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CHECKLIST of Vertebrate Animals of the Cascade Head Experimental Forest

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ABSTRACT

Three months, April and August 1971 and August 1972, were spent studying the vertebrate fauna of Cascade Head Experimental Forest. The resulting annotated checklist includes 9 amphibians, 2 reptiles, 35 birds, and 40 mammals. A standardized animal habitat classification is presented in an effort to correlate the vertebrates in some meaningful way to their environment.

Keywords: Vertebrates, Cascade Head Experimental Forest.

Cascade Head Experimental Forest is a facility established by the U.S. Forest Service for research on the distinctive and very productive coastal "fogbelt" Sitka spruce (*Picea sitchensis*) and western hemlock (*Tsuga heterophylla*) forests of Oregon and Washington. Since its establishment in 1934, this 4,750-hectare (11,890-acre) tract has been jointly administered by the Pacific Northwest Forest and Range Experiment Station and Siuslaw National Forest as a site for basic biological research, experimentation in various forest management practices, and education. Accumulating information makes Cascade Head increasingly valuable as a resource for scientists and educators concerned with coastal forests.

Chris and Rita Maser spent 3 months (April 1971, August 1971, and August 1972) studying the fauna of the Experimental Forest as part of a larger study of the natural history of the entire Oregon coast. Data were collected on the abundance of various animals and their habitat preferences and food habits.

This checklist has been developed from those data plus some additional research on correlation of animal distributions with major plant communities. It is intended as a basis for further research on the fauna of the area and to provide other scientists and educators, as well as casual visitors, with information on the abundance and distribution of the vertebrates at Cascade Head. The lists of amphibians, reptiles, and mammals are considered reasonably complete; the bird list is only a partial checklist. Individuals wishing more information or identification are referred to appropriate field manuals (Peterson 1961, Burt and Grossenheider 1964, Stebbins 1966).[1/]

This report is in seven parts: (1) Introductory information on the physical features of Cascade Head Experimental Forest and its animal habitats; annotated checklists for the (2) amphibians, (3) reptiles, (4) birds, and (5) mammals; (6) a tabular listing of other animals which may be present on the Experimental Forest; and (7) a table showing the occurrence of animal species by habitat.

1/ We used the following references for scientific names: (1) amphibians and reptiles--Stebbins 1954, 1966, (2) birds--American Ornithologists' Union 1957, and (3) mammals--Hall and Kelson 1959, Johnson and Ostenson 1959, Johnson 1968. Therefore, this report differs from the suggested field manuals in the use and spelling of some scientific names and in the use of some common names of mammals.

LOCATION AND PHYSICAL DESCRIPTION

Cascade Head Experimental Forest overlooks the Pacific Ocean immediately north of the Salmon River between Neskowin and Otis, Oregon (Madison 1957). The rectangular tract extends approximately 6 miles inland from the ocean and averages 3 miles north to south (fig. 1).

The actual acreage of the Experimental Forest available for research is about 3,290 hectares (8,220 acres) of which about 83 percent supports Sitka spruce-western hemlock forest with the remainder covered by red alder (*Alnus rubra*). Portions of the forest have been clearcut and other areas thinned or partially cut in connection with numerous studies of timber harvest practices, ecology, and management of individual tree species (Madison 1957). The Neskowin Crest Research Natural Area has also been set aside in perpetuity to protect an example of the coniferous forests in a completely undisturbed state (Franklin et al. 1972).

The Experimental Forest lies astride a major ridge extending from the Coast Ranges and jutting into the Pacific Ocean as a headland. Topography is irregular, with steep slopes and dissected drainages near the ocean and gentle to moderately steep slopes along the top of the main ridge and in the eastern third of the area. Elevations range from sea level to a maximum of 525 meters (1,750 feet). The top of the main ridge has a general elevational range of 225 to 305 meters (750 to 1,000 feet). The headland is a result of the underlying basalt bedrock, which is more resistant to erosion than the surrounding sedimentary formations. Sedimentary materials cap the basalt in most locations, however, and have served as the parent material for the fertile, moderately deep soils which are characteristic of the Experimental Forest.

The coastal climate is wet and mild. Precipitation averages 2,440 millimeters (96 inches) annually, most of which falls from October through March; summers are relatively dry with an average precipitation of only 76 millimeters (3 inches). Summers are cool with frequent fogs on the headland and few days with maxima over 27° C (80° F). Winters are mild with January temperatures averaging about 5° C (40° F).

PLANT COMMUNITIES

The Experimental Forest lies within the coastal *Picea sitchensis* Zone of Franklin and Dyrness (1973). The major plant formation is mature coniferous forest composed of western hemlock (*Tsuga heterophylla*), Sitka spruce (*Picea sitchensis*), and Douglas-fir (*Pseudotsuga menziesii*) (fig. 2). These forest stands apparently originated after a major wildfire about 1850. They are generally dense and highly productive with dominant trees averaging 60 to 100 centimeters (25 to 40 inches) in diameter at breast height and 50 to 70 meters (150 to 210 feet) in height. Stand composition varies depending on the distance from the Pacific Ocean. The percentage of Sitka spruce is highest close to the ocean and declines in the eastern third of the Experimental Forest; conversely, Douglas-fir is rare close to the ocean and is common only in the eastern third.

Most of these mature stands have understories characteristic of the *Tsuga heterophylla/Polystichum munitum-Oxalis oregana* association which is considered to be the climax over much of this area. Development of

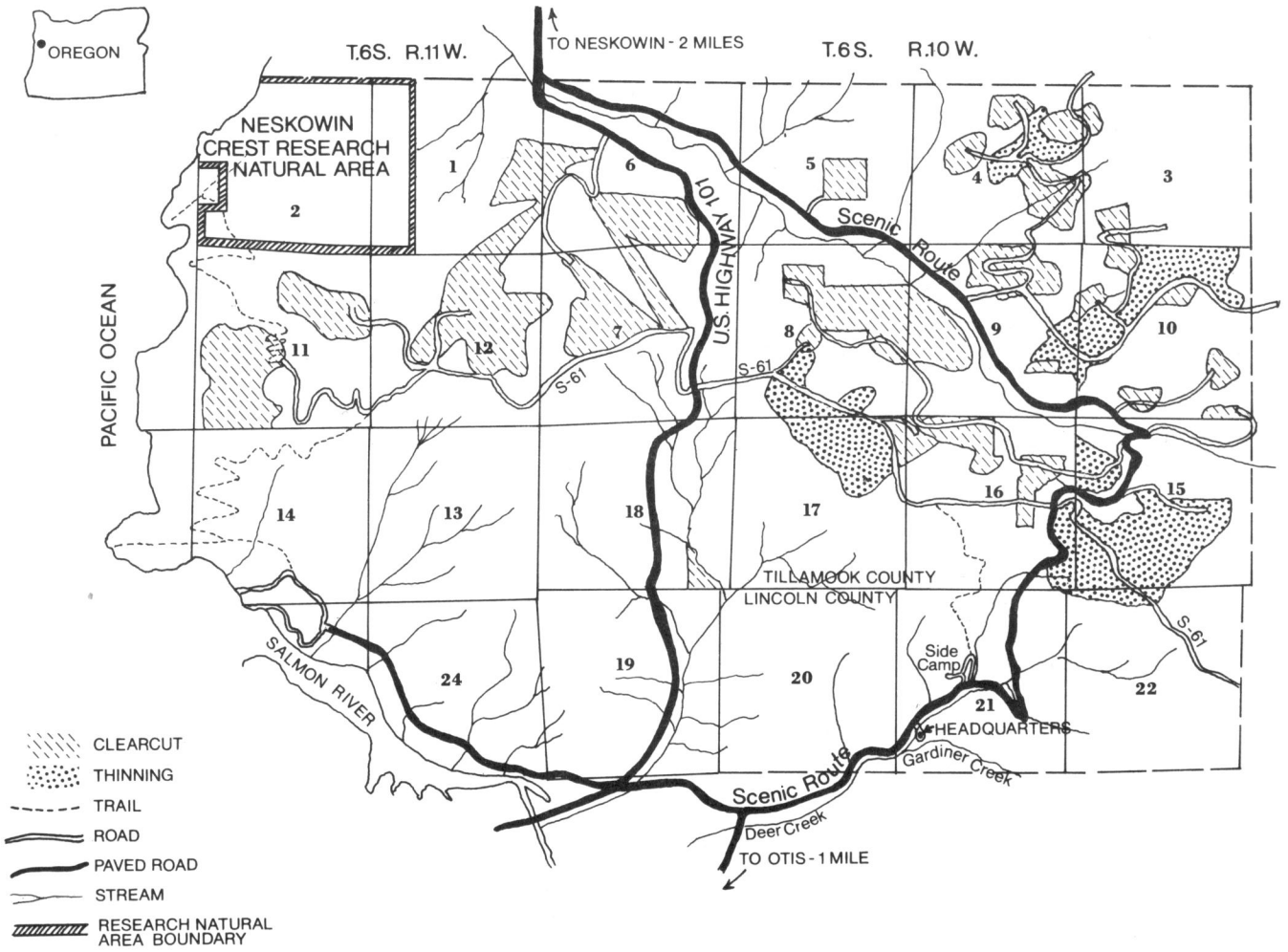

Figure 1.--Map of Cascade Head Experimental Forest showing roads and the major locations referred to in the checklist.

Figure 2.--Dense, 120-year-old stands of Sitka spruce and western hemlock (Mature Conifer) are the major forest cover on the Cascade Head Experimental Forest; red tree voles and flying squirrels inhabit such forests.

the shrub layer varies with overstory density, and in the densest stands shrubs are virtually absent except for scattered red huckleberry (*Vaccinium parvifolium*). In stands close to the coast (see Neskowin Crest Research Natural Area in Franklin et al. 1972) rustyleaf (*Menziesia ferruginea*) is the most common shrub. Devilsclub (*Oplopanax horridum*) is found in some wetter microsites, and in wet areas with relatively open canopies salmonberry (*Rubus spectabilis*) may form thickets. Herb layers are usually well developed in the mature forests and are characterized by swordfern (*Polystichum munitum*), Oregon oxalis (*Oxalis oregana*), false lily-of-the-valley (*Maianthemum dilatatum*), and the coolworts (*Tiarella trifoliata* and *T. unifoliata*). On moister microsites, several additional species are found such as ladyfern (*Athyrium filix-femina*) and deerfern (*Blechnum spicant*). A prominent ground cover of moss, dominantly *Eurhynchium oreganum*, is present. In the animal annotations we will refer to this community as the "Mature Conifer."

There are also substantial acreages of dense young coniferous forest which are a result of planting and natural seeding during the last 10 to 40 years (fig. 3). A mixture of Sitka spruce, western hemlock, and Douglas-fir is typical, sometimes with interspersed red alder. These stands grow very rapidly (Fujimori 1971); once the canopy closes, most of the understory is eliminated, leaving a forest floor which is nearly barren or partially covered by a carpet of moss along with scattered herbs. Dead branches on the boles may extend nearly to the ground. We will refer to this habitat as "Immature Conifer" in the annotations.

Figure 3.--Young, very dense conifer stands (Immature Conifer) have almost no understory and dead branches may extend nearly to ground level; red-backed voles are frequently found in such areas.

The mature red alder or mixed red alder-conifer communities are the second most abundant (fig. 4).[2/] With rare exception, these are seral or pioneer communities which are approaching maturity (based on senescence of the overstory red alder) despite their relatively young range of ages (35 to 50 years). Red alder is the most common dominant tree species with most 15 to 20 meters (45 to 60 feet) in height and 20 to 30 centimeters (8 to 12 inches) in diameter at breast height. Varying percentages of conifers may be present. Sitka spruce can be an associate in the overstory canopy or present as suppressed seedlings and saplings in the understory. Douglas-fir, if present, is usually a dominant, with its canopy above that of the red alder dominants. A dense shrubby understory of salmonberry is typical in these mature stands along with varying amounts of red elderberry (*Sambucus racemosa* var. *arborescens*). Vine maple (*Acer circinatum*) and thimbleberry (*Rubus parviflorus*) may also be present. The herbaceous layer is usually well represented, with swordfern, false lily-of-the-valley, and western springbeauty (*Montia sibirica*) most characteristic. The moss layer is generally poorly represented. Henderson[3/] has described a general sequence in understory development of red alder stands which begins primarily with herbs and culminates with dominance by salmonberry;

[2/] We include the mixed stands here because in overall composition and physiognomy and in terms of animal habitats they more nearly resemble alder than conifer stands (see, e.g., Franklin and Pechanec 1968 and Berntsen 1961).

[3/] Jan Alan Henderson. Biomass and composition of the understory vegetation in some *Alnus rubra* stands in western Oregon. M.S. thesis on file at Oregon State University, Corvallis, 64 p., 1970.

Figure 4.--Red alder or mixed alder-conifer stands (Alder/Salmonberry) often have dense understories of salmonberry; these communities provide habitat for the greatest variety of animals.

most of the Cascade Head stands appear to fall into the mature (later) stage of development. We will refer to this habitat as "Alder/Salmonberry" in the annotations.

A phase of this community usually dominates the edges of perennial streams. Streams provide some animal habitats not found in the more typical upland form of the habitat even though it is sometimes difficult to identify differences in the plants. Furthermore, the animals vary, depending upon the size of the stream. "Riparian Alder/Large Stream" will be used to denote habitat with larger streams which typically have stonier streambeds and broader, more frequently disturbed flood plains. "Riparian Alder/Small Stream" identifies habitats with permanent but small streams which are usually characterized by sandy or gravelly streambeds and minor flood plains.

Several other plant communities of minor extent are particularly important as habitats for animals not found elsewhere. Skunkcabbage (*Lysichitum americanum*) swales or marshes have standing, and often stagnant, water for at least part of the year (fig. 5). They are generally very small in area but have a distinctive herbaceous flora. We will refer to these areas as "Skunkcabbage Marsh" in the annotations. An oceanside headland prairie or herbland exists at the west end of Cascade Head (fig. 6). Its varied composition has been described by Davidson.[4/] We will refer to this habitat as "Headland Prairie." A pasture has been maintained at the headquarters site for more than 40 years (fig. 7); we will refer to this habitat as "Pasture."

4/ Eric Duncan Davidson. Synecological features of a natural headland prairie in the Oregon coast. M.S. thesis on file at Oregon State University, Corvallis, 79 p., 1967.

Figure 5.--Marshy areas characterized by skunkcabbage (Skunkcabbage Marsh) are found in wet, poorly drained sites; red-legged frogs and marsh shrews are found in this habitat.

Figure 6.--An oceanside prairie or herbland (Headland Prairie) is found at the end of Cascade Head; red-tailed hawks hunt vagrant shrews and Townsend voles in this area.

Figure 7.--Pasture and buildings at the headquarters site for Cascade Head Experimental Forest; the pasture is another locale of vagrant shrews, Townsend voles, and garter snakes and is a major feeding area for bats; bushy-tailed woodrats and some bats utilize the buildings area itself.

AMPHIBIANS

SALAMANDERS (ORDER CAUDATA)

Mole Salamanders (Family Ambystomatidae)

PACIFIC GIANT SALAMANDER (*Dicamptodon ensatus*): The Pacific giant salamander is the largest living land salamander in the world; large adults may attain lengths of 340 millimeters (13-1/2 inches). Adults of this species can be found during the day under logs, slabs of bark, large rocks, or other ground litter near the edges of streams, springs, and seepages. The larvae are aquatic. Although no adults were found in the Experimental Forest, about 30 larvae were observed under rocks in Deer Creek which constitutes an example of the Riparian Alder/Large Stream habitat. Two neotenic specimens (individuals which fail to metamorphose to adults but grow large and become sexually mature in the larval condition) were caught in a pool along Deer Creek in August 1972; a third neotene was recovered from the stomach of a great blue heron (*Ardea herodias*) which had been feeding in fairly slow, deep water along Deer Creek.

The Riparian Alder/Large Stream habitat supported the greatest numbers of larval Pacific giant salamanders; one larva was collected in a small stream (Riparian Alder/Small Stream).

OLYMPIC SALAMANDER (*Rhyacotriton olympicus*): The Olympic salamander is usually an inhabitant of the edges (splash zones) of relatively small, cold, swift, rocky streams. It can also frequently be found under moss-covered rocks of perennial springs and seepages. Along the Oregon coast, however, Olympic salamanders have occasionally been found in small, relatively slow-flowing, sandy-bottomed streams.

A single Olympic salamander was collected during a gentle rain along old Highway 101 in April 1971.

In March 1965, over 100 specimens were found during one afternoon along two small streams in the immediate vicinity of Hebo, Tillamook County, approximately 12 miles north of the northern boundary of Cascade Head Experimental Forest. Within the Experimental Forest, the species should be relatively abundant in the Riparian Alder/Large Stream habitat but uncommon in the Riparian Alder/Small Stream habitat.

Newts (Family Salamandridae)

ROUGH-SKINNED NEWT (*Taricha granulosa*): The rough-skinned newt is extremely common, almost ubiquitous, along the Oregon coast. During April 1971, rough-skinned newts were found wandering around in every habitat type except the Headland Prairie and the Pasture where they are likely to occur occasionally. The species spawns from late December to July (Stebbins 1954) and during this time would tend to be most abundant (as was the case in April 1971) in the Riparian Alder/Large Stream and Riparian Alder/Small Stream habitats.

Lungless Salamanders (Family Plethodontidae)

DUNN SALAMANDER (*Plethodon dunni*): The Dunn salamander is most common along coastal Oregon in piles of rock and rock slides which can be

found along the sides of roads and the steep banks of some streams. Recently formed or greatly disturbed rock slides are not good habitat. During warm, wet weather--such as April 1971, which had over 20 centimeters (8 inches) of rain--these salamanders may disperse over the forest floor. Two Dunn salamanders were collected along old Highway 101 during April 1971. The first individual was caught on the highway during a warm, rainy night, and the second was found under a piece of bark. Both locations were within the Immature Conifer habitat. The Dunn salamander should be fairly common within the Experimental Forest in all habitat types, except the Headland Prairie and the Pasture where it probably would not occur.

WESTERN RED-BACKED SALAMANDER (*Plethodon vehiculum*): The western red-backed salamander, like the Dunn salamander, frequents rock slides; and in some areas the two species may be found together. During warm, wet weather, these salamanders can be found under and in almost any suitable type of litter on the forest floor. During April 1971, the western red-backed salamander was very common under debris, such as logs and bark, in the Mature Conifer and the Immature Conifer habitats. It was less abundant in the Alder/Salmonberry habitat.

OREGON SALAMANDER (*Ensatina eschscholtzi*): The Oregon salamander was abundant in April 1971 and found in all habitat types except the Headland Prairie and the Pasture; however, an occasional one might be found there also. One Oregon salamander was collected under a piece of bark in the Immature Conifer habitat in August 1971. It was the only lungless salamander found in August.

FROGS (ORDER SALIENTIA)

Tailed Frogs (Family Ascaphidae)

TAILED FROG (*Ascaphus truei*): The tailed frog is considered to be the most primitive North American frog and, reproductively, it is also unique in that the "tail" possessed by the male is a copulatory organ allowing internal fertilization. Since these frogs normally inhabit mountain streams, internal fertilization would be necessary to prevent the swift currents from washing the spermatozoa away from the eggs before fertilization could take place (Stebbins 1954).[5/]

The tailed frog is common in the swift, cold, rocky streams along the northern Oregon coast. The adults may be found under rocks, logs, and slabs of bark at stream edges. The larvae attach themselves to the downstream sides of rocks, frequently in the swift currents, by means of their suckerlike mouths. These frogs are probably reasonably abundant in the Experimental Forest. A few larvae were found in a small stream (Riparian Alder/Small Stream) near the headquarters; they were more common in the larger, rocky streams (Riparian Alder/Large Stream). Even though we did not see adults, searching along streams during summer nights should produce adult specimens.

[5/] The eggs of other North American frogs are fertilized externally; the spermatozoa and eggs are discharged into the water where fertilization takes place.

Tree Frogs (Family Hylidae)

PACIFIC TREE FROG (*Hyla regilla*): The Pacific tree frog is the only truly ubiquitous amphibian along the entire Oregon coast, including the Experimental Forest. It is the most common frog in the Experimental Forest, which is not surprising as it spawns in any available water, including mudpuddles.

Although this little frog can be found in trees, it is most active at ground level. It is primarily nocturnal, with some diurnal activity.

True Frogs (Family Ranidae)

RED-LEGGED FROG (*Rana aurora*): The red-legged frog is the largest frog in the Experimental Forest and is relatively abundant. As is the tailed frog, the red-legged frog is primarily aquatic but prefers the quieter waters of the smaller streams (Riparian Alder/Small Stream) and the marshy areas (Skunkcabbage Marsh). A few of these frogs were found along the larger streams (Riparian Alder/Large Stream) during hot, dry days in August of 1971 and 1972. However, during warm, wet days in April 1971, these frogs were encountered on the forest floor of the Alder/Salmonberry habitat at considerable distance from the stream.

REPTILES

SNAKES (ORDER SQUAMATA)

Colubrids (Family Colubridae)

NORTHWESTERN GARTER SNAKE (*Thamnophis ordinoides*): The northwestern garter snake was found to be abundant and the most commonly encountered snake in the Pasture and the Riparian Alder/Small Stream habitats. It was also caught occasionally along the edges of old Highway 101, in the Riparian Alder/Large Stream, Skunkcabbage Marsh, and southern and eastern edges of the Headland Prairie habitats. Chiefly terrestrial, the snake requires open areas with thick, low-growing vegetation that serves as protective cover.

These snakes were very active during warm, sunny periods in April 1971. Copulation was observed once at the edge of the Pasture in April. The species was also active in August of 1971 and 1972.

The snakes were observed to feed on earthworms, slugs, and Pacific tree frogs.

COMMON GARTER SNAKE (*Thamnophis sirtalis*): According to Stebbins (1966), the common garter snake is the "most widely distributed North American reptile." These snakes were abundant at the edge of the Pasture, in the Riparian Alder/Small Stream, and in the Riparian Alder/Large Stream habitats, but were not as plentiful as the northwestern garter snakes.

The common garter snake was active during the warm, sunny periods in April 1971. They were also active in August of 1971 and 1972.

The common garter snake is more closely associated with water than is the northwestern garter snake and, unlike the latter species, enters the water freely when pursued.

Along the Oregon coast, including the Experimental Forest, the food of the common garter snake consists of earthworms, slugs, Pacific tree frogs, small red-legged frogs, frog tadpoles, salamanders, and small fish. They are frequently caught in Museum Special snap traps (a type of large "mousetrap") and Conibear traps (a type of steel trap) when baited with fish and set along the edges of streams and ponds.[6/]

BIRDS

HERONS (ORDER CICONIIFORMES)

Herons (Family Ardeidae)

GREAT BLUE HERON (*Ardea herodias*): Great blue herons were observed during August of 1971 and 1972 along Deer Creek (Riparian Alder/Large Stream) near the headquarters. In August 1972, one heron had the following food species in its stomach: (1) a neotenic Pacific giant salamander, *Dicamptodon ensatus*, (2) two small sculpins, *Cottus* sp., and (3) several crawfish.

HAWKS (ORDER FALCONIFORMES)

Hawks (Family Accipitridae)

COOPER'S HAWK (*Accipiter cooperii*): Two Cooper's hawks were seen on several occasions flying across the Pasture or resting in trees along the western edge during August 1972.

RED-TAILED HAWK (*Buteo jamaicensis*): Two red-tailed hawks were observed flying over the Headland Prairie on April 3, 1971.

GROUSE (ORDER GALLIFORMES)

Grouse (Family Tetraonidae)

RUFFED GROUSE (*Bonasa umbellus*): Ruffed grouse were seen on several occasions in April 1971 and August 1971 and 1972, in the Alder/Salmonberry habitat. Males were heard drumming in April 1971.

PIGEONS AND DOVES (ORDER COLUMBIFORMES)

Pigeons and Doves (Family Columbidae)

BAND-TAILED PIGEON (*Columba fasciata*): A few band-tailed pigeons were frequently seen along the small streams (Riparian Alder/Small Stream) near the headquarters during August 1971 and 1972. They often roosted in this habitat.

MOURNING DOVE (*Zenaidura macroura*): Mourning doves were heard occasionally in the vicinity of the headquarters and Side Camp. Most of the habitat in these areas would fall generally in the Alder/Salmonberry type. One dove was seen along old Highway 101 in Immature Conifer habitat in August 1971.

[6/] Mention of product by name does not imply endorsement by U.S. Department of Agriculture.

OWLS (ORDER STRIGIFORMES)

Typical Owls (Family Strigidae)

SCREECH OWL (*Otus asio*): Screech owls were heard calling almost every night during August 1971 and 1972 near the headquarters. They were always heard in the Riparian Alder/Small Stream-Immature Conifer habitats which merged on the steep, north slope immediately adjacent to the headquarters.

GREAT HORNED OWL (*Bubo virginianus*): Great horned owls were crepuscular (twilight) hunters in the Pasture and the Headland Prairie. Cast pellets from these owls collected in the Headland Prairie contained the remains of Townsend voles (*Microtus townsendi*) and vagrant shrews (*Sorex vagrans*). Great horned owls were also heard calling at night in the Mature Conifer habitat.

PYGMY OWL (*Glaucidium gnoma*): Pygmy owls were heard calling at night on a few occasions (August 1971) in the Immature Conifer near the edge of the Alder/Salmonberry habitat just east of the headquarters.

HUMMINGBIRDS (ORDER MICROPODIFORMES)

Hummingbirds (Family Trochilidae)

RUFOUS HUMMINGBIRD (*Selasphorus rufus*): Rufous hummingbirds were common in April 1971 and appeared to be abundant in August 1971 and 1972. They were particularly numerous in the Alder/Salmonberry habitat, but were also seen or heard in all habitat types.

KINGFISHERS (ORDER CORACIIFORMES)

Kingfishers (Family Alcedinidae)

BELTED KINGFISHER (*Megaceryle alcyon*): Belted kingfishers were frequently seen and heard along the rocky streams (Riparian Alder/Large Stream) such as Deer Creek. They were occasionally observed along relatively open areas in the Riparian Alder/Small Stream habitat. One kingfisher was observed as it caught a small rainbow trout (*Salmo gairdneri*) which were common in the larger streams.

WOODPECKERS (ORDER PICIFORMES)

Woodpeckers (Family Picidae)

RED-SHAFTED FLICKER (*Colaptes cafer*): A few red-shafted flickers were seen flying over clearcuts and the Pasture in April 1971, and August 1971 and 1972. On two occasions, these birds were observed feeding on the edge of the lawn at the headquarters in August 1971.

PILEATED WOODPECKER (*Dryocopus pileatus*): Pileated woodpeckers were frequently heard and occasionally seen in the Mature and Immature Conifer habitats. However, most of their feeding (based upon observation) was in the Mature Conifer habitat.

RED-BREASTED SAPSUCKER (*Sphyrapicus varius*): Red-breasted sapsuckers were seen several times in the Alder/Salmonberry habitat in April 1971 and August 1971 and 1972.

HAIRY WOODPECKER (*Dendrocopos villosus*): Hairy woodpeckers

appeared to be fairly common in the Alder/Salmonberry habitat throughout the Experimental Forest. They were also observed in the Mature Conifer in April 1971.

PERCHING BIRDS (ORDER PASSERIFORMES)

Swallows (Family Hirundinidae)

VIOLET-GREEN SWALLOW (*Tachycineta thalassina*): Violet-green swallows were feeding over the Headland Prairie and the edge of the Mature Conifer on April 3, 1971. During August 1971 and 1972, they came almost every evening to feed over the Pasture and the headquarters buildings.

Jays and Crows (Family Corvidae)

GRAY JAY (*Perisoreus canadensis*): Two gray jays observed in April 1971 in Mature Conifer along the Ridge Road between old and new Highways 101 were the only gray jays seen.

STELLER'S JAY (*Cyanocitta stelleri*): Steller's jays were common in and around all habitats throughout the Experimental Forest. A number of them were caught in rat traps set to catch chipmunks around the headquarters.

COMMON RAVEN (*Corvus corax*): Ravens were observed flying over the Headland Prairie and Mature Conifer on the eastern border of the Headland Prairie on April 3, 1971. Ravens occasionally flew over the headquarters area during August 1972.

Bushtits and Chickadees (Family Paridae)

CHESTNUT-BACKED CHICKADEE (*Parus rufescens*): Chestnut-backed chickadees were common in all habitats throughout the Experimental Forest except in the Headland Prairie and the Pasture.

Creepers (Family Certhiidae)

BROWN CREEPER (*Certhia familiaris*): These small birds were infrequently seen and heard in the Mature and Immature Conifer habitats in April 1971 and August 1971 and 1972.

Wrentits (Family Chamaeidae)

WRENTIT (*Chamaea fasciata*): The wrentit seemed to be fairly common in the brushy thickets along the coastal edge of the Experimental Forest; it did not appear to be nearly as abundant as it was farther south along the Oregon coast. Wrentits were found to feed extensively upon the fruit of evergreen huckleberry (*Vaccinium ovatum*) during the winter.

Dippers (Family Cinclidae)

DIPPER (*Cinclus mexicanus*): Dippers were seen fairly regularly along the larger, rocky streams (Riparian Alder/Large Stream) as were the small piles of empty cases of caddisfly larvae (Trichoptera: Limnephilidae) left by these birds as food refuse. The refuse piles were usually found on large rocks and logs in and along the streams. In August 1972, one

dipper was killed by a domestic cat at the western edge of the Experimental Forest along old Highway 101.

Wrens (Family Troglodytidae)

WINTER WREN (*Troglodytes troglodytes*): Winter wrens were abundant in all habitats throughout the Experimental Forest except the Headland Prairie and the Pasture. These little songsters considerably brightened the dreary month of April 1971. Active on and near the forest floor, the gizzards of those caught accidentally in Museum Special snap traps contained stinkbugs (Hemiptera: Pentatomidae), craneflies (Diptera: Tipulidae), ants (Hymenoptera: Formicidae), and other insects.

Thrushes (Family Turdidae)

ROBIN (*Turdus migratorius*): Robins were seen in the Headland Prairie and the Pasture. They were also observed in clearcuts and were frequent visitors to the lawn at the headquarters.

VARIED THRUSH (*Ixoreus naevius*): During April 1971, varied thrushes were extremely common in all habitats except the Headland Prairie and the Pasture. However, they were seen along the edges of both habitats. During August 1971 and 1972, a few varied thrushes were found in the Experimental Forest, primarily in the Mature and Immature Conifer, less frequently in the Alder/Salmonberry habitat.

HERMIT THRUSH (*Hylocichla guttata*): Hermit thrushes were frequently heard and occasionally seen in the Alder/Salmonberry habitat.

SWAINSON'S THRUSH (*Hylocichla ustulata*): Swainson's thrushes, as were the hermit thrushes, were more often heard than seen. They, too, were in the Alder/Salmonberry habitat.

Kinglets (Family Sylviidae)

GOLDEN-CROWNED KINGLET (*Regulus satrapa*): A few golden-crowned kinglets were heard and seen in Mature Conifer on April 3, 1971. They were neither heard nor seen again.

RUBY-CROWNED KINGLET (*Regulus calendula*): Two ruby-crowned kinglets were seen on April 3, 1971, in Mature Conifer. These were the only individuals seen or heard.

Waxwings (Family Bombycillidae)

CEDAR WAXWING (*Bombycilla cedrorum*): A small flock of cedar waxwings was seen on several occasions during August 1972, along the northern edge of the Pasture.

Sparrows (Family Fringillidae)

OREGON JUNCO (*Junco oreganus*): Oregon juncos were common in all habitats except the Headland Prairie and the Pasture. They were most likely to be seen in clearcut areas.

CHIPPING SPARROW (*Spizella passerina*): A few chipping sparrows were seen feeding about the lawn of the headquarters and in the more open areas of the Pasture during August 1972.

WHITE-CROWNED SPARROW (*Zonotrichia leucophrys*): White-crowned sparrows were seen and heard a number of times along the edge of the Pasture and in some of the clearcuts in April and August of 1971.

SONG SPARROW (*Melospiza melodia*): Song sparrows were relatively common along the edges of the Headland Prairie, the Pasture, around the headquarters, Side Camp, and in the Alder/Salmonberry habitat. Some were caught in Museum Special snap traps set along small streams (Riparian Alder/Small Stream) in April 1971 and August 1971 and 1972.

MAMMALS

POUCHED MAMMALS (ORDER MARSUPIALIA)

Oppossums (Family Didelphidae)

OPPOSSUM (*Didelphis marsupialis*): No signs of oppossums were encountered within the Experimental Forest. However, since local fur trappers have caught them over the past 5 years, they are considered part of the fauna.

INVERTEBRATE EATERS (ORDER INSECTIVORA)

Shrews (Family Soricidae)

VAGRANT or WANDERING SHREW (*Sorex vagrans*): Only two vagrant shrews were trapped in the Experimental Forest, both in the Pasture. One, captured in April 1971, was a breeding male with descended testes. The other, immature, was trapped in August 1971. Three other individuals were seen in the Pasture during the latter month. Remains of a few vagrant shrews were also recovered from the regurgitated pellets of the great horned owl (*Bubo virginianus*) and the scat of bobcats (*Lynx rufus*) in the Headland Prairie.

Vagrant shrews are active day and night and consistently utilize meadow vole runways. When vole populations are "high," these shrews appear to be more abundant in thickly vegetated meadows. During 1971, the vole (*Microtus townsendi*) population was very low; and during 1972, it was almost nonexistent which may account for the apparent scarcity of vagrant shrews.

YAQUINA SHREW (*Sorex yaquinae*): The Yaquina shrew is common in the Experimental Forest. Though relatively few of these nocturnal shrews were trapped, the remains of many were found in empty, discarded bottles along the edges of old Highway 101.

Throughout the wet part of the year (such as April 1971), Yaquina shrews mainly appear to be inhabitants of the Alder/Salmonberry habitat. However, August of 1971 and 1972 were both very dry months, with 3.8 centimeters (1.47 inches) and 1.2 centimeters (0.55 inch) of rain, respectively; and Yaquina shrews were more restricted in distribution. In August, they were trapped along edges of streams. Most were caught in the immediate vicinity of small streams (Riparian Alder/Small Stream); a few were captured at the edges of large streams (Riparian Alder/Large Stream). On the other hand, the preferred habitat seemed to be Skunk-cabbage Marsh, regardless of the time of year. Such habitat preferences have also been noted in other areas of their distribution.

MARSH SHREW (*Sorex bendirii*): The marsh shrew is active day and night. It is the largest shrew of the genus in North America. The marsh shrew has a "swimming fringe" on its feet. The swimming fringe, a row of short, stiff hairs on the free margins of the feet including the toes, well adapts the species for life near and in water. These shrews seem to prefer the Skunkcabbage Marsh and the Riparian Alder/Small Stream habitats over most of their geographical range.

All 10 marsh shrews captured in the Experimental Forest were trapped in the Riparian Alder/Small Stream habitat. Two were old individuals. The others appeared to be young of the year.

Along the Oregon coast, the food of these shrews consists of a small greenish, terrestrial snail (*Haplotrema vancouverense*), aquatic insects, spiders, and other invertebrates.

Not common anywhere, the shrew is reasonably abundant within the Experimental Forest. Apparently constrained to limited habitat types throughout much of the year, these large shrews are occasionally caught at great distances from water during the wettest seasons. Such captures probably represent dispersing individuals.

TROWBRIDGE SHREW (*Sorex trowbridgii*): The Trowbridge shrew was the most common species of shrew in the Experimental Forest, as it is throughout much of its geographical distribution. Trowbridge shrews were caught in all habitats except the Headland Prairie and the Pasture; however, they may occasionally invade the peripheral areas of these habitats. These shrews were most abundant in the Alder/Salmonberry community.

Trowbridge shrews are nocturnal and frequently caught shortly after dark. Although owls prey upon these small shrews, many die in empty, discarded bottles thrown along the edges of roads. Such was the case in the Experimental Forest.

Moles (Family Talpidae)

SHREW-MOLE (*Neurotrichus gibbsi*): A true mole, not a shrew, the shrew-mole is the smallest mole in North America and is found only in the northwest. Unlike the larger northwestern moles, the shrew-mole does not construct "mole hills" but makes small, shallow burrows in the humus of the forest floor. In the Experimental Forest, these tiny moles are fairly abundant and regularly occupy all habitats except the Headland Prairie and the Pasture. Shrew-moles were most numerous in the Alder/Salmonberry habitat. In many areas of their range, however, these moles inhabit meadows, usually under fences or in other well-drained soil. Shrew-moles are active intermittently throughout the 24-hour day. The remains of these small moles were found in empty, discarded bottles along old Highway 101.

Along the Oregon coast, shrew-moles feed on invertebrates such as centipedes (*Scolopocryptos sexpinosa*), pill bugs (*Armadillidum vulgare*), sow bugs (*Porcellio scaber*), worms, and termites.

TOWNSEND MOLE (*Scapanus townsendi*): The Townsend mole, the largest northwestern mole, primarily lives in meadows and pastures. In

the Experimental Forest, these moles were common in the Pasture and the lawn of the headquarters but were not found anywhere else. They probably reached the headquarters from the farmlands less than one-fourth of a mile distant along old Highway 101.

COAST MOLE (*Scapanus orarius*): In coastal Oregon, this mole is primarily an inhabitant of the forested areas but not uncommon in pasture land in some localities. The coast mole is ubiquitous in the Experimental Forest and is probably the most common of the moles.

Along the edges of the Pasture and in the lawn of the headquarters, the coast and Townsend moles occurred within a few feet of one another. However, in the Headland Prairie the coast mole was the only species found and was relatively abundant.

BATS (ORDER CHIROPTERA)

Nine species of bats were collected within the Experimental Forest. They were all secured in the vicinity of the headquarters (Alder/Salmonberry and Pasture habitats). Bats were not observed in other portions of the Experimental Forest.

Evening Bats (Family Vespertilionidae)

LITTLE BROWN BAT (*Myotis lucifugus*): Little brown bats were common around the headquarters. They were usually flying about 20 to 30 minutes before full darkness. A number of these bats were shot while they were feeding along the edge of the forest over old Highway 101. Some were caught in their daytime roost under the flashing around the chimney of the headquarters residence; others were taken from a roosting site under the siding of the house of Clarence Mullins which is immediately adjacent to the Experimental Forest's southern boundary along old Highway 101.

YUMA BAT (*Myotis yumanensis*): Yuma bats were not common in the Experimental Forest; only two were collected. Both were roosting in the attic of the headquarters residence. In addition, a few Yuma bats were shot as they skimmed over the water of the pond at Clarence Mullins' residence.

LONG-EARED BAT (*Myotis evotis*): A nursery colony of long-eared bats was found in the attic of the headquarters residence in August 1971. Another long-eared bat was secured in August 1972.

Because long-eared bats fly after dark, none was observed feeding. They were known to roost under slabs of loose bark remaining attached to dead trees; there is ample habitat for them in the Experimental Forest.

FRINGED BAT (*Myotis thysanodes*): The fringed bat has seldom been observed along the Oregon coast; thus little is known about them in this locality. In August 1971, three fringed bats were caught when they roosted under the flashing around the chimney of the headquarters residence.

LONG-LEGGED BAT (*Myotis volans*): The long-legged bat appears to be a bat of forested areas in western Oregon; little is known about it.

In the Experimental Forest these bats were shot as they flew in and out of the trees at the forest edge along old Highway 101. They were seen only on warm, cloudy evenings 15 to 20 minutes before full darkness. They are probably reasonably abundant within the Experimental Forest.

CALIFORNIA BAT (*Myotis californicus*): The small, reddish California bat is generally distributed along the Oregon coast, but it was not common in the Experimental Forest during our study. The only specimen obtained within the forest boundaries was shot in midafternoon during April 1971, as it flew over the headquarters residence. Additional specimens were secured from a small colony of these bats in the attic of an uninhabited house approximately one-fourth of a mile south of the Experimental Forest boundary.

SILVER-HAIRED BAT (*Lasionycteris noctivagans*): Silver-haired bats are solitary forest-dwellers. They are seldom abundant in any given area but are generally distributed. They are known to roost under loose slabs of bark on dead trees. Two silver-haired bats were shot in August 1972, as they were feeding over old Highway 101 about 10 to 15 minutes before full darkness.

BIG BROWN BAT (*Eptesicus fuscus*): Big brown bats were common within the Experimental Forest. They were also the first bats to fly, frequently before the swallows had ceased to feed, about 30 to 40 minutes before full darkness. A few specimens were shot as they flew over the Pasture; others were caught as they roosted under the flashing around the chimney of the headquarters residence. Big brown bats were frequently observed feeding high over the forest canopy.

HOARY BAT (*Lasiurus cinereus*): The hoary bat is a solitary, forest species, as is the silver-haired bat. Large and beautiful, the hoary bat hangs amid the foliage of trees during the day. These bats migrate southward in the fall and northward in the spring.

Not common anywhere, these bats usually fly after dark; thus they may be more numerous than our observations indicated. One hoary bat was shot while feeding in almost complete darkness over the Pasture in August 1971.

RABBITS AND HARES (ORDER LAGOMORPHA)

Rabbits and Hares (Family Leporidae)

SNOWSHOE HARE (*Lepus americanus*): The snowshoe hare inhabits "snow country" throughout most of its geographical range and has evolved so that its fur is brown in summer and white in winter. However, along the Oregon coast, where snow is infrequent, the snowshoe hare retains its brown pelage throughout the year.

During 1971 and 1972, snowshoe hares were not only extremely abundant but also were the only species of hare (or rabbit) found in the Experimental Forest. They were observed in all habitat types except the Headland Prairie and the Pasture. Due to the high population, hares

were invading the peripheral areas of the latter habitats as well as the lawn of the headquarters. Nevertheless, hares were still most prevalent in the Alder/Salmonberry and Immature Conifer, the habitats preferred by this species along the Oregon coast.

GNAWING MAMMALS OR RODENTS (ORDER RODENTIA)

Mountain Beaver (Family Aplodontidae)

MOUNTAIN BEAVER (*Aplodontia rufa*): The mountain beaver, considered to be the most primitive and earliest evolved living rodent in the world, is not a true beaver. The name "mountain beaver" is a misnomer as the animal is more closely related to squirrels than it is to true beavers. These chunky, cantankerous rodents are unique to western North America.

Abundant in the Experimental Forest, mountain beaver occurred in all habitats except the Headland Prairie and the Pasture. They were most frequently encountered in the Alder/Salmonberry community; in 1972, they seemed even more numerous in that community than they had appeared to be in 1971. Their large, extensive burrow systems appeared to be everywhere, even along the banks bordering old Highway 101.

Mountain beaver are vegetarians feeding on such plants as salmonberry, alder, Douglas-fir, western hemlock, skunkcabbage, swordfern, vine maple, and Oregon oxalis.

Squirrels (Family Sciuridae)

TOWNSEND CHIPMUNK (*Eutamias townsendi*): The Townsend chipmunk is the only chipmunk in the Experimental Forest. It was abundant in 1971 and 1972. These large, dark chipmunks, found in all habitats except the Headland Prairie and the Pasture, were most common in the Alder/Salmonberry community.

Townsend chipmunks are excellent climbers. They are more often heard than seen. They do not hibernate along the Oregon coast and may be observed during periods of good weather even in midwinter.

CALIFORNIA GROUND SQUIRREL (*Spermophilus beecheyi*): Only one California ground squirrel was seen within the Experimental Forest. The observation was made at Side Camp in April 1971. Although these ground squirrels were reasonably common in the farmland outside the Experimental Forest, few live within its boundaries due to lack of proper, open habitat.

CHICKAREE (*Tamiasciurus douglasi*): Chickarees, also called Douglas squirrels, spruce squirrels, or timber squirrels, were extremely scarce in 1971. Only two were heard or seen, both in Immature Conifer. Surprisingly, extensive searching failed to produce any further evidence of chickarees in the forest. However, during August 1972, chickarees were more numerous, but not as abundant as would be expected. The scarcity of these small tree squirrels may have been due to poor crops of coniferous cones (primarily Douglas-fir and Sitka spruce) upon which the squirrels rely for their staple diet. Even though mushrooms are harvested and stored during the fall, and eaten during the winter,

chickarees do not survive without sufficient seeds from the cones of coniferous trees. Under normal circumstances, assuming adequate cone crops, chickarees should be fairly abundant in all habitats except the Headland Prairie and the Pasture.

NORTHERN FLYING SQUIRREL (*Glaucomys sabrinus*): Contrary to their name, flying squirrels do not fly; instead they glide downward through the air. Northern flying squirrels are nocturnal denizens of the Mature and Immature Conifer habitats within the Experimental Forest. Since these squirrels tend to inhabit the canopy of the forest rather than the lower levels, they may be very abundant but are seldom seen. In August 1971, a nest containing a mother flying squirrel and her young was found in the Immature Conifer habitat.

Beaver (Family Castoridae)

BEAVER (*Castor canadensis*): Beavers are the largest rodents in Oregon, attaining weights of over 50 pounds. In the Experimental Forest, the only suitable habitat available is the Riparian Alder/ Large Stream habitat. However, due to the shallow, rocky structure of the stream beds, beavers were probably never abundant. One old beaver dam and a little fresh sign was found in Deer Creek during August 1971. Some increase in the number of beavers within the forest might be expected if fur trapping was stopped.

Native Mice and Rats (Family Cricetidae)

DEER MOUSE (*Peromyscus maniculatus*): The deer mouse is the most abundant and the only truly ubiquitous small mammal along the entire Oregon coast. These delicately proportioned, nocturnal mice were found in every habitat in the Experimental Forest, including the interior of the headquarters buildings. They were least common in the Headland Prairie and the Pasture.

Deer mice eat a wide variety of food; and they, in turn, are eaten by many kinds of predators including snakes, owls, and mammals. Thus, they are important within many food chains.

BUSHY-TAILED WOODRAT (*Neotoma cinerea*): Bushy-tailed woodrats were abundant in all habitats of the Experimental Forest with the exception of the Headland Prairie and the Pasture. There was no sign of woodrats in either of these habitats.

Bushy-tailed woodrats are primarily forest and rock-cliff mammals but readily occupy human habitations. In the Experimental Forest woodrats were trapped in the buildings at Side Camp and at the headquarters. In addition, nests were found on the limbs of Sitka spruce and in the hollow trunks of western hemlock. These woodrats also construct nests in hollow logs and in rock outcroppings.

In the Experimental Forest these woodrats were found to feed upon such plants as Pacific bleeding-heart (*Dicentra formosa*), angled bittercress (*Cardamine angulata*), red elderberry (*Sambucus racemosa*), trailing blackberry (*Rubus ursinus*), Himalaya blackberry (*Rubus procerus*), and western hemlock.

Bushy-tailed woodrats are preyed upon by large owls, which share their habitat, and are an important food of bobcats.

Voles (Family Microtidae)

CALIFORNIA RED-BACKED VOLE (*Clethrionomys californicus*): The California red-backed vole has been found in several habitat types along the Oregon coast. In the Experimental Forest, however, these red-backed voles are largely restricted to the Mature and Immature Conifer habitats. Occasionally they may invade the edges of the Alder/Salmonberry community. Within the major habitats, areas of large, rotten logs appear to be a prerequisite for the successful existence of red-backed voles in any given area. Due to rather extensive areas of suitable habitat in the Experimental Forest, these voles should be relatively numerous.

Along the Oregon coast the red-backed vole has an interestingly specialized diet; it feeds primarily on underground fungi.

WHITE-FOOTED VOLE (*Arborimus albipes*): The white-footed vole is the rarest member of the vole family in North America.

The preferred habitat of the white-footed vole was found to be Riparian Alder/Small Stream, and all specimens captured in the Experimental Forest were in this habitat.

RED TREE VOLE (*Arborimus longicaudus*): The red tree vole is the most highly specialized vole in the world. While not as rare as white-footed voles, the populations of these arboreal voles are widely scattered. They are disappearing in many localities due to land development.

Nests of red tree voles are constructed within the green foliage of coniferous trees, primarily Douglas-fir and, to a lesser extent, in Sitka spruce, western hemlock, and grand fir (*Abies grandis*). Nests of these voles have been found from as low as 2 meters (6 feet) above ground to as high as 47 meters (150 feet) above ground. The outer nest is usually made with twigs from the tree in which the vole is living. The inner nest is built from discarded resin ducts of conifer needles, the food refuse of the vole.

The vole's exclusive diet is the needles and occasionally the tender bark from twigs of the named coniferous trees, but primarily Douglas-fir. In eating a needle, a vole usually bites off and discards the resin ducts which lie along the outer edges and consumes the inner portion.

In the Experimental Forest, nests of red tree voles were found in Douglas-fir and Sitka spruce, but the voles were feeding upon the needles of Douglas-fir. The voles, inhabiting the Mature and Immature Conifer habitats, should be reasonably abundant in the Experimental Forest.

The known predators of the red tree vole are the spotted owl (*Strix occidentalis*), the great horned owl, the long-eared owl (*Asio otus*), and the saw-whet owl (*Aegolius acadicus*).

TOWNSEND VOLE (*Microtus townsendi*): The large, dark Townsend vole frequents meadows. It constructs mazes of runways through the vegetation and extensive subterranean burrow systems.

In the Experimental Forest these voles were found only in the Headland Prairie and the Pasture. Though often numerous, they were extremely scarce in 1971 and 1972. However, old, abandoned runways indicated that a larger population had existed in previous years. Utilized runways have all of the vegetation neatly cut out of them and appear to be neat, while abandoned runways frequently are carpeted with moss and have vegetation growing in them, creating an unkempt appearance.

In the Experimental Forest, the voles were found to eat such plants as yarrow (*Achillea millefolium*), spotted catsear (*Hypochoeris radicata*), and grasses.

In the Headland Prairie, the remains of Townsend voles were recovered from the regurgitated pellets of great horned owls and the droppings of bobcats.

Since Townsend vole populations are cyclic (going from high populations to low populations then back to high), their abundance in the Experimental Forest will vary from year to year.

LONG-TAILED VOLE (*Microtus longicaudus*): The large, coarsely furred long-tailed vole was not numerous within the Experimental Forest. It was located only in the Riparian Alder/Small Stream habitat. This vole is seldom abundant in any given locality. However, it should be generally distributed along small streams in the Experimental Forest.

OREGON VOLE (*Microtus oregoni*): Oregon voles are better named "creeping voles" because in motion they appear to creep rather than run. Oregon voles are small with tiny eyes and short tails. Although frequently active on the surface of the ground, they appear to be primarily burrowing by nature. These voles inhabit the Mature and Immature Conifer habitats in the Experimental Forest. However, elsewhere along the Oregon coast the species has also been found in Alder/Salmonberry habitat and in meadows.

Jumping Mice (Family Zapodidae)

PACIFIC JUMPING MOUSE (*Zapus trinotatus*): Pacific jumping mice are the most colorful mice along the Oregon coast. They have extremely long tails and large hind feet. In motion they cover the ground in series of swift, erratic hops. Hence, they are locally often called "kangaroo mice." These mice were fairly common in the Experimental Forest but were found only in the Alder/Salmonberry habitat, mainly along the streams, and in the Skunkcabbage Marsh. Jumping mice hibernate and are absent from the active winter fauna.

Jumping mice were found to feed upon such plants as the fruits of thimbleberry, salmonberry, evergreen huckleberry, seeds of skunkcabbage, the pinnae of some mosses, and some underground fungi.

Porcupine (Family Erethizontidae)

PORCUPINE (*Erethizon dorsatum*): Although no sign of porcupines was observed in the Experimental Forest, Clarence Mullins (an ex-government trapper who has lived at the southern edge of the Experimental Forest for a number of years) said that he had occasionally seen porcupines or their sign in the forest.

CARNIVORES OR FLESH EATERS (ORDER CARNIVORA)

Dogs (Family Canidae)

COYOTE (*Canis latrans*): Coyote sign was found on old logging roads in clearcut logged areas near the edge of Neskowin Crest Research Natural Area (which lies in the extreme northwestern corner of the Experimental Forest) on April 3, 1971. Even though no other sign was observed, a number of coyotes inhabit the Experimental Forest, particularly in the vicinity of clearcut logged areas. They were heard at night on several occasions.

Cats (Family Felidae)

BOBCAT (*Lynx rufus*): A moderate number of bobcats inhabit the Experimental Forest. Their sign was found in all habitat types.

In the Headland Prairie bobcats were feeding on Townsend voles and a few vagrant shrews; throughout the rest of the forest, bobcats were found to be feeding extensively upon snowshoe hares and some mountain beaver. Bobcats are an extremely important agent in controlling the snowshoe hare population within the Experimental Forest.

Raccoons (Family Procyonidae)

RACCOON (*Procyon lotor*): Raccoons were scarce in the Experimental Forest. Only two sets of raccoon tracks were found, both in the Riparian Alder/Large Stream habitat. The scarcity of raccoons may be due to local fur trapping.

Weasels, Skunks, and Otters (Family Mustelidae)

LONG-TAILED WEASEL (*Mustela frenata*): There should be a fairly large population of long-tailed weasels inhabiting the Experimental Forest. Clarence Mullins stated that he had observed nine of these lithe-bodied hunters in 1969 as they investigated a mountain beaver burrow system in the Alder/Salmonberry habitat. Long-tailed weasels frequently hunt in burrow systems of mountain beaver and occupy the same habitats.

MINK (*Mustela vison*): Mink were scarce in the Experimental Forest which may be due to local fur trapping. One mink was seen as it crossed old Highway 101 and a single set of mink tracks was found along Deer Creek (Riparian Alder/Large Stream).

Although large, male mink frequently hunt in the burrow systems of mountain beaver and thus may cover a number of habitats, most mink will be found in the Riparian Alder/Large Stream habitat.

SPOTTED SKUNK (*Spilogale putorius*): The small, spotted skunk was a common denizen of the Alder/Salmonberry habitat. It was also found, though less commonly, in the other habitats within the Experimental Forest. These alert, little skunks are experts at catching mice and feed extensively upon deer mice. They have also been found to catch and eat California red-backed voles, Oregon voles, and such invertebrates as centipedes.

RIVER OTTER (*Lutra canadensis*): River otter were occasional visitors in the Experimental Forest. Otter droppings (composed entirely of the remains of crayfish) were found along Deer Creek (Riparian Alder/Large Stream) in August 1972. However, it is doubtful that otter live exclusively within the boundaries of the Experimental Forest.

EVEN-TOED HOOFED MAMMALS (ORDER ARTIODACTYLA)

Deer (Family Cervidae)

MULE DEER[7/] (*Odocoileus hemionus*): Mule deer commonly utilized all habitats within the Experimental Forest. During 1971 and 1972, deer were common and were often seen.

7/ The subspecies of mule deer occurring along the Oregon coast is commonly referred to as the blacktail deer.

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Table 1.--*Vertebrates not encountered during the 1971-72 study, but which may or should be part of the fauna of Cascade Head Experimental Forest*

AMPHIBIANS

Salamanders (Order Caudata)
- Mole salamanders (Family Ambystomatidae)
  - Northwestern salamander (*Ambystoma gracile*)

REPTILES

Lizards (Order Squamata)
- Alligator lizard (Family Anguidae)
  - Northern alligator lizard (*Gerrhonotus coeruleus*)

BIRDS

Ducks (Order Anseriformes)
- Ducks (Family Anatidae)
  - American merganser (*Mergus merganser*)

Hawks and Vultures (Order Falconiformes)
- Vultures (Family Cathartidae)
  - Turkey vulture (*Cathartes aura*)
- Hawks and Eagles (Family Accipitridae)
  - Goshawk (*Accipiter gentilis*)
  - Sharp-shinned hawk (*Accipiter striatus*)
  - Golden eagle (*Aquila chrysaetos*)
  - Bald eagle (*Haliaeetus leucocephalus*)
- Falcons (Family Falconidae)
  - Peregrine falcon (*Falco peregrinus*)
  - Merlin (*Falco columbarius*)
  - Sparrow hawk (*Falco sparverius*)

Grouse and Quail (Order Galliformes)
- Grouse (Family tetraonidae)
  - Blue grouse (*Dendragapus obscurus*)
- Quail (Family Phasianidae)
  - Mountain quail (*Oreortyx pictus*)

Owls (Order Strigiformes)
- Typical Owls (Family Strigidae)
  - Spotted owl (*Strix occidentalis*)
  - Short-eared owl (*Asio flammeus*)
  - Saw-whet owl (*Aegolius acadicus*)

Goatsuckers (Order Caprimulgiformes)
- Goatsuckers (Family Caprimulgidae)
  - Common nighthawk (*Chordeiles minor*)

Table 1.--*Vertebrates not encountered during the 1971-72 study, but which may or should be part of the fauna of Cascade Head Experimental Forest* (continued)

BIRDS (continued)

Swifts (Order Micropodiformes)
- Swifts (Family Apodidae)
  - Black swift (*Cypseloides niger*)
  - Vaux's swift (*Chaetura vauxi*)

Woodpeckers (Order Piciformes)
- Woodpeckers (Family Picidae)
  - Downy woodpecker (*Dendrocopos pubescens*)

Perching Birds (Order Passeriformes)
- Flycatchers (Family Tyrannidae)
  - Traill's flycatcher (*Empidonax traillii*)
  - Hammond's flycatcher (*Empidonax hammondii*)
  - Western flycatcher (*Empidonax difficilis*)
  - Western wood pewee (*Contopus sordidulus*)
  - Olive-sided flycatcher (*Nuttallornis borealis*)
- Swallows (Family Hirundinidae)
  - Tree swallow (*Iridoprocne bicolor*)
- Crows (Family Corvidae)
  - Common crow (*Corvus brachyrhynchos*)
- Bushtits (Family Paridae)
  - Common bushtit (*Psaltriparus minimus*)
- Nuthatches (Family Sittidae)
  - Red-breasted nuthatch (*Sitta canadensis*)
- Solitaires (Family Turdidae)
  - Townsend's solitaire (*Myadestes townsendi*)
- Waxwings (Family Bombycillidae)
  - Bohemian waxwing (*Bombycilla garrula*)
- Vireos (Family Vireonidae)
  - Hutton's vireo (*Vireo huttoni*)
  - Solitary vireo (*Vireo solitarius*)
- Wood Warblers (Family Parulidae)
  - Orange-crowned warbler (*Vermivora celata*)
  - Myrtle warbler (*Dendroica coronata*)
  - Audubon's warbler (*Dendroica auduboni*)
  - Townsend's warbler (*Dendroica townsendi*)
  - Hermit warbler (*Dendroica occidentalis*)
  - MacGillivray's warbler (*Oporornis tolmiei*)
  - Wilson's warbler (*Wilsonia pusilla*)
- Tanagers (Family Thraupidae)
  - Western tanager (*Piranga ludoviciana*)
- Grosbeaks, Finches, and Sparrows (Family Fringillidae)
  - Black-headed grosbeak (*Pheucticus melanocephalus*)
  - Evening grosbeak (*Hesperiphona vespertina*)

Table 1.--*Vertebrates not encountered during the 1971-72 study, but which may or should be part of the fauna of Cascade Head Experimental Forest* (continued)

BIRDS (continued)

Grosbeaks, Finches, and Sparrows (continued)
- Purple finch (*Carpodacus purpureus*)
- House finch (*Carpodacus mexicanus*)
- Pine siskin (*Spinus pinus*)
- American goldfinch (*Spinus tristis*)
- Red crossbill (*Loxia curvirostra*)
- Rufous-sided towhee (*Pipilo erythrophthalmus*)
- Savannah sparrow (*Passerculus sandwichensis*)
- Golden-crowned sparrow (*Zonotrichia atricapilla*)
- Fox sparrow (*Passerella iliaca*)

MAMMALS

Bats (Order Chiroptera)
- Evening Bats (Family Vespertilionidae)
  - Western big-eared bat (*Plecotus townsendi*)

Rabbits (Order Lagomorpha)
- Rabbits (Family Leporidae)
  - Brush rabbit (*Sylvilagus bachmani*)

Flesh Eaters (Order Carnivora)
- Fox (Family Canidae)
  - Gray fox (*Urocyon cinereoargenteus*)
- Bear (Family Ursidae)
  - Black bear (*Ursus americanus*)
- Marten and Weasel (Family Mustelidae)
  - Marten (*Martes americana*)
  - Short-tailed weasel (*Mustela erminea*)
  - Striped skunk (*Mephitis mephitis*)
- Cats (Family Felidae)
  - Mountain lion (*Felis concolor*)

Table 2.--*Known distribution of vertebrates in the Cascade Head Experimental Forest by habitats*

Vertebrate	Mature Conifer	Immature Conifer	Alder/Salmonberry	Riparian Alder/ Small Stream	Riparian Alder/ Large Stream	Skunkcabbage Marsh	Headland Prairie	Pasture
AMPHIBIANS								
Pacific giant salamander				X	X			
Olympic salamander					X			
Rough-skinned newt	X	X	X	X	X	X		
Dunn salamander		X						
Western red-backed salamander	X	X	X					
Oregon salamander		X						
Tailed frog				X	X			
Pacific tree frog	X	X	X	X	X	X	X	X
Red-legged frog			X	X	X	X		
REPTILES								
Northwestern garter snake				X	X	X	X	X
Common garter snake				X	X			X
BIRDS								
Great blue heron					X			
Cooper's hawk								X
Red-tailed hawk							X	
Ruffed grouse			X					
Band-tailed pigeon				X				
Mourning dove		X	X					
Screech owl		X	X	X				
Great horned owl	X						X	X
Pygmy owl		X	X					
Rufous Hummingbird	X	X	X	X	X	X	X	X
Belted Kingfisher				X	X			
Red-shafted flicker	X	X						X
Pileated woodpecker	X	X						
Red-breasted sapsucker			X					
Hairy woodpecker	X		X					
Violet-green swallow							X	X
Gray jay	X							
Steller's jay	X	X	X	X	X	X	X	X
Common raven	X						X	X
Chestnut-backed chickadee	X	X	X	X	X	X		
Brown creeper	X	X						
Wrentit							X	

Table 2.--*Known distribution of vertebrates in the Cascade Head Experimental Forest by habitats* (continued)

Vertebrate	Mature Conifer	Immature Conifer	Alder/Salmonberry	Riparian Alder/ Small Stream	Riparian Alder/ Large Stream	Skunkcabbage Marsh	Headland Prairie	Pasture
BIRDS (continued)								
Dipper					X			
Winter wren	X	X	X	X	X	X		
Robin							X	X
Varied thrush	X	X	X	X	X	X		
Hermit thrush			X					
Swainson's thrush			X					
Golden-crowned kinglet	X							
Ruby-crowned kinglet	X							
Cedar waxwing								X
Oregon junco	X	X	X	X	X	X		
Chipping sparrow								X
White-crowned sparrow								X
Song sparrow			X	X	X	X	X	X
MAMMALS								
Vagrant or wandering shrew							X	X
Yaquina shrew			X	X	X	X		
Marsh shrew				X		X		
Trowbridge shrew	X	X	X	X	X	X		
Shrew-mole	X	X	X	X	X	X		
Townsend mole								X
Coast mole	X	X	X	X	X	X	X	X
Little brown bat			X					X
Yuma bat								X
Long-eared bat								X
Fringed bat								X
Long-legged bat			X					
California bat								X
Silver-haired bat			X					
Big brown bat			X					X
Hoary bat								X
Snowshoe hare	X	X	X	X	X	X		
Mountain beaver	X	X	X	X	X	X		
Townsend chipmunk	X	X	X	X	X	X		
California ground squirrel			X					
Chickaree	X	X						
Northern flying squirrel		X						
Beaver					X			

Table 2.--*Known distribution of vertebrates in the Cascade Head Experimental Forest by habitats* (continued)

Vertebrate	Mature Conifer	Immature Conifer	Alder/Salmonberry	Riparian Alder/ Small Stream	Riparian Alder/ Large Stream	Skunkcabbage Marsh	Headland Prairie	Pasture
MAMMALS (continued)								
Deer mouse	X	X	X	X	X	X	X	X
Bushy-tailed woodrat	X	X	X	X	X	X		
California red-backed vole	X	X						
White-footed vole				X				
Red tree vole	X	X						
Townsend vole							X	X
Long-tailed vole				X				
Oregon vole	X	X						
Pacific jumping mouse			X	X	X			
Coyote	X							
Bobcat	X	X	X	X	X	X	X	X
Raccoon					X			
Long-tailed weasel	X	X	X	X	X	X		
Mink			X		X			
Spotted skunk	X	X	X	X	X	X	X	X
River otter					X			
Mule deer	X	X	X	X	X	X	X	X

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