 3623, Portland, Oregon 97208.

This decision is subject to appeal pursuant to Forest Service regulation 36 Code of Federal Regulation (CFR) Part 217. Any written Notice of Appeal must be fully consistent with 36 CFR 217.9 (Content of a Notice of Appeal) and must include the reasons for appeal. Any written appeal must be postmarked or received by the Appeal Deciding Officer, Chief Mike Dombek, USDA - Forest Service, ATTN: NFS Appeals, P.O. Box 96090, Washington, D.C. 20090-6090 within 45 days of the date of this legal notice.

For further information about Wet Weather Creek RNA, contact Joan Ziegltrum, Olympic National Forest, 1835 Block Lake Boulevard S.W., Olympia, Washington 98512-5623, phone: 360-956-2320.



ENVIRONMENTAL ASSESSMENT

FOR

Wet Weather Creek Research Natural Area
(Jefferson County, Washington)

USDA-Forest Service
Olympic National Forest
Quilcene Ranger District

PROPOSED ACTION

The proposed action is to establish the Wet Weather Creek Research Natural Area (RNA) proposed in the Olympic National Forest (ONF) Land and Resource Management Plan (USDA Forest Service 1990), and to manage it according to the direction provided in the ONF Plan (Chp. IV., pages 105-107). The proposed action, formal designation of the RNA by the Regional Forester, will amend the Forest Plan. (see figure 1)

PURPOSE AND NEED FOR ACTION

The purpose of establishing the Wet Weather Creek RNA is to contribute to a series of RNA's designated to "illustrate adequately or typify for research or education purposes, the important forest and range types in each forest region, as well as other plant communities that have special or unique characteristics of scientific interest and importance" (36 CFR 251.23).

The Wet Weather Creek RNA contributes to this series of RNA's by providing an example of typical vegetation of the northeastern Olympics. Western hemlock / rhododendron-salal communities occur in lower Wet Weather Creek, including some doghair forest and rocky balds. At higher elevations one finds subalpine fir / common juniper and subalpine fir / white rhododendron communities dominated by lodgepole pine. Subalpine fir krummholz and other subalpine communities are found along the ridgetops. This area fills two cell needs as identified in Research Natural Area Needs in the Pacific Northwest (Dryness et al. 1975): "Typical Douglas-fir / Western Hemlock forest on slopes, east side of Peninsula" and "Subalpine fir forest in the northeastern portion of Olympic Peninsula". Establishment of the Wet Weather Creek RNA provides long-term protection and recognition of these two types as part of the national network.

The Wet Weather Creek area was identified in the ONF Plan as a "proposed" RNA based on the relatively undisturbed conditions of these types in the area at that time. Comments received from interested and affected members of the public supported establishment of an RNA in the area. Site conditions and public concerns have been reviewed; no important changes have occurred. Conditions and environmental effects of designation are the same as described on pages III-11,12 and IV-10 of the ONF Plan. Designation of alternate RNA's was considered during ONF Plan development (ONF Plan EIS, pages II-63, 81 and IV-13). Wet Weather

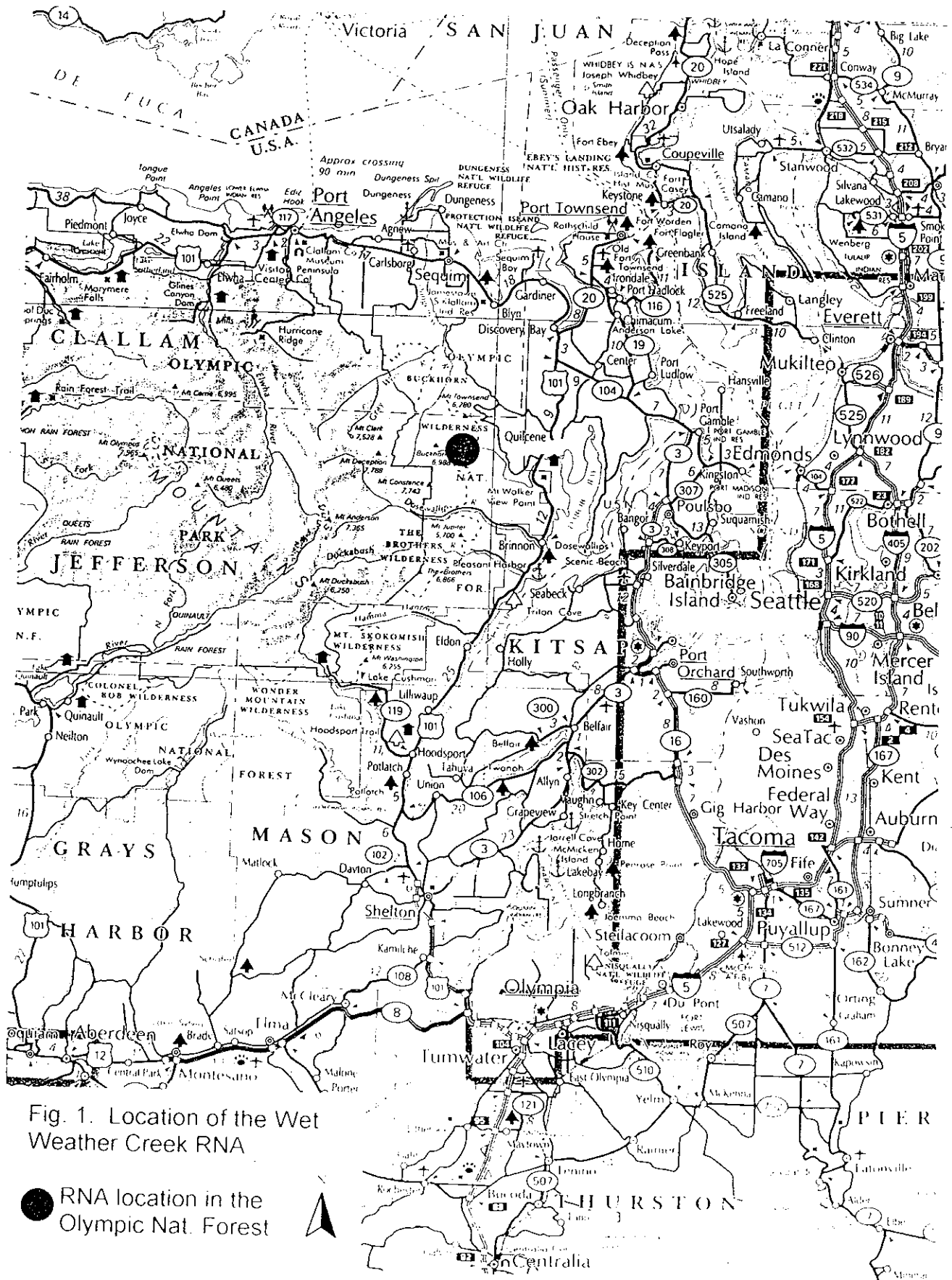


Fig. 1. Location of the Wet Weather Creek RNA

● RNA location in the Olympic Nat. Forest

Creek was determined at that time to provide the most appropriate site for inclusion in the national network for protection of the two vegetation types.

ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES

Alternative A, Proposed Action

Alternative A would designate a 1025 acre area as the Wet Weather Creek RNA. Wet Weather Creek was estimated to be 1100 acres in the ONF Plan EIS (page IV-13). The more precise measurement sets the acreage at 1025 as described in the "Location" section of the attached Establishment Record (ER). The management goal for the area is to provide opportunities for research and education on areas of National Forest land where natural processes are allowed to occur without intervention by people (ONF Plan, p. IV-105 - 107). Since the area is totally within the Buckhorn Wilderness, provisions of the Wilderness Act are also applicable (ONF Plan, p. IV-82 - 85). (see figure 2)

The environmental consequences of Alternative A are described in the EIS for ONF Plan (p. II-63, II-81, IV-13). There are no significant consequences, since the area is already within the Buckhorn Wilderness and has been withdrawn from mineral entry (ONF Plan EIS, Chp. IV., p. 168).

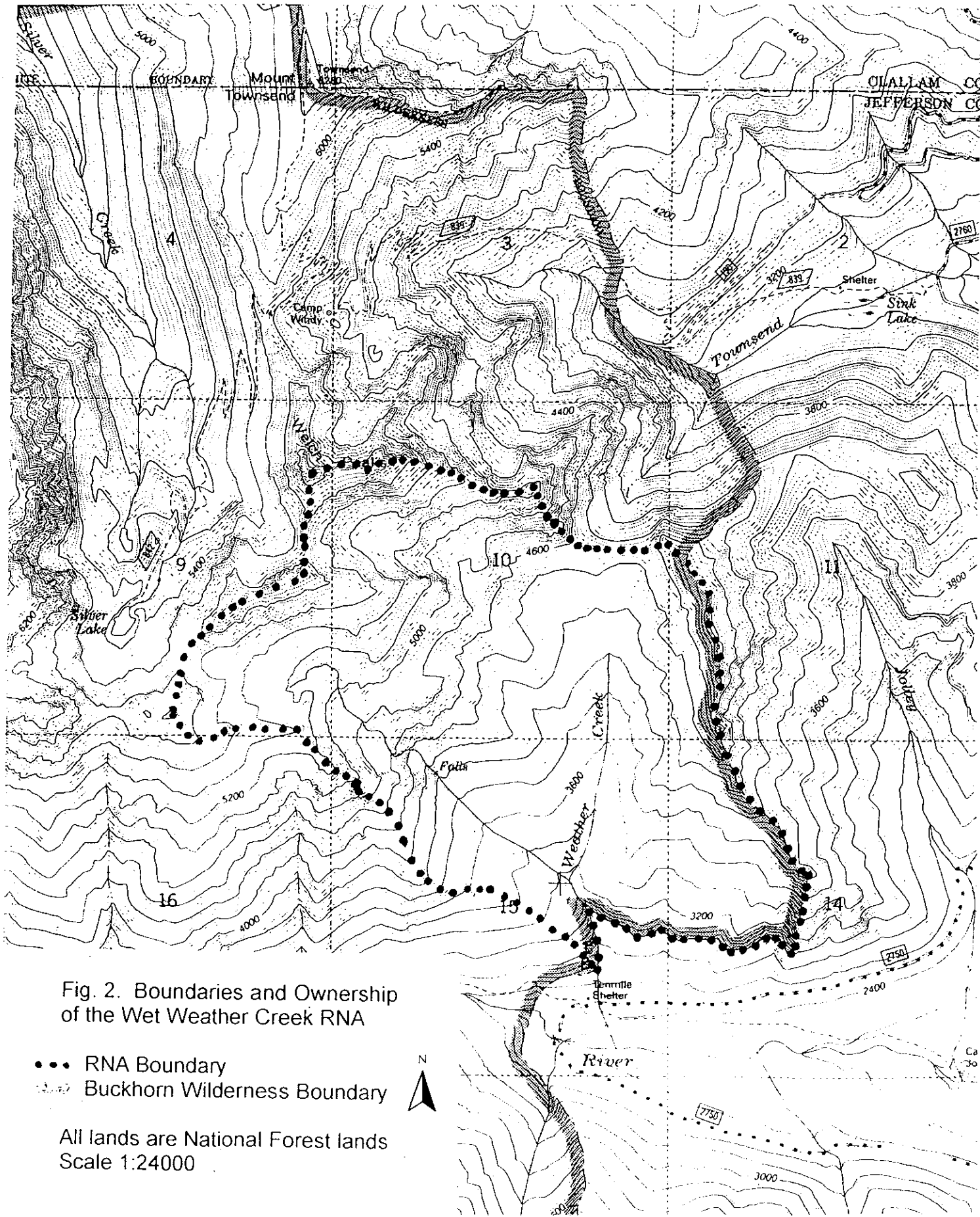
Alternative B, No Action

This alternative continues management according to direction in the ONF Plan as a "proposed" RNA within Wilderness (p. IV-105, IV-82). There are no significant cumulative effects of this alternative.

The environmental consequences of Alternative B, the "No Action" alternative, are as described in EIS for ONF Plan (p. IV-13). Although the area would still have the Wilderness designation, there would not be the long-term research or educational focus on these two vegetation types of the Northeastern Olympics.

PUBLIC INVOLVEMENT

Several public comments received for the DEIS addressed Research Natural Areas. There was support for the existing Quinault RNA, and most of the comments supported the Wet Weather Creek proposed RNA. Although there was some response from groups not interested in RNA establishments due to the loss of commodity production, these comments would not apply to the Wet Weather Creek area which is already in Wilderness (final EIS, Appendix K, Public Comments and Responses).



REFERENCES

Dyrness, C.T., Jerry F. Franklin, Chris Maser, Stanton A. Cook, James D. Hall and Glenda Faxon. 1975. Research Natural Area Needs in the Pacific Northwest; A Contribution to Land-Use Planning. Pacific Northwest Forest and Range Experiment Station, USDA Forest Service, Portland, Oregon. 231 pp.

USDA Forest Service. 1990. Final Environmental Impact Statement, Land and Resource Management Plan, Olympic National Forest, Pacific Northwest Region, US Government Printing Office: 1990 - 794-319 Region No. 10.

USDA Forest Service. 1990. Land and Resource Management Plan, Olympic National Forest, Pacific Northwest Region, US Government Printing Office: 1990 - 794-319 Region No. 10.

USDA Forest Service & USDI Bureau of Land Management. 1994. Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl, 74 pp.

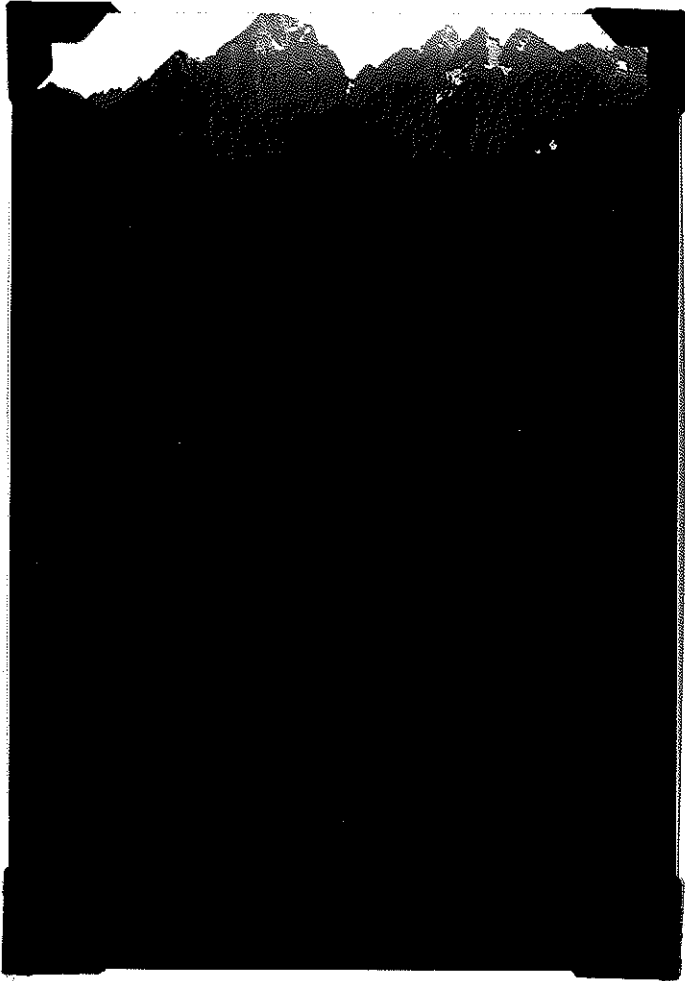


Figure 5. Northern, subalpine part of Wet Weather Creek RNA (foreground); Big Quilcene river valley (middleground); Olympic Mountains & Olympic National Park (background)



Figure 6. Zigadenus venenosus var. venenosus (death camas)

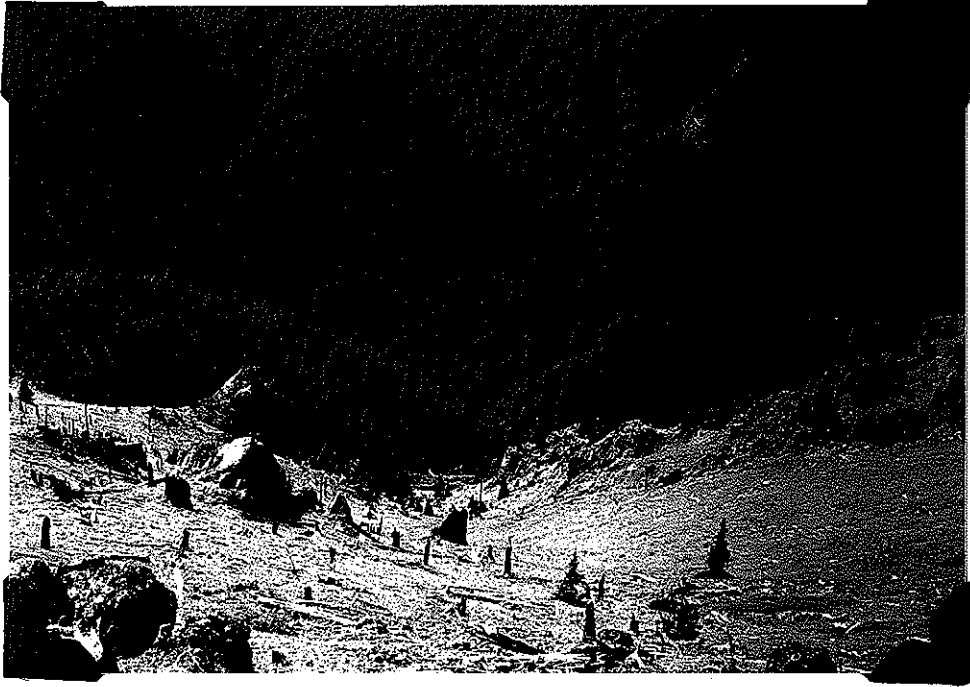


Figure 7. View of Wet Weather Creek RNA from northeastern boundary southward into the Wet Weather Creek drainage



Figure 8. Carex circinata (blunt sedge); Sensitive plant (grass-like plant in left foreground)