REPORT ON FUNGI

Prepared by

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INTERIOR COLUMBIA BASIN
ECOSYSTEM MANAGEMENT PROJECT

Report on Fungi
Eastside Ecosystem Management Project
Columbia River Basin Assessment

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I. Introduction and Background (to be combined with other groups)

Macrofungi found within the boundaries of the CRB include three major subdivisions; Basidiomycotina, Ascomycotina and Zygomycotina. The subdivision Basidiomycotina include about 15,000 species. Fungi such as mushrooms, puffballs and polypores (conks) are some of the more commonly known and encountered forms. Other forms include the jelly fungi, birds nest fungi and tooth fungi. The majority of Basidiomycotina are either saprophytes on decaying wood and other dead plant material or are mutualistic symbionts with the roots of plants and trees, forming a special beneficial association called mycorrhiza. Others are parasites on living plants or even on other fungi.

The Ascomycotina is the largest subdivision of fungi having over 2,000 genera with approximately 100,000 species. Fungi such as powdery mildews, cup fungi and true truffles are the more commonly known and encountered forms. While most Ascomycotina are terrestrial there are also many aquatic species. Most Ascomycotina are saprophytic on decaying plant debris with many specializing in decaying particular host species or even a specific portion of a host plant. Other specialized saprophytic species form sporocarps in or on animal dung (coprophilus) or where fire has occurred (phoenicoid). Some Ascomycotina are parasites on plants and less commonly on insects or other animals. Still others form the same mycorrhizal relationship with plants as some Basidiomycotina. Only Ascomycotina that form macroscopic sporocarps were included in this report.

The Zygomycotina are a diverse assemblage of fungi that produce asexually. Many Zygomycotina are microscopic and form mold-like structures in soil and dung. These will not be considered in this report. Another group of Zygomycotina form mycorrhiza with grasses, herbs, crop plants or trees. This group has been considered in this report.

II. Methods (to be combined with other groups)

Five reports from contractors (Fogel 1994; Miller Jr. 1994; Miller et al 1994; Miller 1994; Weber 1994; Wicklow-Howard & Kaltenecker 1994) and one panel provided information on the occurrence and role of approximately 3000 species of macrofungi found within the Columbia River Basin Assessment area. Follow up interviews with some contractors and additional review of the scientific literature led to the establishment of a

database of fungal species of special concern which contains 394 species. These 394 species are endemic and uncommon in the CRB or more widely distributed but rare within the CRB. Nomenclature follows Singer (1986).

a. Definitions

Saprophyte = saprophytic nutrition, meaning this species obtains nutrients from dead or dying organic matter such as wood, bark, leaf litter, twigs, dung etc. through the action of decomposition.

Mycorrhizal = mycorrhizal fungus species which enters into a mutually beneficial symbiotic relationship with a plant host in which nutrients and water are transferred from the fungus to the plant and photosynthate is transferred from the host to the fungus.

Parasite = a pathogenic attack of living plant tissue by the fungus.

Rare = this species is known from less than 12 collections from the CRB.

Endemic = this species is restricted in distribution to the CRB.

Local = this species is known from one location within the CRB.

Regional = this species is known from more than 1 locality within the CRB.

Disjunct = this species has a population that is not contiguous with the main population.

Range = the geographic distribution' of a species, of particular importance is the collections of any one species on the edge of its range and these collections are designated as peripheral.

Type collection = the collection from which the species was originally described and documented.

Species or species group of special concern = endemics to western North America and from restricted habitat; endemics to PNW or northern Rocky Mountains and infrequently encountered or; species of wide distribution but of uncommon or disjunct occurrence.

b. Assumptions

(1) The frequency of collection does not equal occurrence of the species. Collections were not made in a statistically valid manner nor in a systematic fashion and represent only were a mycologist or other collector happened to be when the species was encountered.

(2) Most of what is available in herbaria is not computerized and is not readily retrievable. Restricted access to this wealth of information on extant collections reduces the

knowledge base of the final report and is cost prohibitive as well as time consuming to close the gap on data in herbaria yet unretrived.

(3) Identification of extant species is taken at face value as correct. Accuracy of identification of herbarium material is largely suspect because of lack of quality control for species identifications. Many fungal families and even genera, i.e., *Cortinarius*, require intimate knowledge of the characters specific to that family or genus for accurate identification. Most herbarium specimens are not verified by qualified experts.

(4) Species identity is relatively discrete. Unfortunately many species names are attached to species complexes that include two or more biological species that are morphologically similar and which have not been studied intensively to delineate the species boundaries.

(5) Only collections that were identified were included in this analysis. All herbarium have a backlog of unidentified collections that await a specialist to identify them. It has been my experience that these unidentified collections contain a wide variety of species that may or may not be considered rare. These collections also usually contain species not yet described by science, usually these species are rare or endemic to the region they were collected from. I suspect the regional herbaria have a number of additional fungal species of special concern waiting to be described.

III. Results

1. Individual Species information

Alpova mollis is a regional endemic known from Pend Oreille Co., Washington and an unspecified location in Wyoming. *Alpova mollis* belongs to the ectomycorrhizal genus *Alpova* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Amanita armillariformis is a local endemic known only from specific localities in Owyhee Co., Idaho and Malheur Co., Oregon. *Amanita armillariformis* belongs to the ectomycorrhizal genus *Amanita* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with either *Salix* or *Artemesia* or both. This is a mushroom which depends upon wind for spore dispersal.

Amanita aurantiasquamosa is a local endemic known only from specific localities in Owyhee Co., Idaho. *Amanita aurantiasquamosa* belongs to the ectomycorrhizal genus

Amanita but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with either *Salix* or *Artemesia* or both. This is a mushroom which depends upon wind for spore dispersal.

Byssonectria cartilagineum is a regional endemic known from 4 collections, 1 from Freezeout Trail, Okanogan Co., Washington, 2 from Lyman Lake Camp, Chelan Co., Washington, and 1 from Coal Creek, Teton Co., Wyoming. *Byssonectria cartifagineum* belongs to the saprophytic genus *Byssonectria* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and occurs on rodent dung under *Picea engelmannii, Abies* and *Tsuga mertensiana* forests. This is a cup fungus which depends upon wind for spore dispersal.

Calvatia owyheensis is a local endemic known only from specific localities in Owyhee Co., Idaho. *Calvatia owyheensis* belongs to the saprophytic genus *Calvatia* but the specific ecology and biology of this species is unknown and requires further research. This species is associated with *Artemesia*. This is a puffball which depends upon wind for spore dispersal.

Chamonixia brevicolumna is a local endemic known only from specific localities from Lake Fork Creek, Payette National Forest, Valley Co., Idaho. *Chamonixia brevicolumna* belongs to the ectomycorrhizal genus *Chamonixia* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engelmannii* or high elevation *Abies* spp., or both. This is a truffle which depends upon mycophagy for spore dispersal.

Crepidotus lagenicystis is disjunct in distribution and known within the CRB from only a single collection from Mt. Rainier, Pierce Co., Washington which is the type collection for this species. Also a single collection from California is reported. *Crepidotus lagenicystis* belongs to the saprophytic genus *Crepidotus* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on wood of unknown origin . This is a mushroom which depends upon wind for spore dispersal.

Crepidotus montanensis is disjunct in distribution and known within the CRB from only a single collection from Echo Lake, Flathead Co., Montana. Originally described from Tennessee. *Crepidotus montanensis* belongs to the saprophytic genus *Crepidotus* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on wood of *Betula* spp . This is a mushroom which depends upon wind for spore dispersal.

Crepidotus startosus is disjunct in distribution and known within the CRB from three collections, 1 from Idaho, 2 from Oregon . Originally described from The Netherlands. *Crepidotus startosus* belongs to the saprophytic genus *Crepidotus* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on fallen leaves and twigs of unknown origin. This is a mushroom which depends upon wind for spore dispersal.

Crepidotus sububer is a local endemic known only from a single collection from Priest Lake, Bonner *Co.,* Idaho. *Crepidotus sububer* belongs to the saprophytic genus *Crepidotus* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on wood of *Populus* spp. This is a mushroom which depends upon wind for spore dispersal.

Cyathus olla f. lanatus is a local endemic known only from a single collection from Owyhee *Co.,* Idaho. *Cyathus olla f. lanatus* belongs to the saprophytic genus *Cyathus* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on wood of *Artemesia and Sarcobatus.* This is a birds nest fungus which depends upon wind for spore dispersal.

Destuntzia subborealis is a local endemic known only from a single collection from Priest Lake, Bonner Co., Idaho. *Destuntzia subborealis* belongs to the ectomycorrhizal genus *Destuntzia* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with unknown conifers. This is a truffle which depends upon mycophagy for spore dispersal.

Gaferina anelligera is a local endemic known only from a single collection from south fork of Lake Fork, Payette Lakes, Valley *CO.,* Idaho. *Galerina anelligera* belongs to the saprophytic genus *Galerina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on duff under conifers. This is a mushroom which depends upon wind for spore dispersal.

Galerina borealis is disjunct in distribution and known within the CRB from a single collection from Idaho . Originally described from Idaho and also in Quebec, Canada. *Galerina borealis* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and found fruiting on moss. This is a mushroom which depends upon wind for spore dispersal.

Galerina castanescens is a local endemic known only from a single collection from Granite Creek, near Nordman, Bonner *Co.,* Idaho. *Galerina castanescens* belongs to the saprophytic genus *Galerina* but the specific ecology and biology of this species is unknown

and requires further research. This species is saprophytic on conifer logs. This is a mushroom which depends upon wind for spore dispersal.

Gaferina diabofissima is disjunct in distribution and known within the CRB from a single collection from Seven Devils Mountains, Idaho Co., Idaho . Originally described from Idaho and also from Michigan. *Gaferina diabofissima* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and found fruiting on moss over exposed soil. This is a mushroom which depends upon wind foi spore dispersal.

Gaferinafontinafis is a local endemic known only from a single collection from Payette Lake, Valley Co., Idaho. *Gaferinafontinafis* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on wet soil in near a spring along a road. This is a mushroom'which depends upon wind for spore dispersal.

Galerina fuscobrunnea is a local endemic known only from a single collection from Waupanitia Summit, Mt. Hood, Hood River Co., Oregon at 3500 ft. elevation. *Gaferina fuscobrunnea* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on humus under *Alnus* sp. in a swampy area. This is a mushroom which depends upon wind for spore dispersal.

Gaferina mainsii is a local endemic known only from a single collection from Logan pass, Glacier National Park, Montana. *Gaferina mainsii* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on moss. This is a mushroom which depends upon wind foi spore dispersal.

Gaferina nordmanniana is a local endemic known only from a single collection from Granite Creek, near Nordman, Bonner *Co.,* Idaho. *Gaferina nordmanniana* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on moss along a road bank. This is a mushroom which depends upon wind for spore dispersal.

Gaferina payettensis is a local endemic known only from a single collection from South Fork of Lake Fork Creek, Payette Lakes, Valley *Co.,* Idaho. *Gaferina payettensis* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on wet moss under conifers. This is a mushroom which depends upon wind for spore dispersal.

Gaferina pseudostylifera is a local endemic known only from a single collection from near Burgdorf, Idaho Co., Idaho. *Gaferina pseudostylifera* belongs to the

saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on rotting conifer logs in cold wet places. This is a mushroom which depends upon wind for spore dispersal.

Gaferina pubescentipes is a local endemic known only from a single collection from Papoose Cieek, Seven Devils Mountains, Idaho Co., Idaho. *Gaferina pubescentipes* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on conifer logs. This is a mushroom which depends upon wind for spore dispersal.

Gaferina stylifera var. badia is a local endemic known only from a 3 collections from Idaho. *Gaferina stylifera var. badia* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on conifer debris. This is a mushroom which depends upon wind for spore dispersal.

Gaferina stylifera var. badia is disjunct in distribution and known within the CRB from 3 collections from Idaho . Originally described from Idaho and also from Quebec, Canada. *Gaferina stylifera var. badia* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and found on conifer debris. This is a mushroom which depends upon wind for spore dispersal.

Gaferina stylifera var. vefosa is disjunct in distribution and known within the CRB from several collections from Idaho . Originally described from Idaho and also from Colorado. *Gaferina stylifera var. vefosa* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and found on conifer debris. This is a mushroom which depends upon wind for spore dispersal.

Gaferina triscopa f. longocysitis is a local endemic known only from a single collection from Payette Lake, Valley Co., Idaho. *Gaferina triscopa f. fongocysitis* belongs to the saprophytic genus *Gaferina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic on moss covered conifer log. This is a mushroom which depends upon wind for spore dispersal.

Gastrobofetus turbinatus var. flammeus is a local endemic known only from a single collection from Brundage Mt., McCall, Valley Co., Idaho. *Gastrobofetus turbinatus var. flammeus* belongs to the ectomycorrhizal genus *Gastrobofetus* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies* sp. This is a truffle which depends upon mycophagy for spore dispersal.

Gautieria monticofa is common west of the Cascade Mountains but is peripheral in the CRB known from 1 collection from Klamath Co., Oregon.' *Gautieria monticofa* belongs to *the* ectomycorrhizal genus *Gautieria* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with various Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Genabea cerebriformis is not uncommon west of the Cascade Mountains but is disjunct and rare in the CRB, known only from Owyhee Co., Idaho and Box Elder Co., Utah. *Genabea cerebriformis* belongs to the ectomycorrhizal genus *Genabea* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Pseudotsuga* on the west side of the Cascades but is associated with *Pinus monophyffa* in the CRB. This is a truffle which depends upon mycophagy for spore dispersal.

Geopora cfausa is disjunct in distribution and known within the CRB from a single collection near Elko, Elko Co., Nevada. It is more widespread in Europe. *Geopora cfausa* belongs to the ectomycorrhizal genus *Geopora* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Cerocarpus fedifofia*.. This is a truffle which depends upon mycophagy for spore dispersal.

Gymnomycesferruginascens is a local endemic known only from 8 collections from Squaw Meadows, Valley Co., Idaho. *Gymnomycesferruginascens* belongs to the ectomycorrhizal genus *Gymnomyces* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engefmannii* or *Abies fasiocarpa* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Hebefoma afpinicofa is a local endemic known only from a single collection from Heavens Gate Ridge, Seven Devils Mountains, Idaho Co., Idaho. *Hebefoma afpinicofa* belongs to the ectomycorrhizal genus *Hebefoma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus afbicaufis.* This is a mushroom which depends upon wind for spore dispersal.

Hebefoma idahoense is disjunct in distribution and known within the CRB from a single collection near Pearl Creek, Valley Co., Idaho. It is also known from 1 collection from Pitkin Co., Colorado. *Hebefoma idahoense* belongs to the ectomycorrhizal genus *Hebefoma* but the specific ectomycorrhizal status, ecology and biology of this species is

unknown and requires further research. This species is probably ectomycorrhizal with *Picea engelmannii*.. This is a mushroom which depends upon wind for spore dispersal.

Hebeloma kelloggense is a local endemic known only from a single collection near Kellogg, Shoshone *Co.*, Idaho. *Hebeloma kelloggense* belongs to the ectomycorrhizal genus *Hebeloma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with unknown Pinaceae. This is a mushroom which depends upon wind for spore dispersal.

Hebefoma fatisporum is disjunct in distribution and known within the CRB from a single collection near Priest Lake, Bonner Co., Idaho. It is also known from 1 collection from Pitkin Co., Colorado. *Hebeloma latisporum* belongs to the ectomycorrhizal genus *Hebeloma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Tsuga* sp.. This is a mushroom which depends upon wind for spore dispersal.

Hebeloma mesophaeum var. subobscurum is a local endemic known only from a single collection near Heavens Gate Ridge, Seven Devils Mountains, Idaho Co., Idaho. *Hebeloma mesophaeum var. subobscurum* belongs to the ectomycorrhizal genus *Hebeloma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with unknown Pinaceae. This is a mushroom which depends upon'wind for spore dispersal.

Hebeloma occidentale is a local endemic known only from a single collection from Mt. Hood, Oregon. *Hebeloma occidentale* belongs to the ectomycorrhizal genus *Hebefoma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Alnus*. This is a mushroom which depends upon wind for spore dispersal.

Hebeloma oregonense is a local endemic known only from a single collection from Frog Lake, Mt. Hood, Wasco Co., Oregon. *Hebeloma oregonense* belongs to the ectomycorrhizal genus *Hebeloma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with unknown hosts. This is a mushroom which depends upon wind for spore dispersal.

Hebeloma parcivelum is a local endemic known only from a single collection from Waupanitia Summit, Mt. Hood, Oregon. *Hebeloma parcivelum* belongs to the ectomycorrhizal genus *Hebeloma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Alnus* on the edge of a bog. This is a mushroom which depends upon wind for spore dispersal.

Hebeloma pseudofastible var. distans is a local endemic known only from a single collection from Lake Fork Creek, near McCall, Valley Co., Idaho. *Hebeloma pseudofastible var. distans* belongs to the ectomycorrhizal genus *Hebeloma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with unknown hosts on sandy soil. This is a mushroom which depends upon wind for spore dispersal.

Hebefoma pungens is a local endemic known only from a single collection from Frog Lake, Mt. Hood, Wasco Co., Oregon. *Hebeloma pungens* belongs to the ectomycorrhizal genus *Hebeloma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Pinus* sp. This is a mushroom which depends upon wind for spore dispersal.

Hebefoma salmonense is a local endemic known only from a single collection from French Creek Glade, Salmon River, Idaho. *Hebefoma salmonense* belongs to the ectomycorrhizal genus *Hebefoma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycotrhizal with unknown hosts. This is a mushroom which depends upon wind for spore dispersal.

Hebeloma stanleyense is a local endemic known only from a single collection from Redfish Lake, Stanley, Custer *Co.,* Idaho. *Hebeloma stanleyense* belongs to the ectomycorrhizal genus *Hebeloma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Pinus* sp. This is a mushroom which depends upon wind for spore dispersal.

Hebeloma strophosum var. occidentale is a local endemic known only from a single collection near McCall, Valley *Co.,* Idaho. *Hebefoma strophosum var. occidentale* belongs to the ectomycorrhizal genus *Hebeloma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Picea engefmannii.* This is a mushroom which depends upon wind for spore dispersal.

Hebeloma vinaceogriseum is a local endemic known only from a single collection from Heavens Gate Ridge, Seven Devils Mountains, Idaho Co., Idaho. *Hebefoma vinaceogriseum* belongs to the ectomycorrhizal genus *Hebeloma* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with unknown hosts. This is a mushroom which depends upon wind for spore dispersal.

Helvefla corium is a regional endemic known from 9 collections, 2 from near Coeur d'Alene, Kootenai Co., Idaho, 3 from Frenchmen Springs pond 2, Grant Co., Washington, and 4 from Payette Lakes, Valley *Co.,* Idaho. *Helveffa corium* belongs to the ectomycorrhizal genus *Helvella* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus* sp. or *Salix* or both. This is a cup fungus which depends upon wind for spore dispersal.

Hefvelfa crassitunicata is a regional endemic known from 10 collections, 1 from Chesapeake Saddle, Chelan Co., Washington, 1 from west of Wauconda Surnrnit, Okanogon Co., Washington, 1 from near Carbon Glacier, Mt. Rainier National Park, Pierce Co., Washington, 1 from Pierce Co., Washington, 1 from Surveyors Ridge, Shoshone Co., Idaho, 1 from Sahalie Falls trail head, Hood River Co., Oregon, 1 from Benson Lake, Mt Washington Wilderness Area, Lane Co., Oregon, 1 from Three Creek Lake, Deschutes National Forest, Deschutes Co., Oregon, and 2 from Lake Ann Trail head, Okanogan National Forest, Chelan Co., Washington. *Helvefla crassitunicata* belongs to the ectomycorrhizal genus *Hefveffa* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a cup fungus which depends upon wind for spore dispersal.

Hefveffa maculata is a regional endemic known from 4 collections, 1 from Moscow Mountain, Latah Co., Idaho, 1 from Bonner Co., Idaho, 1 from Papoose Creek, Seven Devils Mountains, Idaho Co., Idaho and 1 from Curtis Creek, Hoodoo Mountain, Bonner *Co.,* Idaho. *Hefveffa maculata* belongs to the ectomycorrhizal genus *Helvefla* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a cup fungus which depends upon wind for spore dispersal.

Hydnotrya michaelis is disjunct in distribution and known within the CRB from 9 collections, 1 from Anthony Lake Pass, Baker Co., Oregon, 1 from Bunkhouse Creek, Missoula Co., Montana, 1 from Mt Adams, Skamania Co., Washington, and 6 from Elko Co., Nevada. It is also common in Europe and has been found twice in Colorado. *Hydnotrya michaefis* belongs to the ectomycorrhizal genus *Hydnotrya* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Hygrophorus albicameus is a regional endemic known from 2 collections, 1 from Mt. Hood, Oregon, the other from Crater Lake National Park, Klamath Co., Oregon.

Hygrophorus albicarneus belongs to the saprophytic genus *Hygrophorus* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil next to melting snow. This is a mushroom which depends upon wind for spore dispersal.

Hygrophorus albiflavus is a local endemic known only from a single collection from Mt. Hood, Oregon. *Hygrophorus albiflavus* belongs to the saprophytic genus *Hygrophorus* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil. This is a mushroom which depends upon wind for spore dispersal.

Hygrophorus burgdorfensis is a local endemic known only from a single collection from near Burgdorf, Idaho Co., Idaho. *Hygrophorus burgdorfensis* belongs to the saprophytic genus *Hygrophorus* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil at edge of bog under *Pinus contorta.* This is a mushroom which depends upon wind for spore dispersal.

Hygrophorus effenae is a local endemic known only from a single collection from near Cottonwood Creek, Summit, Boise National Forest, Boise Co., Idaho. *Hygrophorus ellenae* belongs to the saprophytic genus *Hygrophorus* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on gravely soil under *Pinus* and *Abies.* This is a mushroom which depends upon wind for spore dispersal.

Hygrophorus nordmanensis is a local endemic known only from a single collection from near Granite Creek, Nordman, Bonner Co., Idaho. *Hygrophorus nordmanensis* belongs to the saprophytic genus *Hygrophorus* but the specific. ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil under *Tsuga.* This is a mushroom which depends upon wind for spore dispersal.

Hygrophorus vefatus is a local endemic known only from a single collection from northeast of Burgdorf, Idaho *Co.,* Idaho. *Hygrophorus velatus* belongs to the saprophytic genus *Hygrophorus* but the specific ecology and biology of this species is unknown and . requires further research. This species is saprophytic and fruits on soil under conifers. This is a mushroom which depends upon wind for spore dispersal.

Hygrophorus vinicofor is a local endemic known only from a single collection from Cape Horn, near Stanley, Custer Co., Idaho. *Hygrophorus vinicofor* belongs to the saprophytic genus *Hygrophorus* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on moss. This is a mushroom which depends upon wind for spore dispersal.

Lactarius gossypinus is a local endemic known only from a single collection from Grand Teton National Park, Teton Co., Wyoming. *Lactarius gossypinus* belongs to the ectomycorrhizal genus *Lactarius* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Pinus* sp. and *Abies* sp. This is a mushroom which depends upon wind for spore dispersal.

Luctarius payettensis is disjunct in distribution and known within the CRB from 7 collections in central Idaho . It is also known from 1 collection from Colorado. *Lactarius payettensis* belongs to the ectomycorrhizal genus *Lactarius* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Abies* sp., *Alnus* sp. or *Popufus* sp. This is a mushroom which depends upon wind for spore dispersal.

Lactarius rufus var. parvus is a local endemic known only from a single collection from Upper Priest River, Boundary Co., Idaho. *Lactarius rufus var. parvus* belongs to the ectomycorrhizal genus *Lactarius* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research; This species is ectomycorrhizal with *Pinus* sp. and Abies sp. This is a mushroom which depends upon wind for spore dispersal.

Leccinum truebfoodii is a local endemic known only from a single collection from Owyhee Co., Idaho. *Leccinum truebloodii* belongs to the ectomycorrhizal genus *Leccinum* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Popufus* sp. or *Pseudotsuga* sp. or both. This is a mushroom which depends upon wind for spore dispersal.

Leucophleps magnata is disjunct in distribution and known within the CRB from 8 collections, 1 from Deschutes Co., Oregon and 7 from Valley Co., Idaho. It is also common on the westside of the Cascade Mountains in Oregon. *Leucophleps magnata* belongs to the ectomycorrhizal genus *L-eucophfeps* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is ectomycorrhizal with *Pseudotsuga menziesii.* This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites acris is a local endemic known only a single collection from Cape Horn Summit, near Stanley, Custer Co., Idaho. *Macowanites acris* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engelmannii.* This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites citrinus is a local endemic known only a single collection from Stanley Lake, Sawtooth Mountains, Custer Co., Idaho. *Macowanites citrinus* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta.* This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites fulvescens is a local endemic known only a single collection from Brundage Mountain, near McCall, Valley *Co.,* Idaho. *Macowanites fulvescens* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engefmannii* or *Abies* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Macowanitesfuscoviofaceus is a local endemic known only a single collection from Payette National Forest, Valley Co., Idaho. *Macowanites fuscoviofaceus* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies fasiocarpa.* This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites fifacinus is a local endemic known only a single collection from Pearl Creek, Payette National Forest, Valley Co., Idaho. *Macowanites fifacinus* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engefmannii* or *Abies fasiocarpa* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites nauseosus is a local endemic known only a single collection from south fork of Lake Fork Creek, near McCall, Valley Co., Idaho. *Macowanites nauseosus* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engefmannii* or *Abies fasiocarpa* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites ofidus is a local endemic known only a single collection from east fork of Wieser River, Council Mountain, near Council, Valley Co., Idaho. *Macowanites olidus* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites pinicofa is a local endemic known only a single collection from Dry Creek, Boise National Forest, Boise *Co.,* Idaho. *Macowanites pinicofa* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta.* This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites pseudometicus is a local endemic known only a single collection from Upper Payette Lakes, Valley Co., Idaho. *Macowanites pseudometicus* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engelmannii.* This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites subofivaceus is a local endemic known only a single collection from Iron Creek, near Stanley, Custer Co., Idaho. *Macowanites subofivaceus* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engefmannii.* This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites subrosaceus is a local endemic known only a single collection from near McCall, Valley Co., Idaho. *Macowanites subrosaceus* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizai with *Picea engefmannii* or *Abies* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Macowanites vinicofor is a local endemic known only a single collection from Brundage Mountain, near McCall, Valley Co., Idaho. *Macowanites vinicofor* belongs to the ectomycorrhizal genus *Macowanites* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Marteffia brunnescens is disjunct in distribution and known within the CRB from.1 collection from Jefferson Co. Oregon. It is also somewhat common on the west-side of the Cascades in Oregon. *Martellia brunnescens* belongs to the ectomycorrhizal genus *Martellia* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii.* This is a truffle which depends upon mycophagy for spore dispersal.

Marteffia effipsospora is disjunct in distribution and known within the CRB from 1 collection from Idaho Co., Idaho. It is also somewhat common on the west-side of the Cascades in Oregon. *Martellia ellipsospora* belongs to the ectomycorrhizal genus *Marteflia* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii*. This is a truffle which depends upon mycophagy for spore dispersal.

Martellia foetens is disjunct in distribution and known within the CRB from 1 collection from Secesh Summit, Idaho Co., Idaho. It is also somewhat common on the west-side of the Cascades in Oregon. *Marteffia foetens* belongs to the ectomycorrhizal genus *Martelfia* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta*. This is a truffle which depends upon mycophagy for spore dispersal.

Martellia fragrans is a local endemic known only a single collection from Brundage Mountain, near McCall, Valley Co., Idaho. *Martellia fragrans* belongs to the ectomycorrhizal genus *Martellia* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies* sp. This is a truffle which depends upon mycophagy for spore . dispersal.

Martelfin fulvispora is a local endemic known from 2 collections, both from Brundage Mountain, near McCall, Valley *Co.,* Idaho. *Martellia fufvispora* belongs to the ectomycorrhizal genus *Martellia* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Martellia monticofa is disjunct in distribution and known within the CRB from 1 collection from Kinney Point, Hell's Canyon, Valley Co., Idaho. It is also somewhat common in Swain Mountain Experimental Forest, Plumas Co., California. *Marteffia monticofa* belongs to the ectomycorrhizal genus *Marteffia* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is'probably ectomycorrhizal with *Abies fasiocarpa.* This is a truffle which depends upon mycophagy for spore dispersal.

Marteffia subafpina is disjunct in distribution and known within the CRB from a single collection from Brundage Mountain, near McCall, Valley Co., Idaho. It is common on the west-side of the Cascades in Oregon and from Swain Mountain Experimental Forest, Plumas Co., California. *Martellia fulvispora* belongs to the ectomycorrhizal genus *Marteflia* but the specific ectomycorrhizal status, ecology and biology of this species is

unknown and requires further research. This species is probably ectomycorrhizal with *Abies lasiocarpa*, *Abies magnifica var. shastensis* and *Tsuga mertensiana.* This is a truffle which depends upon mycophagy for spore dispersal.

Marteflia subochracea is disjunct in distribution and known within the CRB from a single collection from Brundage Mountain, near McCall, Valley Co., Idaho. It is common on the west-side of the Cascades in Oregon, Washington, British Columbia and California. *Marteflia subochracea* belongs to the ectomycorrhizal genus *Marteflia* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies* spp. and *Tsuga* sp. This is a truffle which depends upon mycophagy for spore dispersal.

Morchella semifibera is a regional endemic known from 6 collections, 2 from Maple Street, Pullman, Whitman Co., Washington, 1 from 2 miles north of Kelso, Washington, 1 from Union Flats Creek, Whitman Co., Washington, 1 from Palouse River near Potlatch, Latah Co., Idaho, and 1 from Boise River near Star Bridge, Canyon Co., Idaho. *Morcheffa semifibera* belongs to the saprophytic genus *Morchelfa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil usually in riparian areas or wet soil. This is a cup fungus which depends upon wind for spore dispersal.

Nannfeldtiella aggregata is a regional endemic known from 4 collections, 1 from head of Bear Creek, Chelan Co., Washington, 2 from Sublette Co., Wyoming, and 1 from Rim Summit Ridge Boundary, Teton National Forest, Sublette Co., Wyoming. *Nannfefdtieffa aggregata* belongs to the saprophytic genus *Nannfefdtieffa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on decayed wood. This is a cup fungus which depends upon wind for spore dispersal.

Peziza ammophila is a local endemic known only from a single collection from Vantage, Kittatas Co., Washington. *Peziza ammophila* belongs to the mycorrhizal or saprophytic genus *Peziza* but the specific ecology and biology of this species is unknown and requires further research. This species fruits under *Artemesia.* This is a cup fungus which depends upon wind for spore dispersal.

Pholiota aggfutinata is a local endemic known only from three collections near Black Lee Creek, Payette National Forest, Valley *Co.*, Idaho. *Pholiota agglutinata* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on moss under *Picea*. This is a mushroom which depends upon wind for spore dispersal.

Pholiota atripes is disjunct in distribution and known within the CRB from 2 collections from Idaho. It is also known from the type collection from Ledgewood, Wyoming. *Phofiota atripes* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on decayed conifer wood. This is a mushroom which depends upon wind for spore dispersal.

Pholiota aurantioflava is a local endemic known only from a single collection near Nordman, Bonner Co., Idaho. *Phofiota aurantioflava* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits. on conifer debris. This is a mushroom which depends upon wind for spore dispersal.

Phofiota avellaneifolia is a local endemic known only from a single collection near McCall, Valley *Co.,* Idaho. *Pholiota avellaneifolia* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil under *Picea engefmannii.* This is a mushroom which depends upon wind for spore dispersal.

Phofiota baptistii is a local endemic known only from a single collection from Camey Lakes, Ada Co., Idaho. *Phofiota baptistii* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer debris. This is a mushroom which depends upon wind for spore dispersal.

Phofiota brunnea is a local endemic known only from a single collection from Squaw Meadows, Valley Co., Idaho. *Phofiota brunnea* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer wood. This is a mushroom which depends upon wind for spore dispersal.

Pholiota flavida var. graveofens is a local endemic known only from a single collection from near Priest Lake, Bonner *Co.,* Idaho. *Pholiota flavida var. graveofens* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer wood. This is a mushroom which depends upon wind for spore dispersal.

Pholiota flavopallida js a local endemic known from 4 collections from Bonner Co., Idaho. *Pholiotajlavopallida* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer wood. This is a mushroom which depends upon wind for spore dispersal.

Pholiota fulvodisca is a local endemic known only from a single collection near McCall, Valley Co., Idaho. *Pholiota fulvodisca* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer duff. This is a mushroom which depends upon wind for spore dispersal.

Pholiota fulvozonata is a local endemic known only from a single collection near Upper Priest Lake, Boundary Co., Idaho. *Pholiota fulvozonata* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on partially burned wood. This is a mushroom which depends upon wind for spore dispersal.

Pholiota gruberi is a local endemic known only from a single collection near Lewiston, Nez Perce Co., Idaho. *Pholiota gruberi* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on needle cover under *Larix occidentalis.* This is a mushroom which depends upon wind for spore dispersal.

Phofiota heimalis is a local endemic known only from a single collection near Upper Priest Lake, Boundary Co., Idaho. *Pholiota heimalis* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on *Abies* log. This is a mushroom which depends upon wind for spore dispersal.

Phofiota humii is a regional endemic known only from 6 collections, 2 each from Bonner Co., Idaho Co., and Valley Co., Idaho. *Pholiota humii* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on or around decayed conifer logs. This is a mushroom which depends upon wind for spore dispersal.

Phofiota futeofa is a local endemic known only from a single collection near McCall, Valley *Co.,* Idaho. *Pholiota luteola* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer logs. This is a mushroom which depends upon wind for spore dispersal.

Pholiota macrocystis is a local endemic known only from a single collection near McCall, Valley Co., Idaho. *Pholiota macrocystis* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer logs. This is a mushroom which depends upon wind for spore dispersal.

Pholiota milferi is a local endemic known only from a single collection from Bonner *Co.*, Idaho. *Pholiota mifferi* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil. This is a mushroom which depends upon wind for spore dispersal.

Phofiota nigripes is a regional endemic known only from 3 collections, 2 from Idaho Co., and 1 from Valley Co., Idaho. *Pholiota nigripes* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer logs. This is a mushroom which depends upon wind for spore dispersal..

Phofiota obscura is a regional endemic known only from 5 collections, 2 from Adams Co., 1 from Idaho Co., and 2 from Valley Co., Idaho. *Phofiota obscura* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on decayed wood. This is a mushroom which depends upon wind for spore dispersal.

Pholiota occidentalis var. luteifolia is a local endemic known only from a single collection from Upper Priest River, Boundary Co., Idaho. *Pholiota occidentalis var. luteifolia* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer debris. This is a mushroom which depends upon wind for spore dispersal.

Pholiota pallida is a local endemic known only from a single collection from Lake Fork Creek, Payette Lakes, Valley Co., Idaho. *Pholiota paffida* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer logs.. This is a mushroom which depends upon wind for spore dispersal.

Pholiota pulcheffa var. brevipes is a local endemic known only from a single collection from Granite Creek, near Nordman, Bonner Co., Idaho. *Phofiota pulcheffa var. brevipes* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil. This is a mushroom which depends upon wind for spore dispersal.

Pholiota scamboides is a local endemic known only from a single collection from Mosquito Bay, Priest Lake, Bonner Co., Idaho. *Phofiota scamboides* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on wet sand from buried wood. This is a mushroom which depends upon wind for spore dispersal.

Phofiota subechinata is a regional endemic known only from 3 collections, 2 from Bonner Co., Idaho, and 1 from upper Cispus River, near Mt. Adams, Lewis Co., Washington. *Phofiota subechinata* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer log. This is a mushroom which depends upon wind for spore dispersal.

Phofiota subfubrica is a regional endemic known only from 7 collections, 1 from Boise Co., 1 from Custer Co., 2 from Idaho Co., 2 from Valley Co., Idaho, and 1 from Lewis Co., Washington. *Phofiota sublubrica* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires, further research. This species is saprophytic and fruits on or near decaying conifer logs. This is a mushroom which depends upon wind for spore'dispersal.

Pholiota subsaponacea is a local endemic known only from a single collection from Upper Priest Lake, Boundary *Co.*, Idaho. *Phofiota subsaponacea* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on burned areas. This is a mushroom which depends upon wind for spore dispersal.

Phofiota subsaponacea is a local endemic known only from a single collection from Upper Priest Lake, Boundary Co., Idaho. *Pholiota subsaponacea* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on burned areas. This is a mushroom which depends upon wind for spore dispersal.

Pholiota tetonensis is a local endemic known only from a single collection from Grand Teton National Park, Teton Co., Wyoming. *Phofiota tetonensis* belongs to the saprophytic genus *Phofiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on decaying wood. This is a mushroom which depends upon wind for spore dispersal.

Pholiota umbificata is a local endemic known only from a single collection from Pend Oreille National Forest, near Copeland, Boundary Co., Idaho. *Pholiota umbilicata* belongs to the saprophytic genus *Pholiota* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on debris from *Thuja plicata.* This is a mushroom which depends upon wind for spore dispersal.

Picoa carthusiana is disjunct in distribution and known within the CRB from 2 collections, 1 from Wasco Co., Oregon, and 1 from Valley Co., Idaho. It also occurs commonly in Europe and west of the Cascades . *Picoa carthusiana* belongs to the

ectomycorrhizal genus *Picoa* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii* in North America. This is a truffle which depends upon mycophagy for spore dispersal.

Pfectania mifferi is a regional endemic known from 4 collections, 1 from Strawberry Lake, Ochoco National Forest, Grant Co., Oregon, 1 from top of Diamond Match grade, 6.7 miles east of Elk River, Clearwater Co., Idaho, 1 from Granite Creek, Pend Oreille Co., Washington, 1 from Sherman Pass Recreation Area, Ferry Co., Washington. *Pfectania mifferi* belongs to the ectomycorrhizal genus *Pfectania* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is fruits on decayed wood and is probably ectomycorrhizal with *Abies* sp. and *Tsuga* sp. or both. This is a cup fungus which depends upon wind for spore dispersal.

Protogautieria futea is a local endemic known only a single collection near Cusick, Pend Oreille Co., Washington. *Protogautieria futea* belongs to the ectomycorrhizal genus *Protogautieria* but the specific ectomycotrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii* or *Larix occidentalis* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Psathyreffa abieticofa is a regional endemic known from 2 collections, 1 near McCall, Valley Co., Idaho, the other from Washington. *Psathyreffa abieticofa* belongs to the saprophytic genus *Psathyreffa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits under *Picea* and *Abies.* This is a mushroom which depends upon wind for spore dispersal.

Psathyreffa acuticystis is a local endemic known from 2 collections from Upper Priest River, Boundary Co., Idaho. *Psathyrella acuticystis* belongs to the saprophytic genus *Psathyreffa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits under *Picea* and *Abies.* This. is a mushroom which depends upon wind for spore dispersal.

Psathyrella annulata is a local endemic known from a single collection from Tule Bay, Priest Lake, Bonner Co., Idaho. *Psathyrella annufata* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer duff under old-growth *Tsuga.* This is a mushroom which depends upon wind for spore dispersal.

Psathyreffa argentata is a local endemic known from a single collection from Priest Lake, Bonner Co., Idaho. *Psathyrelfa argentata* belongs to the saprophytic genus

Psathyrefla but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on cow dung. This is a mushroom which depends upon wind for spore dispersal.

Psathyrelfa boufderensis is a local endemic known from 3 collections from Boulder Lake, near McCall, Valley Co., Idaho. *Psathyreffa boufderensis* belongs to the saprophytic genus *Psathyrelfa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on moist earth. This is a mushroom which depends upon wind for spore dispersal.

Psathyrelfa communis is disjunct in distribution and known within the CRB from a single collection from Priest River Experimental Forest, Priest River, Bonner Co., Idaho and 1 from Boundary Co. Idaho. It is also known from a single collection from Michigan. *Psathyrefla communis* belongs to the saprophytic genus *Psathyrefla* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on decayed wood. This is a mushroom which depends upon wind for spore dispersal.

Psathyrelfa crassulistipes is a local endemic known from 4 collections from Priest Lake, Bonner Co., Idaho. *Psathyrella crassulistipes* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on sand. This is a mushroom which depends upon wind for spore dispersal.

Psathyreffa deserticofa is a local endemic known from a single collection from Owyhee *Co.,* Idaho. *Psathyrefla deserticola* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits under'sagebrush. This is a mushroom which depends upon wind for spore dispersal.

Psathyrella ellenae is a local endemic known from a single collection from above Boulder Lake, near McCall, Valley Co., Idaho. *Psathyrella ellenae* belongs to the saprophytic genus *Psathyrelfa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits under *Picea engelmannii* and *Abies* sp. This is a mushroom which depends upon wind for spore dispersal.

Psathyrefla equina is disjunct in distribution and known within the CRB from a single collection from near McCall, Valley Co., Idaho. It is also known from a single collection from *Michigan. Psathyreffa equina* belongs to the saprophytic genus *Psathyrelfa* but the specific ecology and biology of this species is unknown and requires further

research. This species is saprophytic and fruits on horse dung. This is a mushroom which depends upon wind for spore dispersal.

Psathyrella fragrans is a local endemic known from a single collection from Upper Payette Lake, Valley *Co.*, Idaho. *Psathyrella fragrans* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer debris. This is a mushroom which depends upon wind for spore dispersal.

Psathyrella fulva is a local endemic known from a single collection from Priest Lake, Bonner Co., Idaho. *Psathyrella fulva* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on debris. This is a mushroom which depends upon wind for spore dispersal.

Psathyrella fuscospora is a local endemic known from a single collection from Payette Lakes, Valley *Co.*, Idaho. *Psathyrella fuscospora* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil. This is a mushroom which depends upon wind for spore dispersal.

Psathyrefla gruberi is a local endemic known from a single collection from Bear Springs, Mt. Hood, Hood River *Co.*, Oregon. *Psathyrella gruberi* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on burned soil. This is a mushroom which depends upon wind for spore dispersal.

Psathyrella idahoensis is a local endemic known from a single collection from French Creek area, Idaho *Co.*, Idaho. *Psathyrella idahoensis* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology'of this species is unknown and requires further research. This species is saprophytic and fruits on disturbed soil. This is a mushroom which depends upon wind for spore dispersal.

Psathyreffa fepidotoides is a local endemic known from a single collection from Upper Priest Lake, Boundary Co., Idaho. *Psathyrella lepidotoides* belongs to the saprophytic genus *Psathyreffa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on *Populus* log. This is a mushroom which depends upon wind for spore dispersal.

Psathyreffa mesocystis is a local endemic known from a single collection from near McCall, Valley Co., Idaho. *Psathyreffa mesocjstis* belongs to the saprophytic genus *Psathyreifa* but the specific ecology and biology of this species is unknown and requires

known from a 2 collections from western Washington. *Psathyreffa psifocyboides* belongs to the saprophytic genus *Psathyrelfa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and. fruits on soil in wet mountain meadows. This is a mushroom which depends upon wind for spore dispersal.

Psathyrella quercicofa is a local endemic known from a single collection from McLeod, Jackson *Co.,* Oregon. *Psathyrefla quercicofa* belongs to the saprophytic genus *Psathyrefla* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on debris on mossy *Quercus* trunks or logs. This is a mushroom which depends upon wind for spore dispersal.

Psathyreffa roothaanensis is a local endemic known from a single collection from Upper Priest River, Boundary *Co.,* Idaho. *Psathyrelfa roothaanensis* belongs to the saprophytic genus *Psathyreffa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on moss in swampy area. This is a mushroom which depends upon wind for spore dispersal.

Psathyreffa rufogrisea var. bonnerensis is a local endemic known from a single collection from Priest River Experimental Forest, Bonner Co., Idaho. *Psathyrelfa rufogrisea var. bonnerensis* belongs to the saprophytic genus *Psathyrefla* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on sticks along stream. This is a mushroom which depends upon wind for spore dispersal.

Psathyrefla rufogrisea var. riparia is a local endemic known from a single collection from near McCall, Valley *Co.,* Idaho. *Psathyrella rufogrisea var. riparia* belongs to the saprophytic genus *Psathyrefla* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on wet soil along stream. This is a mushroom,which depends upon wind for spore dispersal.

Psathyreffa safictaria is a local endemic known from a single collection from near Burgdorf, Idaho *Co.,* Idaho. *Psathyrelfa safictaria* belongs to the saprophytic genus *Psathyrelfa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on moss under *Safix* and *Betula.* This is a mushroom which depends upon wind for spore dispersal.

Psathyreffa stuntzii is a regional endemic known from 2 collections from Chesapeake Saddle, Lake Chelan, Chelan Co., Washington, and Yakima Co. Washington. *Psathyrefla stuntzii* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is

further research. This species is saprophytic and fruits under *Picea engelmannii* and *Abies* sp. This is a mushroom which depends upon wind for spore dispersal.

Psathyrelfa nezpercii is a regional endemic known from 4 collections, 1 from Bonner Co., 1 from Owyhee Co., and 2 from Idaho Co., Idaho, the other from Washington. *Psathyrella nezpercii* belongs to the saprophytic genus *Psathyrefla* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on mud in pastures. This is a mushroom which depends upon wind for spore dispersal.

Psathyreffa oregonensis is a local endemic known from a single collection from Beaver Creek, Mt. Hood, Hood River Co., Oregon. *Psathyrella oregonensis* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on decayed wood. This is a mushroom which depends upon wind for spore dispersal.

Psathyreffa owyheensis is a local endemic known from a single collection from Sands Basin, Owyhee Co., Idaho. *Psathyrella owyheensis* belongs to the saprophytic genus *Psathyrelfa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits in cow pastures. This is a mushroom which depends upon wind for spore dispersal.

Psathyrefla populorum is a local endemic known from a single collection from Juniper Mountain, Owyhee *Co.,* Idaho. *Psathyreffa populorum* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits under *Populus.* This is a mushroom which depends upon wind for spore dispersal.

Psathyrefla pratenuis is a local endemic known from a single collection from Upper Priest River, Bonner Co., Idaho. *Psathyrefla pratenuis* belongs to the saprophytic genus *Psathyrefla* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on debris under *Populus.* This is a mushroom which depends upon wind for spore dispersal.

Psathyrelfa pseudolimicola is a regional endemic known from 4 collections from Tule Bay, Priest Lake, Bonner Co., Idaho, Idaho Co., and Valley Co. Idaho. *Psathyrefla pseudofimicofa* belongs to the saprophytic genus *Psathyreffa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil. This is a mushroom which depends upon wind for spore dispersal.

Psathyrelfa psilocyboides is disjunct in distribution and known within the CRB from 2 collections from Goose Lake, near New Meadows, Adams Co., Idaho. It is also

further research. This species is saprophytic and fruits on *Populus* log. This is a mushroom which depends upon wind for spore dispersal.

Psathyrella vesicufocystis is a local endemic known from a single collection from 'near French Creek Glade, near Burgdorf, Idaho Co., Idaho. *Psathyreffa vesiculocystis* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer debris. This is a mushroom which depends upon wind for spore dispersal.

Psathyrefla wapinitaensis is disjunct in distribution and known within the CRB from 1 collection from Bonner Co., Idaho, 1 from Idaho Co., Idaho, 1 from Valley Co., Idaho and 1 from Wasco Co., Oregon. It is also known from a 1 collection from Alaska. *Psathyreffa wapinitaensis* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on conifer logs. This is a mushroom which depends upon wind for spore dispersal.

Psathyrelfa warrenensis is a local endemic known from a single collection from near Warren, Idaho Co., Idaho. *Psathyrelfa warrenensis* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on grassy soil. This is a mushroom which depends upon wind for spore dispersal.

Pseudorhizina sphaerospora is a local endemic known only from a single collection from Echo Lake, Flathead National Forest, Flathead Co., Montana. *Pseudorhizina sphaerospora* belongs to the saprophytic genus *Pseudorhizina* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on decayed wood under Pinaceae. This is a cup fungus which depends upon wind for spore dispersal.

Rhizopogon abietis is disjunct in distribution and known within the CRB from 8 collections, 1 from Custer Co., Idaho, 1 from Idaho Co., Idaho, 6 from Valley Co., Idaho. It is also known from single collections from New York, Tennessee, Wyoming and Ontario, Canada. *Rhizopogon abietis* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus* spp. *Picea engelmannii* and *Abies* sp. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon afbidus is a regional endemic known from 6 collections from near McCall, Valley Co., Idaho and 1 collection from Idaho *Co.*, Idaho. *Rhizopogon albidus* belongs to *the* ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status,

saprophytic and fruits on moss and *Pinus contorta* debris. This is a mushroom which depends upon wind for spore dispersal.

Psathyrella subalpina is a local endemic known from a single collection from near Eagle Peak, Mt. Rainier National Park, Pierce Co., Washington. *Psathyrefla subalpina* belongs to the saprophytic genus *Psathyreffa* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil. This is a mushroom which depends upon wind for spore dispersal.

Psathyrella subcaespitosa is a local endemic known from a single collection from near Bear Springs, Mt Hood National Forest, Hood River *Co.*, Oregon. *Psathyreffa subcaespitosa* belongs to the saprophytic genus *Psathyrefla* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil. This is a mushroom which depends upon wind for spore dispersal.

Psathyrefla subfongipes is a local endemic known from a single collection from near Papoose Creek, Seven Devils Mountains, Idaho Co., Idaho. *Psathyrelfa sublongipes* belongs to the saprophytic genus *Psathyrefla* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits under *Betufa*. This is a mushroom which depends upon wind for spore dispersal.

Psathyrelfa subnuda var. *velosa* is a local endemic known from a single collection from near Priest Lake, Bonner Co., Idaho. *Psathyrella subnuda* var. *vefosa* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on humus under *Popufus*. This is a mushroom which depends upon wind for spore dispersal.

Psathyrefla subradicata is a local endemic' known from a single collection from south fork Boulder Creek, Owyhee Co., Idaho. *Psathyrefla subradicata* belongs to the saprophytic genus *Psathyrefla* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on burned soil. This is a mushroom which depends upon wind for spore dispersal.

Psathyrella uskensis is a local endemic known from a single collection from near Usk, Pend Oreille Co., Washington. *Psathyrefla uskensis* belongs to the saprophytic genus *Psathyrefla* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on soil under *Picea*. This is a mushroom which depends upon wind for spore dispersal.

Psathyrefla variata is a local endemic known from a single collection from near Priest Lake, Bonner Co., Idaho. *Psathyrella variata* belongs to the saprophytic genus *Psathyrella* but the specific ecology and biology of this species is unknown and requires

ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus albicaulis* or *Abies* sp. or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon albiroseus is a regional-endemic known from 2 collections from Gisbom Mountain, Priest River Experimental Forest, Bonner Co., Idaho. *Rhizopogon albiroseus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies fasiocarpa*. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon alkalivirens is a regional endemic known from 2 collections, 1 from Boulder Creek, New Meadows, Adams Co., Idaho, another from Cusick, Pend Oreille Co., Washington. *Rhizopogon alkalivirens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology, of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon alpestris is a local endemic known only from a single collection from near Black Tip Ridge, McCall, Valley Co., Idaho. *Rhizopogon afpestris* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engefmannii* or *Abies* sp. or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon anomalus is a local endemic known only from a single collection from near Copeland, Boundary *Co.,* Idaho. *Rhizopogon'anomafus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus* sp. or *Larix* sp. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon arenicofa is a local endemic known only from a single collection from near Priest Lake, Bonner *Co.,* Idaho. *Rhizopogon arenicola* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta*. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon argilfaceus is a regional endemic known from 3 collections, 1 from Payette Lake, Valley Co., Idaho, 1 from Bonner Co., Idaho, another from Naches, Washington. *Rhizopogon argiffaceus* belongs to the ectomycorrhizal genus *Rhizopogon*

but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engelmannii.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon avellaneitectus is a regional endemic known from 1 collection from near Cusick, Pend Oreille Co., Washington and another from Bonner Co., Idaho. *Rhizopogon avelfaneitectus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon bacillisporus is a regional endemic known from 2 collections, 1 from Tilly Jane Forest Camp, Mt Hood, Oregon, and 1 from Klickitat Co., Washington. *Rhizopogon bacilfisporus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon brunneicolor is a regional endemic known from 9 collections, 3 from Bonner Co., Idaho, 3 from Idaho Co., Idaho, and 3 from Valley Co., Idaho. *Rhizopogon brunneicolor* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon brunneifibrillosus is a regional endemic known from 1 collection from Bear Springs, Mt Hood National Forest, Hood River Co., Oregon and 1 collection from Bonner Co., Idaho. *Rhizopogon brunneifibrillosus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon butyraceus is a regional endemic known from 1 collection from Heavens Gate Ridge, Seven Devils Mountains, Idaho Co., Idaho and 1 collection from Cascade lake, Valley *Co.,* Idaho. *Rhizopogon butyraceus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon chamalelotinus is disjunct in distribution and known within the CRB from a single collection from Hills Resort, Priest Lake, Bonner Co., Idaho. It is also

known from a single collection from Josephine Co., Oregon. *Rhizopogon chamalelotinus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status; ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon cinerascens is a local endemic known only from three collections from near Priest River Experimental Forest, Priest River, Bonner Co., Idaho. *Rhizopogon cinerascens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown andrequires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon clavitisporus is disjunct in distribution and known within the CRB from a single collection from west side of Cascade Lake, Valley Co., Idaho. It is also known from a single collection from Josephine Co., Oregon. *Rhizopogon cfavitisporus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinaceae.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon colossus var. colossus is disjunct in distribution and known within the CRB from 3 collections, 1 from Valley Co., Idaho, 1 from Wasco Co., Oregon, and 1 from Skamania Co., Washington. It also occurs in California and the west-side of the Cascades. *Rhizopogon colossus var. colossus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon colossus var. nigromaculatus is a regional endemic known from 5 collections, 1 from Green Canyon, Mt Adams, Klickitat Co., Washington, 1 from Yakima Co., Washington, and 3 from Wasco Co., Oregon. *'Rhizopogon colossus var. nigromacufatus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon cylindrisporus is a local endemic known only from a single collection from near Mullan, Shoshone Co., Idaho. *Rhizopogon cyfindrisporus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably

ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon deceptivus is a regional endemic known from 5 collections, 1 from New Meadows, Adams Co., Idaho, 1 from Priest River, Bonner Co., Idaho, 2 from Heavens Gate Ridge, Seven Devils Mountains, Idaho Co., Idaho, and 1 from near Burgdorf, Idaho Co., Idaho. *Rhizopogon deceptivus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon evadens var. subafpinus is a regional endemic known from 2 collections, 1 from Hood River Co., Oregon, and 1 from Heavens Gate Ridge, Seven Devils Mountains, Idaho Co., Idaho. *Rhizopogon evadens var. subalpinus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus afbicaulis.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon fallax is a regional endemic known from 4 collections, 1 from Adams Co., Oregon, 1 from Idaho Co., Idaho, 1 from Custer Co., Idaho, and 1 from Wyoming. *Rhizopogon fallax* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon flavofibrillosus is disjunct in distribution and known within the CRB from 2 collections near Smiths Ferry, Valley Co., Idaho. It is also known from Curry *Co.,* Oregon. *Rhizopogon flavofibrillosus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus* sp., *Picea engefmannii, Abies fasiocarpa* or *Pseudotsuga menziesii* or all. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon florencianus is a local endemic known only from a single collection from near Florence, Idaho Co., Idaho. *Rhizopogon florencianus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies* or *Picea engelmannii* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon fragmentatus is a local endemic known only from a single collection from near Trout Lake, Mt Adams, Yakirna Co., Washington. *Rhizopogon fragmentatus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon fragrans is a regional endemic known from 2 collections, 1 from Brundage Mountain, near McCall, Valley Co., Oregon, and 1 from Idaho Co., Idaho. *Rhizopogon fragrans* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon griseogleba is a local endemic known only from a single collection from near Squaw Meadows, Valley Co., Idaho. *Rhizopogon griseogleba* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engefmannii.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon hysterangioides is disjunct in distribution and known within the CRB from 1 collection from Brundage Mountain, near McCall, Valley Co., Idaho. It is also known from 2 collections from Boulder Co., Colorado. *Rhizopogon hysterangioides* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engefmannii* or *Abies fasiocarpa* or both This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon inquinafus is disjunct in distribution and known within the CRB from 1 collection from Priest River Experimental Forest, Bonner Co., Idaho. It is also known from 3 collections from Linn Co., Oregon. *Rhizopogon inquinatus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii* or *Tsuga heterophyfla* or both This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon kauffmanii is a regional endemic known from 2 collections, 1 from Heavens gate Ridge, Seven Devils Mountains, Idaho Co., Oregon, and 1 from near Copeland Boundary Co., Idaho. *Rhizopogon kauffmanii* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this

species. is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon laetiflavus is a local endemic known from 4 collections from south fork of Lake Fork Creek, near McCall, valley *Co.,* Idaho. *Rhizopogon laetiflavus belongs* to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies* sp. or *Pinus* sp. or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon luteoalboides is a regional endemic known from 2 collections, 1 from Heavens Gate Ridge, Seven Devils Mountains, Nez Perce National Forest, Idaho Co., Idaho, and 1 from Pend Oreille Co., Washington. *Rhizopogon luteoalboides* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus albicaulis, Abies lasiocarpa* or *Picea engefmannii. This* is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon luteorubescens is a regional endemic known from 6 collections, 1 from Bonner Co., Idaho, 1 from Idaho. Co., Idaho, and 4 from Valley Co., Idaho. *Rhizopogon futeorubescens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research.' This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon lutescens is a regional endemic known from 2 collections, 1 from Warm lake, Valley Co., Idaho, and 1 from near Graham, Boise Co., Idaho. *Rhizopogon lutescens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon masonae is a local endemic known only from a single collection from near lower Still Creek, Mt Hood National Forest, Clackamas *Co.,* Oregon. *Rhizopogon masonae* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon milleri is a local endemic known only from a single collection from near Nordman, Bonner Co., Idaho. *Rhizopogon milferi* belongs to the ectomycorrhizal

genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Larix occidentalis* or *Pinus* sp. or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon molfigfeba is a local endemic known from 2 collections from Heavens Gate Ridge, Seven Devils Mountain, Idaho *Co.,* Idaho. *Rhizopogon molligleba* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus albicaulis* or *Abies* sp. or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon obscurus is a regional endemic known from 3 collections, 1 from Adams Co., Idaho, and 2 from Penn Basin, Valley Co., Idaho. *Rhizopogon obscurus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon ochraceisporus is a regional endemic known from 6 collections, 1 from Boise Co., Idaho, 1 from Idaho Co., Idaho, 2 from Penn Basin, Valley Co., Idaho, and 2 from Pend Oreille Co.; Washington. *Rhizopogon ochraceisporus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii* and *Abies* sp. or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon ochraceobrunnescens is a regional endemic known from 2 collections, 1 from Priest River, Bonner Co., Idaho, and 1 from Heavens Gate Ridge, Seven Devils Mountains, Idaho Co., Idaho. *Rhizopogon ochraceobrunnescens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon ochroleucus is a regional endemic known from 4 collections, 1 from Valley Co., Idaho, 3 from Idaho *Co.,* Idaho. *Rhizopogon ochrofeucus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon odoratus is a local endemic known only from a single collection from near San Poil Creek, Roosevelt Lake, Ferry Co., Washington. *Rhizopogon odoratus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus ponderosa.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon olivaceofuteus is a local endemic known only from a single collection from near Gisbom Mountain, Priest River Experimental Forest, Bonner Co., Idaho. *Rhizopogon olivaceoluteus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies* sp. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon oswaldii is a regional endemic known from 2 collections, 1 from Wasco Co., Oregon, and 1 from Mt Adams, Kliclcitat Co., Washington. *Rhizopogon oswaldii* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon parksii is disjunct in distribution and known within the CRB from 6 collections, 2 from Wasco Co., Oregon, 1 from Skamania Co., Washington, and 3 from Yakima Co., Washington. It is also very common on the west-side of the Cascades in Oregon and Washington, and in California. *Rhizopogon parksii* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon parvulus is a regional endemic known from 3 collections, 1 from Valley Co., Idaho, and 2 from Hoodoo Mountain, Priest River, Bonner Co., Idaho. ‘*Rhizopogon parvulus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies* spp. and *Larix* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon proximus is a local endemic known only from a single collection from Pend Oreille State Park, Pend Oreille Co., Washington. *Rhizopogon proximus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably

ectomycorrhizal with *Pseudotsuga menziesii*. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon pseudoaffinis is a local endemic known from 7 collections from Brundage Mountain, near McCall, Valley Co., Idaho. *Rhizopogon pseudoaffinis* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies* sp. or *Picea engelmannii* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon pseudoalbus is a local endemic known only from a single collection from Brundage Mountain, near McCall, Valley Co:, Idaho. *Rhizopogon pseudoalbus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies* sp. or *Picea engelmannii* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon quercicola is a regional endemic known from 3 collections, 1 from Bear Springs, Mt Hood, Mt Hood National Forest, Hood River Co., Oregon, 1 from Bonner Co., Idaho, and 1 from Pend Oreille Co., Washington. *Rhizopogon quercicofa* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon quercicola is a regional endemic known from 3 collections, 1 from Bear Springs, Mt Hood, Mt Hood National Forest, Hood River Co., Oregon, 1 from Bonner Co., Idaho, and 1 from Pend Oreille Co., Washington. *Rhizopogon quercicola* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon rogersii is disjunct in distribution and known within the CRB from 2 collections, 1 from Hat Point, near Imnaha, Wallowa Co., Oregon, and 1 from Bonner Co., Idaho. It is also uncommon on the west-side of the Cascades in Oregon and Washington. *Rhizopogon rogersii* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon rubescens var. palfidimaculatus is disjunct in distribution and known within the CRB from 2 collections from Valley Co., Idaho. It is also known from a single collection from Michigan. *Rhizopogon rubescens var. palfidimacufatus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research; This species is probably ectomycorrhizal with *Abies* sp. or *Pinus* sp. or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon rudus is a local endemic known only from a single collection from Priest River Experimental Forest, Priest River, Bonner Co., Idaho. *Rhizopogon rudus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii.* This is a truffle which depends upon mycophagy for‘spore dispersal

Rhizopogon semireticulatus is a regional endemic known from 8 collections, 1 from each of the following: Pend Oreille State park, Pend Oreille Co., Washington, Brooks Memorial State park, Klickitat Co., Washington, Century Drive, Deschutes Co., Oregon, Sun River, Deschutes Co., Oregon, Indian Ford Campground, Deschutes Co., Oregon, Placid Lake, Missoula Co., Montana, Falls Campground, Teton Co., Wyoming, east fork Jackson Cr. Latah, Co., Idaho. It is also uncommon on the west-side of the Cascades in Oregon. *Rhizopogon semireticulatus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus ponderosa* and possibly *Abies grandis*. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon semitectus is a regional endemic known from 3 collections, 1 from Canyon Creek Meadows, N. of Three Fingered Jack, Jefferson Co., Oregon, 1 from Binarck Creek, Priest Lake, Bonner Co., Idaho, and 1 from Boundary Co., Idaho. *Rhizopogon semitectus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies fasiocarpa* or *Tsuga mertensiana* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon sordidus is disjunct in distribution and known within the CRB from 2 collections from Boundary Co., Idaho. It is also known from near Blanchard, Pend Oreille Co., Washington. *Rhizopogon sordidus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is

unknown and requires further research. This species is probably ectomycorrhizal with *Pinus ponderosa.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subbadius is a regional endemic known from 2 collections, 1 from Stanley Lake, Custer Co., Idaho, and 1 from Medicine Bow Mountains, Albany Co., Wyoming. *Rhizopogon subbadius* belongs to the ectomycotrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subcaerulescens var. viridescens is a local endemic known only from a single collection from Priest Lake State Park, Priest Lake, Bonner Co., Idaho. *Rhizopogon subcaerulescens var. viridescens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Tsuga sp.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subcinnamomeus is disjunct in distribution and known within the CRB from 2 collections from Priest River, Bonner Co., Idaho. It is also known from 3 collections west of the Cascades in Oregon. *Rhizopogon subcinnamomeus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta* or *Pseudotsuga menziesii* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subclavifispdrus is disjunct in distribution and known within the CRB from 2 collections, 1 from Hoodoo Mountain, Priest River, Bonner Co., Idaho, and 1 from Upper Battle Creek, Starkey Experimental Forest and Range, Union Co., Oregon. It is also known from 1 collection west of the Cascades in Oregon. *Rhizopogon subclavifisporus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subcroceus is a regional endemic known from 7 collections, 1 from Boulder Creek, New Meadows, Adams Co., Idaho, 1 from Boise Co., Idaho, 1 from Custer Co., Idaho and 4 from Valley Co., Idaho. *Rhizopogon subcroceus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus* sp. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subgelatinosus is disjunct in distribution and known within the CRB from 7 collections, 4 from Priest River, Bonner Co., Idaho, 1 from Upper Payette Lakes, Valley Co., Idaho, 1 from Robin Hood Forest Camp, Hood River Co., Oregon, and 1 from Cloud Cap, Hood River Co., Oregon. It is also known from New Mexico, California, and west of the Cascades in Oregon. *Rhizopogon subgelatinosus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus* sp. or *Pseudotsuga menziesii* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon sublateritus is disjunct in distribution and known within the CRB from 3 collections, 2 from Priest River Experimental Forest, Bonner Co., Idaho, and 1 from Valley Co., Idaho. It is also known from California. *Rhizopogon sublateritus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus ponderosa* or *Abies magnifica* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subolivascens is a local endemic known only from a single collection from Brundage Mountain, near McCall, Valley Co., Idaho. *Rhizopogon subolivascens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with Pinaceae. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subpurpurescens is a regional endemic known from 11 collections, 1 from Togwatee Pass, Teton' Co., Wyoming, 1 near Lewis Lake, Yellowstone National Park, Wyoming; 1 near Lost Creek campground, Crater Lake National Park, Klamath Co., Oregon, 1 from Paulina Lakes, Deschutes Co., Oregon, 1 from Bachelor Butte Ski Area, Deschutes Co., Oregon, 1 above Jack Lake, Jefferson Co., Oregon, 1 from Clark Creek, Hood River Co., Oregon,'2 from Iron Creek, Custer Co., Idaho, 1 from Stanley, Custer Co., Idaho, and 1 from Heavens Gate, Seven Devils Mountains, Idaho Co., Idaho. *Rhizopogon subpurpurescens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta, Tsuga mertensiana,* and *Abies lasiocarpa.* This i's a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subradicatus is disjunct in distribution and known within the CRB from 2 collections from San Poil Creek, Roosevelt Lake, Ferry Co., Washington. It is

also known from Benton Co., Oregon. *Rhizopogon subrudicatus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus ponderosa*. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subsalmonius var.' griseolilascens is a local endemic known only from a single collection from Gisbom Mt, Priest River, Bonner Co., Idaho. *Rhizopogon subsalmonius var. griseolilascens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycotrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Abies lasiocarpa*. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subsalmonius var. roseitinctus is a local endemic known only from a single collection from Heavens Gate Ridge, Seven Devils Mountains, Idaho Co.; Idaho. *Rhizopogon subsafmonius var. roseitinctus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus albicaulis* or *Abies lasiocarpa* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon subsalmonius var. similis is a regional endemic known from 3 collections, 2 from Bonner Co., Idaho, and 1 from California Lake, Payette National Forest, Idaho Co., Idaho. *Rhizopogon subsalmonius var. similis* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engelmannii* or *Abies lasiocarpa* or both This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon udus is a regional endemic known from 4 collections, 1 from Bonner Co., Idaho, 1 from Idaho Co., Idaho,' and 2 from Valley Co., Idaho. *Rhizopogon udus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engelmannii* or *Pinus contorta* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon umbrinoviolascens is a regional endemic known from 2 collections, 1 from near Florence, Idaho Co., Idaho, and l near Pend Oreille State Park, Pend Oreille Co., Washington. *Rhizopogon umbrinoviofascens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of thisspecies is unknown and requires further research. This species is probably ectomycorrhizal with

Larix occidentalis or *Pseudotsuga menziesii* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon variabilisporus is disjunct in distribution and known within the CRB from only 1 collection from Heavens Gate Ridge, Seven Devils Mountains, Idaho Co., Idaho. It is also known from Jackson Co., Oregon. *Rhizopogon variabilisporus* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Picea engelmannii* or *Abies* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon vesiculosus is a regional endemic known from 4 collections, 3 from Idaho Co., Idaho, and 1 near Blanchard, Pend Oreille Co., Washington. *Rhizopogon vesicufosus* belongs to the ectomycotrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pinus contorta.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon villescens is disjunct in distribution and known within the CRB from 4 collections, 3 from Priest River Experimental Forest, Bonner Co., Idaho, and 1 from Pend Oreille Co., Washington. It is also not uncommon from west-side of Cascades, Oregon. *Rhizopogon villescens* belongs to the ectomycorrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii* or *Abies* or both. This is a truffle which depends upon mycophagy for spore dispersal.

Rhizopogon zelleri is disjunct in distribution and known within the CRB from 3 collections, 2 from Valley Co., Idaho, and 1 from Adams Co., Idaho. It has also been found once in Montana, New Mexico, and 4 collections from west of the Cascades, Oregon. *Rhizopogon zelleri* belongs to the ectomycotrhizal genus *Rhizopogon* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii.* This is a truffle which depends upon mycophagy for spore dispersal.

Rhodoscypha ovilla is a local endemic known only from a single collection from Upper Priest River, Boundary Co., Idaho. *Rhodoscypha ovilla* belongs to the saprophytic genus *Rhodoscypha* but the specific ecology and biology of this species is, unknown and requires further research. This species is saprophytic and fruits on soil under fem. This is a cup fungus which depends upon wind for spore dispersal.

Sclerogaster xerophilum is a disjunct in distribution and known within the CRB from 2 collections from Box Elder Co., Utah. It is also known from southern California.

Sclerogaster xerophilum belongs to the saprophytic genus *Sclerogaster* but the specific ecology and biology of this species is unknown and requires further research. This species is probably saprophytic under *Pinus monophylla*. This is a truffle which depends upon mycophagy for spore dispersal.

Sowerbyellu imperialis is a local endemic known only from 2 collections from Upper Priest River, Boundary *Co.,* Idaho. *Sowerbyella imperialis* belongs to the saprophytic genus *Sowerbyella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic. This is a cup fungus which depends upon wind for spore dispersal.

Sowerbyellu rhenana is a local endemic known only from a single collection from Upper Priest River, Boundary Co., Idaho. *Sowerbyella rhenana* belongs to the saprophytic genus *Sowerbyella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic. This is a cup fungus which depends upon wind for spore dispersal.

Truncocolumella citrina var. separabilis is a local endemic known only from a single collection from Brundage Mountain, near McCall, Valley Co., Idaho. *Truncocolumelfu citrina var. separubifis* belongs to the ectomycorrhizal genus *Truncocolumella* but the specific ectomycorrhizal status, ecology and biology of this species is unknown and requires further research. This species is probably ectomycorrhizal with *Pseudotsuga menziesii.* This is a truffle which depends upon mycophagy' for spore dispersal.

Wynnelfa silvicofa is a regional endemic known from 6 collections, 1 from Squib Creek, Custer Co., Idaho, 4 from Echo Lake, Flathead National Forest, Flathead Co., Montana, 1 from Shingle Creek, Seven Devils Mountains, Idaho *Co.,* Idaho. *Wynnefla silvicolu* belongs to the saprophytic genus *Sowerbyella* but the specific ecology and biology of this species is unknown and requires further research. This species is saprophytic and fruits on moss near riparian areas. This is a cup fungus which depends upon wind for spore dispersal.

Table 1. Geography, Trends, and Threats for Species of Special Concern

Table 1 lists all fungal species of special concern and rates them for population trend and threats to the population. Table 1 also lists the geographic status of each species according to distribution. Definitions for columns are as follows: GEOGRAPHY (endemism) - 1 = local; 2 = regional; 3 = peripheral; 4 = disjunct: 5 = Scattered; 6 = common; TREND - 1 = increasing; 2 = decreasing; 3 = stable; 4 = unknown; THREATS -

E = Exotic/ weed invasion; F = change in fire regime; G = livestock grazing; H = change in hydrologic regime; M = mining; R = recreation; T = timber.

When a space is blank, except for TREND column, it means no data was readily available to enter into the data set. The reports received from the contractors gave little if any information past what they considered rare and common. A great deal of my personal time went into finding locations for the species that geography can be determined. I ran out of time so this is the state of the data set. The nearly 2600 common fungal species are not part of this table. This table has only species of special concern and all are considered rare in the CRB, some endemic, others not. Likewise threats to some species are unknown because of the lack of knowledge of this investigator where mine sites are located, recreation sites etc. I gave the T category to all mycorrhizal formers as they would be impacted to some degree by all silvicultural treatments. The TREND column contains all number 4's for unknown because we have absolutely no comprehensive data on population viability of any of the species to base decisions on. The bottom line is these species are considered rare but we know extremely little concerning their biology and ecology. There is an urgent need to direct research on these species.

TAXON	GEOGRAPHY	*TREND*	THREATS
Abstoma citrina	1	4	
Abstoma plumbea	1	4	
Abstoma reticulatum	1	4	
Abstoma townei	1	4	
Agaricus albolutescens		4'	
Albatrellus dispansus		4	
Alpova mollis	*4*	4	T
Amanita afba		4	T
Amanita armillariformis	1	4	T
Amanita aurantiasquamosa	1	4	T
Amanita malheurensis	1	4	T
Amanita silvicola		4	T
Antrodia afpina		4	
Arcangelie 1 lacrassa (= tenax)	*4*	4	T
Balsamia platyspora	3	4	T
Balsamia vulgar-is	3	4	T
Battarraea stevensii	*2*	4	
Boletus barrowsii	*2*	4	T
Boletus calopus var. frustosus	*2*	4	T
Bovista aestivalis		4	
Bovista californica		4	
Bovista dakotensis		4	
Bovista leucodenna		4	
Byssonectria cartilaginea		4	
Calocybe onychina		4	
Calvatia bovista		4	
Calvatia cretacea		4	
Calvatia excipuliformis		4	

Calvatia fragilis		4	
Calvatia fumosa var. idahoensis	1	4	
Calvatia lloydii		4	
Calvatia lycoperdoides		4	
Calvatia owyheensis	1	4	
Calvatia pal fida		4	
Calvatia tatrensis		4	
Calvatia utriformis		4	
Cantharellus floccosus var. rainierensis	1	4	T
Cantharellus fumosa	2	4	T
Cantharellus subcretacea		4	T
Cenangium piniphilum	2	4	
Chamonixia brevicolumna	1	4	T
Choiromyces al veo la tus	2	4	T
Chroogomphus pseudovinicolor	1	4	T
Ciboria alni		4	
Clavariadelphus sachalinensis .		4	
Clavicorona avellanea		4	
Clavicorona divaricata		4	
Cfitocybe caperata		4	
Clitocybe deceptiva		4	
Clitocybe epigaea		4	
Clitocybe gruberi		4	
Clitocybe pallidipes		4	
Clitocybe payettensis	1	4	
Clitocybe profundidisca		4	
Clitocybe pungens		4	
Clitocybe varispora		4	
Cfiyocybe multicarpa		4	
Coprinus martini		4	
Cortinarius albonigrellus		4	T
Cortinarius alnetorum		4	T
Cortinarius delibutus		4	T
Cortinarius fuscoperonatus		4	T
Cortinarius glandicolor		4	T
Cortinarius hemitrichus f. improcerus		4	T
Cortinarius iodes		4	T
Cortinarius jubarinus		4	T
Cortinarius melinus		4	T
Cortinarius mutabilis		4	T
Cortinarius parperculus		4	T
Cortinarius pholideus		4	T
Cortinarius rapaceus		4	T
Cortinarius sanguineus		4	T
Cortinarius saniosus		4	T
Cortinarius sodugnites		4	T
Cortinarius variecolor		4	T
Cortinarius venetus		4	T
Cortinarius vulpicolor		4	T
Crepidotus lagenicystis	4	4	
Crepidotus montanensis	4	4	
Crepidotus payettensis	1	4	
Crepidotus ponderosus			
Crepidotus stratosus	4	4	

Crepidotus sububer	1	4	
Cyathus farcta		4	
Cyathus fimbriatus		4	
Cyathus olla f. lanatus	1	4	
Cystodenna subpurpureum		4	
Dadalea quercino		4	
Daedaleopsis confragosa		4	
Daedaleopsis steroides		4	
Destuntzia subborealis	1	4	
Entoloma lividoalbum		4	T
Fayodia gracilipes		4	
Gaferina anelligera	1	4	
Galerina borealis	3	4	
Galerina castanescens	1	4	
Gaferina diabolissima	1	4	
Galerina fontinalis	1	4	
Galerina fuscobrunnea	1	4	
Galerina mainsii	1	4	
Galerina nordmaniana	1	4	
Galerina payettensis	1	4	
Galerina pseudostylifera	1	4	
Galerina pubescentipes	1	4	
Galerina stylifera var. badia	1	4	
Galerina stylifera var. velosa	1	4	
Gaferina triscopa f. longocystis		4	
Gastroboletus subalpinus	2	4	T
Gastroboletus turbinatus var. flammeus	1	4	T
Gautieria monitcola	3	4	T
Genabea cerebriformis .	4	4	T
Geopora clausa	4	4	T
Geopora sepulta	3	4	T
Gloeophyllum odoratum		4	
Gymnomyces ferruginascens	1	4	T
Gymnopilus rufobrunneus		4	
Gymnopilus terrestris		4	
Hebeloma alpinicola	1	4	T
Hebeloma idahoense	3	4	T
Hebeloma kellogense	1	4	T
Hebeloma latisporum	3	4	T
Hebeloma mesophaeum var. subobscurum	1	4	T
Hebeloma occidentale	1	4	T
Hebeloma oregonense	1	4	T
Hebefoma parcivelum	1	4	T
Hebeloma pseudofastible var. distans	1	4	T
Hebeloma pungens	1	4	T
Hebeloma salmonense	1	4	T
Hebeloma stanleyense	1	4	T
Hebeloma strophosum var. occidentale		4	T
Hebeloma vinaceogriseum		4	T
Helvelfa corium	2	4	T
Helvelfa crassitunicata	2	4	T
Helvella maculata	2	4	T
Henningsomyces candidus		4	
Hydnel lum cyanopodium		4	T

Hydnellum mirabile		4	T
Hydnef lum pseudocaeruleum		4	T
Hydnellum regium		4	T
Hydnotrya michaelis	4	4	T
Hydnum indurescens		4	T
Hygrophorus albicameus	1	4	
Hygrophorus albijlavus	1	4	
Hygrophorus burgdorfensis	1	4	
Hygrophorus ellenae	1	4	
Hygrophorus nordmanensis	1	4	
Hygrophorus velatus	1	4	
Hygrophorus vinicolor	1	4	
Hypoxylon serpens var. macrospora		4	
Hysterangium fallax	2	4	T
Inocybe boltoni		4	T
Inocybe hystrix		4	T
Itajahya galericulata	1	4	
Kuehneromyces carbonicola		4	
Lactarius gossypinus	1	4	T
Lactarius payettensis	3	4	T
Luctarius rufus var. parvus	1	4	T
Leccinum clavatum		4	T
Leccinum idahoense		4	T
Leccinum incamatum		4	T
Leccinum subfulvum		4	T
Leccinum truebloodii	1	4	T
Lentinellus truebloodii		4	
Lepiota atrodisca		4	
Leptonia sarcitufa		4	
Leptosphueria hysterioides		4	
Leucopaxillus albissimus var. monticola		4	
Leucopaxil lus septentrionalis		4	
Leucophleps magnata	4	4	T
Lyophyllum brunellae		4	
Lyophyllum canescetipes		4	
Lyophyllum chamaeleon		4	
Lyophyllum chondrocephalum		4	
Lyophyllum fistulosum		4	
Lyophyllum gracile		4	
Lyophyllum investitum		4	
Lyophyllum leptosarx		4	
Macowanites acris	1	4	T
Macowanites citrinus	1	4	T
Macowanites fulvescens	1	4	T
Macowanites fuscoviolaceus ,	1	4	T
Macowanites lilacinus	1	4	T
Macowanites nauseosus	1	4	T
Macowanites olidus	1	4	T
Macowanites pinicola	1	4	T
Macowanites pseudometicus	1	4	T
Macowanites subolivaceous	1	4	T
Macowanites subrosaceus	1	4	T
Macowanites vinicolor	1	4	T
Martellia brunnescens	4	4	T

Martellia elfipsospora	4	4	T
Martellia foetens	4	4	T
Marteflia fragans	1	4	T
Martellia fulvispora	1	4	T
Martelfia monticola	4	4	T
Marteflia subalpina	4	4	T
Martellia subochracea	4	4	T
Melanogaster ambiguus	4	4	T
Melanogaster tuberiformis	4	4	T
Montagnea candollei		4	
Morchella semilibera		4	
Mucronella calva var. aggregata		4	
Nannfefdtie l la aggregata	2	4	
Omphalina chrysophylla var. salmonispora		4	
Onygena equina		4	
Ophiobo lus prune l lae		4	
Peniophora decorticans		4	
Peziza ammophila	1	4	
Phaeocollybia deceptiva		4	T
Phellorinia inquinans		4	
Pholiota agglutinata	1	4	
Pholiota atripes	3	4	
Pholiota aurantioflava	1	4	
Pholiota avellaneifolia	1	4	
Pholiota baptistii	1	4	
Pholiota brunnea	1	4	
Pholiota flavida var. graveolens	1	4	
Pholiota flavopallida	1	4	
Pholiota fulvodisca	1	4	
Pholiota fulvozonata	1	4	F
Pholiota gruberi	1	4	
Pholiota hiemalis	1	4	
Pholiota humii	2	4	
Pholiota lubrica var. luteifolia	2	4	
Pholiota luteola	1	4	
Pholiota macrocystis	1	4	
Pholiota milleri	2	4	
Pholiota nigripes	2	4	
Pholiota obscura	2	4	
Pholiota occidentalis var. luteifolia	1	4	
Pholiota pallida	1	4	
Pholiota pulchella var. brevipes	1	4	
Pholiota scamboides	1	4	
Pholiota subechinata	2	4	
Pholiota sublubrica	2	4	
Pholiota subsaponacea	1	4	F
Pholiota tetonensis	1	4	
Pholiota umbilicata	1	4	
Picoa carthusiana	4	4	T
Plectania milleri	2	4	
Polyzellus multiplex		4	T
Porphyrellus amylosporus		4	T
Protogautieria lutea	1	4	T
Psathyrel la abieticola	2	4	

Psathyrella acuticystis	1	4	
Psathyrelfu annufuta	1	4	
Psathyrelfa aregentata	1	4	
Psathyrella boufderensis	1	4	
Psathyrella communis	4	4	
Psathyrel la crassulistipes	1	4	
Psathyrelfa deserticola	1	4	
Psathyrelfa ellenae	1	4	
Psathyrella equina	4	4	
Psathyrella fragans	1	4	
Psathyrella fulva	1	4	
Psathyrella fuscospora	1	4	
Psathyrelfu gruberi	1	4	F
Psathyrella idahoensis	1	4	
Psathyrella lepidotoides	1	4	
Psathyrelfa mesocystis	1	4	
Psathyrella nezpercii	2	4	
Psathyrella oregonensis	1	4	
Psathyrella owyheensis	1	4	
Psathyrella populorum	1	4	
Psathyrelfa praetenuis	1	4	
Psathyrella pseudolimicola	2	4	
Psathyrel la psilocyboides	4	4	
Psathyrelfa quercicola	1	4	
Psathyrel la roothaanensis	1	4	
Psathyrella rufogrisea var. bonnerensis	1	4	
Psathyrel la rufogrisea var. riparia	1	4	
Psathyrelfa salictaria	1	4	
Psathyrella stuntzii	2	4	
Psathyrella subalpina	1	4	
Psathyrel la subcaespitosa	1	4	
Psathyrella sublongipes	1	4	
Psathyrel la subnuda var. velosa	1	4	
Psathyrel la subradicata	1	4	
Psathyrel la uskensis	1	4	
Psathyrel la variata	1	4	
Psathyrella vesiculocystis	1	4	
Psathyrella wapinitaensis	4	4	
Psathyrel la warrenensis	1	4	
Pseudorhizina sphaerospora	1	4	
Psilocybe pelliculosa		4	
Psilocybe semifanceata		4	
Psilocybe subboreafis		4	
Pyrenogaster atrogleba	3	4	T
Radiigera fuscogleba	3	4	T
Rhizopogon abietis	4	4	T
Rhizopogon albidus	2	4	T
Rhizopogon albiroseus	2	4	T
Rhizopogon alkalivirens	2	4	T
Rhizopogon alpestris	1	4	T
Rhizopogon anomalus	1	4	T
Rhizopogon arenicola	1	4	T
Rhizopogon argillascens	2	4	T
Rhizopogon avellaneitectus	2	4	T

Rhizopogon bacillisporus	2	4	T
Rhizopogon brunneicolor	2	4	T
Rhizopogon brunneifbrillosus	2	4	T
Rhizopogon butyraceus	2	4	T
Rhizopogon chamaleontinus	4	4	T
Rhizopogon cinerascens	1	4	T
Rhizopogon clavitisporus	4	4	T
Rhizopogon colossus var. colossus	4	4	T
Rhizopogon colossus var. nigromaculatus	2	4	T
Rhizopogon cylindrisporus	1	4	T
Rhizopogon deceptivus	2	4	T
Rhizopogon evadens var. subalpinus	4	4	T
Rhizopogon fallax	2	4	T
Rhizopogon flavofibrillosus	4	4	T
Rhizopogon florencianus	1	4	T
Rhizopogon fragans	2	4	T
Rhizopogon fragmentatus	1	4	T
Rhizopogon griseogleba	1	4	T
Rhizopogon hysterangioides	1	4	T
Rhizopogon inquinatus	1	4	T
Rhizopogon kauffmanii	2	4	T
Rhizopogon laetiflavus	1.	4	T
Rhizopogon luteoalboides	2	4	T
Rhizopogon luteorubescens	2	4	T
Rhizopogon lutescens	2	4	T
Rhizopogon masonae	1	4	T
Rhizopogon milleri	1	4	T
Rhizopogon molligleba	1	4	T
Rhizopogon obscurus	2	4	T
Rhizopogon ochraceisporus	2	4	T
Rhizopogon ochraceobrunnescens	2	4	T
Rhizopogon ochroleucus	2	4	T
Rhizopogon odoratus	1	4	T
Rhizopogon olivaceoluteus	1	4	T
Rhizopogon oswaldii	2	4	T
Rhizopogon parksii	3	4	T
Rhizopogon parvulus	2	4	T
Rhizopogon proximus	1	4	T
Rhizopogon pseudoaffinis	1	4	T
Rhizopogon pseudoalbus	1	4	T
Rhizopogon quericola	2	4	T
Rhizopogon rogersii	4	4	T
Rhizopogon rubescens var. pallidimaculatus	4	4	T
Rhizopogon rudus	1	4	T
Rhizopogon semireticulatus	2	4	T
Rhizopogon semitectus	2	4	T
Rhizopogon sordidus	4	4	T
Rhizopogon subbadius	2	4	T
Rhizopogon subcaerulescens var. viridescens	1	4	T
Rhizopogon subcinnamomeus	4	4	T
Rhizopogon subclavitisporus	4	4	T
Rhizopogon subcroceus	2	4	T
Rhizopogon subgelatinosus	4	4	T
Rhizopogon sublateritius	4	4	T

Rhizopogon subolivascens	1	4	T
Rhizopogon subpurpurascens	2	4	T
Rhizopogon subradicatus	4	4	T
Rhizopogon subsalmonius var. griseolilascens	1	4	T
Rhizopogon subsalmonius var. roseitinctus	1	4	T
Rhizopogon subsalmonius var. similis	2	4	T
Rhizopogon udus	2	4	T
Rhizopogon umbrinoviolascens	2	4	T
Rhizopogon variabilisporus	4	4	T
Rhizopogon vesiculosus	2	4	T
Rhizopogon villescens	4	4	T
Rhizopogon zelleri	4	4	T
Rhodoscypha ovilla	1	4	
Russula crenulata	2	4	T
Russula idahoensis	2	4	T
Russula nana	2	4	T
Russula olivacea	2	4	T
Russula subdepallens	2	4	T
Russula velenovskyi	2	4	T
Russufa vinosa		4	T
Sarcodon fuscoindicus		4	T
Sclerogaster xerophila	4	4	T
Simocybe rubi		4	
Sowerbyella imperialis		4	T
Sowerbyella rhenana	1	4	
Spathularia flavida var. ramosa		4	
Stropharia aeruginosa		4	
Suillus imitatus	2	4	T
Suillus pallidiceps	2	4	T
Suillus pseudobrevipes	2	4	T
Tapesia strobicufa		4	
Tomentella lateritia		4	T
Tricholomopsis cystidiosum		4	
Truncocolumella citrina var. separabilis	1	4	T
Tuber it-radians	2	4	T
Tuber rufum var. nitidum	5	4	T
Tylopilus pseudoscaber		4	T
Typhula idahoensis		4	
Weraroa coprophifa		4	
Weraroa nivalis		4	
Wolfiporia cocos		4	
Wynnella silvicola	2	4	

2. Functional Groups

Functional Groups organized by presumptive function, i.e., mycorrhizal saprophyte, parasite etc, and habitat or host. Within each functional group there are two lists of species found within the CRB. The common species listed are those that are not of special concern because they are abundant and widespread throughout at least the CRB, this list is not inclusive, some common species are not listed. The rare species listed are all

species of special concern and are included in Table 1. Rare species may be endemic and rare within the CRB or nonendemic but rare within the CRB.

Again very little host information came from the contracted reports and a significant amount of additional work went into this list, as such it is subject to some modification if additional time were available and it was available for peer review.

Suspect mycorrhizal formers, no host listed

COMMON SPECIES: *Aleurodiscus weirii, Amylocorticium subincamatum, Amylocorticium subsulphureum, Athelia arachnoidea, Bankera violascens, Botryohypochnus isabellinus, Ceraceomyces sulphurinus, Chaetodenna luna, Helvella albipes, Hydnellum concrescens, Hydnellum ferrugineum, Hydnellum ferrugipes, Hydnellum mirabile, Hydnel lum pseudocaeruleum, Hydnum calvatum, Hyphodenna puberum, Hyphodontia arguta, Hyphodontia aspera, Hypochnicium analogum, Hypochnicium geogenium, Metulodontia nivea, Peziza phyllogena, Phellodon tomentosus, Resinicium furfuraceum, Steccherinum fimbriatum, Steccherinum subcrinalis, Tomentellastrum montanensis, Tubulicrinis calothrix*

RARE SPECIES: *Hydnellum cyanopodium, Hydnellum regium, Hydnum indurescens*

Mycorrhizae formers, no host listed

COMMON SPECIES: *Amanita fulvolaeta, Amanita illinita var. argillacea, Amanita muscaria var. alba, Amanita pachycolea, Amanita tenacipes, Boletus pulcherrimus, Cantharellus xanthopus, Cortinarius armillatus, Cortinarius arquatus, Cortinarius arvinaceus, Cortinarius aurefulvus, Cortinarius badius, Cortinarius balteatus, Cortinarius callisteus, Cortinarius calochorus, Cortinarius calopus, Cortinnrius cedretorum, Cortinarius claricolor, Cortinarius communis, Cortinarius corrugis, Cortinarius evemius, Cortinarius flexipes, Cortinarius fulvoochrascens var. subcaninicolor, Cortinarius fuscoflexipes, Cortinarius hedyaromaticus, Cortinarius huronensis, Cortinarius macifluus, Cortinarius mucronatus, Cortinarius multifonnis, Cortinarius obtusus, Cortinarius ochrophyllus, Cortinarius oregonensis, Cortinarius phoeniceus var. occidentalis, Cortinarius praestigiosus, Cortinarius pseudobovinus, Cortinarius pseudosalor, Cortinarius pulchellus, Cortinarius purpurascens, Cortinarius renidens, Cortinan'us rigidus, Cortinarius rufoolivaceous, Cortinarius scaurus, Cortinarius subaustralis, Cortinarius subbalaustinus, Cortinarius subfoetidus, Cortinarius tenebricus, Cortinarius umidicola f. coeruleus, Cortinhrius uraceus, Cortinarius varius, Cortinarius volvatus, Entoloma alpicola, Gomphidius glutinosus var. salmoneus, Gomphidius oregonensis var. californicus, Gomphogaster leucosarx, Gymnomyces ferruginascens, Hebeloma kanousiae, Hebeloma pseudofastible var. distans, Hebeloma pumilum, Hebeloma pusil lum, Hydnotrya cubispora, Inocybe calamistrata, Inocybe flavella var. flavella, Inocybe floccosa, Inocybe griseolilacina, Inocybe gymnocarpa, Inocybe lacera var. rachodes, Inocybe lantodisca, Inocybe leucoblema, Inocybe longispora, Inocybe maculipes, Inocybe napipes, Inocybe ochroalba, Inocybe olympiana, Inocybe petiginosa, Inocybe splendens var. splendens, Inocybe subdestricta, Inocybe subrunnea, Inocybe whitei, Luccaria pumila, Lactarius argillaceifolius, Laçtarius auranticus, Luctarius hepaticus, Lactarius hysginus, Lactarius representaneus, Laurilla sulcata, Leucophleps levispora, Melanogaster trappei, Pisolithus arhizus, Polyzellus multiplex, Ramaria apiculata, Ramaria formosa, Ramaria gracilis, Ramaria ochraceovirens, Ramaria rasilispora, Ramaria rubripermanens, Ramaria sandracina, Russula americana, Russula amethystina, Russula badia, Russula crassotunicata, Russula decolorans, Russula fragilis, Russula grisea, Russula integra, Russula nigricans, Russula ochroleuca, Russula queletii, Sarcodon crassus, Sarcodon*

fumosus, Sarcodon laevigatus, Sarcodon martioflavus, Sphaerosporella hinnulea, Thelephora caryophyl la, Tomentella pallidofulva, Tomentella papillata, Tomentella pilosa

RARE SPECIES: *Amanita alba, Arcangeliefla crassa, Boletus barrowsii, Cantharellus fumosa, Cantharellus subcretacea, Chroogomphus pseudovinico for, Cortinarius albonigrellus, Cortinarius alnetorum, Cortinan'us delibutus, Cortinarius fuscoperonatus, Cortinarius glandicolor, Cortinarius hemitrichus f. improcerus, Cortinarius iodes, Cortinarius jubarinus, Cortinarius melinus, Cortinarius mutabilis, Cortinarius parpercu lus, Cortinarius pho lideus, Cortinarius rapaceus, Cortinarius sanguineus, Cortinarius saniosus, Cortinarius sodagnites, Cortinarius variecolor, Cortinarius venetus, Cortinarius vulpicolor, Entoloma lividoalbum, Geopora sepulta, Hebeloma salmonense, Hebeloma vinaceogriseum, Inocybe boltoni, Inocybe hystrix, Luctarius resimus, Lactarius rufus var. parvus, Leccinum clavatum, Leccinum subfulvum, Melanogaster ambiguus, Phaeocollybia deceptiva, Porphyrellus amylosporus, Ramaria cystidiphora var. fabiolens, Rhizopogon alkulivirens, Russufa crenulata, Russula idahoensis, Russula nana, Russula olivacea, Russula subdepallens, Russula velenovskyi, Russula vinosa, Sarcodon fuscoindicus, Suillus imitatus, Tomentella lateritia, Tuber irradians, Tylopilus pseudoscaber*

Mycorrhizae former, mixed conifer
COMMON SPECIES: *Alpova alexsmithii, Elaphomyces muricatus, Genea inter-media, Lactarius kauffmanii*

RARE SPECIES: *Alpova mollis, Choiromyces alveolatus, Destuntzia suborealis, Gautieria monitcola, Hebeloma kellogense, Hebeloma mesophaeum var. subobscurum, Hebefoma oregonense, Macowanites olidus, Macowanites vinicolor, Picoa carthusiana, Rhizopogon alkalivirens, Rhizopogon anomalus, Rhizopogon brunneicolor, Rhizopogon brunneifibrillosus, Rhizopogon chamaleontinus, Rhizopogon cinerascens, Rhizopogon colossus var. nigromaculatus, Rhizopogon clavitisporus, Rhizopogon cylindrisporus, Rhizopogon deceptivus, Rhizopogon fragmentatus, Rhizopogon hysterangioides, Rhizopogon kauffmanii, Rhizopogon lutescens, Rhizopogon masonae, Rhizopogon ochraceobrunnescens, Rhizopogon oswaldii, Rhizopogon rogersii*

Potential Mycorrhizae former, mixed conifer & hardwood
COMMON SPECIES: *Discina leucoxantha, Helvella acetabulum, Helvella albella, Helvella compressa, Helvella costifera, Helvella griseoalba, Helvella stevensii, Helvella sulcata, Lactarius resimus, Neoumula pouchetii*

RARE SPECIES: *Helvella corium, Helvelfa maculata, Lactarius nordmanensis, Lactarius payeitensis, Wynelfa silvicola*

Potential Mycorrhizae former, mixed conifer, old growth
COMMON SPECIES: none

RARE SPECIES: *Sowerbyella imperialis, Sowerbyella rhenana*

Mycorrhizae former, *Alnus*
COMMON SPECIES : none

RARE SPECIES: *Alpova diplophloeus, Hebeloma occidentale, Hebeloma parcivelum, Lactarius alnicola, Lactarius alpinus var. mitis, Lactarius cascadensis*

Mycorrhizae former, *Castanopsis chrysophylla*
COMMON SPECIES: none

RARE SPECIES: *Rhizopogon quericola, Tricholoma aurantium*

Mycorrhizae former, *Cerocarpus ledifolia*
COMMON SPECIES: none

RARE SPECIES: *Geopora clausa* ,

Mycorrhizae former, *Betula* or *Populus* spp.
COMMON SPECIES: *Lactarius circellatus var. borealis*

RARE SPECIES: none

Mycorrhizae former, *Populus*
COMMON SPECIES: *Amanita muscaria var. muscaria, Cortinarius collinitus, Entoloma lividum*

RARE SPECIES: *Leccinum incamatum, Tuber rufum var. nitidum*

Mycorrhizae former, *Quercus kelloggii* or *Pinus ponderosa*
COMMON SPECIES: *Cazia flexiascus*

RARE SPECIES: none

Mycorrhizae former, *Salix*
COMMON SPECIES: none

RARE SPECIES: *Amanita armillariformis*

Mycorrhizae former, *Sarcobatus* or *Chrysothamnus*
COMMON SPECIES: none

RARE SPECIES: *Amanita malheurensis*

Mycorrhizae former, *Abies* spp.
COMMON SPECIES: none

RARE SPECIES: *Macowanites nauseosus, Martellia fragans, Martellia subochracea, Rhizopogon olivaceoluteus*

Mycorrhizae former, *Abies concolor*
COMMON SPECIES: none

RARE SPECIES: *Rhizopogon bacillisporus*

~Mycorrhizae former, *Abies grandis* & *Pinus ponderosa*
COMMON SPECIES: none

RARE SPECIES: *Rhizopogon semireticularus*

Mycorrhizae former, *Abies grandis* & *Populus trichocarpa*
COMMON SPECIES: none

RARE SPECIES: *Radiigera fuscogleba*

Mycorrhizae former, *Abies lasicocarpa*
COMMON SPECIES: none

RARE SPECIES: *Pyrenogaster atrogleba, Rhizopogon albiroseus, Rhizopogon subsalmonius var. griseolilascens*

Mycorrhizae former, *Abies* & *Picea engelmannii*
COMMON SPECIES: none

RARE SPECIES: *Gastroboletus turbinatus var. flammeus, Macowanites lacteus, Macowanites lilacinus, Macowanites subrosaceus, Rhizopogon alpestris, Rhizopogon flavofibrillosus, Rhizopogon florencianus, Rhizopogon pseudoaffinis, Rhizopogon subsalmonius var. similis, Rhizopogon variabilisporus, Truncocolumella citrina var. separabilis*

Mycorrhizae former, *Abies* & *Pinus* spp.
COMMON SPECIES: none

RARE SPECIES: *Lactarius gossypinus, Rhizopogon laetiflavus, Rhizopogon rubescens var. pallidimaculatus, Rhizopogon villescens*

Mycorrhizae former, *Abies lasiocarpa* with mixed conifer
COMMON SPECIES: *Cortinarius biglowii*

RARE SPECIES: *Martellia monticola, Macowanites fuscoviolaceus, Hydnotrya michaelis, Leucophleps magnata, Boletus calopus var. frustosus, Martellia subalpina, Rhizopogon abietis, Rhizopogon luteorubescens, Rhizopogon subsalmonius var. roseitinctus*

Mycorrhizae former, *Abies magnifica* with mixed conifer
COMMON SPECIES: *Alpova trappei*

RARE SPECIES: none

Mycorrhizae former, *Larix*
COMMON SPECIES: *Suillus borealis*

RARE SPECIES: none

Mycorrhizae former, *Picea engelmannii*
COMMON SPECIES: none

RARE SPECIES: *Hebeloma idahoense, Hebeloma strophosum var. occidentale, Rhizopogon griseogleba, Macowanites acris, Macowanites pseudometicus, Macowanites subolivaceous*

Mycorrhizae former, *Picea engelmannii* or *Pinus contorta*
COMMON SPECIES: none

RARE SPECIES: *Macowanites fulvescens, Rhizopogon udus*

Mycorrhizae former, *Pinus albicaulis* and other high elevation Pinaceae
COMMON SPECIES: none

RARE SPECIES: *Hebeloma alpinicola, Rhizopogon molligleba, Rhizopogon albidus, Rhizopogon ochroleucus, Rhizopogon luteoalboides, Gastroboletus subalpinus*

Mycorrhizae former, *Pinus contorta*
COMMON SPECIES: none

RARE SPECIES: *Macowanites citrinus, Macowanites pinicola, Martellia foetens, Rhizopogon arenicola, Rhizopogon argillascens, Rhizopogon fallax, Rhizopogon milleri, Rhizopogon subbadius, Rhizopogon vesiculosus, Suillus pallidiceps*

Mycorrhizae, former, *Pinus contorta* & *Pinus ponderosa*
COMMON SPECIES: none

RARE SPECIES: *Rhizopogon subcroceus, Rhizopogon vulgaris, Suillus pseudobrevipes*

Mycorrhizae former, *Pinus contorta* with mixed conifer
COMMON SPECIES: *Elaphomyces subviscidus, Martellia vesiculosa*

RARE SPECIES: *Rhizopogon subgelatinosus*

Mycorrhizae former, *Pinus monophylla*
COMMON SPECIES: none

RARE SPECIES: *Balsamia platyspora, Genabea cerebriformis, Sclerogaster xerophila*

Mycorrhizae former, *Pinus ponderosa*
COMMON SPECIES: *Balsamia magnata, Hysterangium fallax, Rhizopogon subradicatus*

RARE SPECIES: *Balsamia vulgaris, Elaphomyces anthrocinus, Martellia fulvispora, Rhizopogon odoratus, Rhizopogon sordidus, Rhizopogon sublateritius*

Mycorrhizae former, *Pinus* spp. or *Tsuga* sp.
COMMON SPECIES: none

RARE SPECIES: *Leccinum idahoense, Hebeloma pungens, Hebeloma stanleyense*

Mycorrhizae former, *Psuedotsuga*
COMMON SPECIES: *Hydnellum caeruleum*

RARE SPECIES: *Chamonixia brevicolumna, Hysterangium crassirhachis, Martellia brunnescens, Martellia ellipsospora, Protogautieria lutea, Rhizopogon butyraceus, Rhizopogon colossus var. colossus, Rhizopogon parksii, Rhizopogon proximus, . Rhizopogon rudus, Rhizopogon subareolatus, Rhizopogon subcinnamomeus, Rhizopogon subolivascens, Rhizopogon umbrinoviolascens, Rhizopogon zelleri, Russula adusta, Tarzetta carinus, Tuber rufum*

Mycorrhizae former, *Pseudotsuga* & *Abies* spp.
COMMON SPECIES: none

RARE SPECIES: *Rhizopogon parvulus*

Mycorrhizae former, *Pseudotsuga* & *Pinus contorta*
COMMON SPECIES: *Cortinarius incognitus, Laccaria bicolor*

RARE SPECIES: *Rhizopogon avellaneitectus*

Mycorrhizae former, *Pseudotsuga* and *Pinus* spp.
COMMON SPECIES: *Albatrellus flettii, Amanita porphyria, Hydnellum peckii, Tricholoma imbricatum*

RARE SPECIES: *Albatrellus dispansus, Rhizopogon fragans, Rhizopogon ochraceisporus, Rhizopogon pseudoalbus, Rhizoppgon subclavitisporus*

Mycorrhizae former, *Pseudotsuga* or *Populus* spp.
COMMON SPECIES: none

RARE SPECIES: *Amanita aurantiasquamosa, Leccinum truebloodii*

Mycorrhizae former, *Tsuga*
COMMON SPECIES: *Leucogaster microsprorus*

RARE SPECIES: *Amanita silvicola, Hebeloma latisporum, Lactarius pallescens, Rhizopogon inquinatus, Rhizopogon subcaerulescens var. viridescens*

Mycorrhizae former, *Tsuga meretensiana*
COMMON SPECIES: *Boletus rubripes*

RARE SPECIES: *Gastroboletus vividus*

Mycorrhizae former, *Tsuga mertensiana & Abies amabilis* or *Pinus ponderosa*
COMMON SPECIES: none

RARE SPECIES: *Melanogaster tuberiformis*

Mycorrhizae former, *Tsuga mertensiana & Abies* spp.
COMMON SPECIES: *Hydnotrya inordinata*

RARE SPECIES: *Rhizopogon obscurus, Rhizopogon semitectus, Rhizopogon evadens var. subalpinus*

Mycorrhizae former, *Tsuga mertensiana* or *Pinus contorta*
COMMON SPECIES: none

RARE SPECIES: *Cantharellus floccosus var. rainierensis, Rhizopogon subpurpurascens*

Parasite on grain
COMMON SPECIES: none

RARE SPECIES: *Typhula idahoensis*

Parasite on grass
COMMON SPECIES: none

RARE SPECIES: *Ophiobolus prunellae*

Parasite on insects
COMMON SPECIES: *Cordyceps militaris*

RARE SPECIES: none

Parasite on Pinus
COMMON SPECIES: none

RARE SPECIES: *Cenangium piniphilum*

Parasite on *Pinus monticola*
COMMON SPECIES: *Anomoporia bombycina*

RARE SPECIES: none

Brown rot on dead conifers
COMMON SPECIES: *Antrodia albobrunnea, Antrodia carbonica, Antrodia crassa, Antrodia variiformis, Oligoporus hibemicus*

RARE SPECIES: *Antrodia alpina, Gloeophyllum odoratum, Wolfiporia cocos*

Brown rot on dead and live conifers
COMMON SPECIES: *Oligoporus sericeomollis*

RARE SPECIES: none

Brown rot on dead conifers or hardwoods
COMMON SPECIES: *Oligoporus stipticus, Pycnoporellus fulgens*

RARE SPECIES: none

Brown rot on dead and live hardwoods
COMMON SPECIES: *Fomitopsis spraguei*

RARE SPECIES: none

Brown rot on dead conifers and hardwods and live *Picea*
COMMON SPECIES: *Oligoporus guttulatus*

RARE SPECIES: none

Brown rot on dead conifers, rarely *Populus*
COMMON SPECIES: *Oligoporus fragilis*

RARE SPECIES: none

Brown rot on live *Quercus* & *Populus*
COMMON SPECIES: none

RARE SPECIES: *Dadalea quercina*

Heart rot on live *Abies* & *Pseudotsuga*
COMMON SPECIES: *Phellinus weirii*

RARE SPECIES: none

White rot on dead hardwoods
COMMON SPECIES: *Polyporus tuberaster, Skeletocutis nivea, Trametes ochracea*

RARE SPECIES: *Daedaleopsis steroides*

White rot on dead conifers
COMMON SPECIES: none

RARE SPECIES: *Diplomitoporus crustilinus, Phellinus repandus*

White rot on dead conifers & hardwoods
COMMON SPECIES:, *Phellinus viticola, Physisporinus sanguinolentus, Phellinus ferreus, Perenniporia tenuis var. tenuis, Polyporus varius, Skeletocutis subincamata*

RARE SPECIES: none

White rot on dead *Picea*
COMMON SPECIES: *Antrodiella overholtzii*, *Skeletocutis stellae*

RARE SPECIES: none

White rot on dead *Populus*
COMMON SPECIES: *Oxyporus similis*

RARE SPECIES: none

White rot on live *Thuja, Abies, Larix*
COMMON SPECIES: *Oxyporus cunearus*

RARE SPECIES: none

White rot on live and dead hardwoods
COMMON SPECIES: none

RARE SPECIES: *Daedaleopsis confragosa*

White rot on dead hardwoods and live *Quercus* after fire
COMMON SPECIES: *Oxyporus latemargenatus*

RARE SPECIES: none

Saprophyte on dung
COMMON SPECIES: none

RARE SPECIES: *Weraroa coprophila, . Weraroa nivalis*

Saprophyte on dung, cow
COMMON SPECIES: none

RARE SPECIES: *Psathyrella aregentata, Psathyrella pseudolimicola*

Saprophyte on dung, horse
COMMON SPECIES: none

RARE SPECIES: *Psathyrella equina*

Saprophyte on dung, herbivore
COMMON SPECIES: none

RARE SPECIES: Byssonectria cartilaginea

Saprophyte on dead wood (unknown)
COMMON SPECIES: *Ascobolus geophilus, Dacrymyces chrysocomus, Dacrymyces minor, Dacrymyces punctiformis, Dacrymyces stillatus, Dasyscyphus niveus, Exidia alba, Exidia saccharina, Tricholomopsis bella*

RARE SPECIES: *Mucronella calva var. aggregata, Pholiota obscura, Pholiota tetonensis, Psathyrella acuticystis, Psathyrella communis, Psathyrella rufogrisea var. bonnerensis, Psathyrella wapinitaensis, Tricholomopsis cystidiosum*

Saprophyte on dead hardwoods
COMMON SPECIES: *Helvella macropus var. macropus, Hericium coralloides, Hymenochaete tenuis*

RARE SPECIES: *Clavicorona avellanea*

Saprophyte on conifer debris
COMMON SPECIES: *Clavariadelphus borealis, Clavariadelphus mucronatus, Sarcosoma latahense*

RARE SPECIES: *Clavariadelphus sachalinensis, Crepidotus ponderosus, Galerina anelligera, Galerina castanescens, Galerina pseudostylifera, Galerina pubescentipes, Galerina stylifera var. badia, Galerina stylifera var. velosa, Galerina triscopa f. longocystis, Hygrophorus albicameus, Hygrophorus albiflavus, Pholiota atripes, Pholiota aurantioflava, Pholiota baptistii, Pholiota brunnea, Pholiota flavida var. graveolens, Pholiota flavopallida, Pholiota fulvodisca, Pholiota humii, Pholiota lubrica var. luteifolia, Pholiota luteola, Pholiota macrocysris, Pholiota nigripes, Pholiota occidentaiis var. luteifolia, Pholiota pallida, Pholiota rivulosa, Pholiota rufodisca, Pholiota subechinata, Pholiota sublubrica, Pholiota vinaceobrunnea, Psathyrella fragans, Psathyrella oregonensis, Psathyrella payettensis, Trappea phillipsii*

Saprophyte on dead grass
COMMON SPECIES: none

RARE SPECIES: *Psathyrella owyheensis*

Saprophyte associated with grass
COMMON SPECIES: norie

RARE SPECIES: *Calvatia tatrensis*

Saprophyte on hardwoods near streams
COMMON SPECIES: *Pachyella babingtonii, Pachyella clypeata, Psilopezia nummlaria*

RARE SPECIES: none

Saprophyte, associated with *Artemesia*
COMMON SPECIES: *Bovista minor, Calvatia candida*

RARE SPECIES: *Abstoma plumbea, Bovista dakotensis, Bovista leucoderma, Calvatia bovista, Calvatia excipuliformis, Calvatiafragilis, Calvatia owyheensis, Calvatia pallida, Calvatia utriformis, Podaxis pistillaris, Psathyrella deserticola*

Saprophyte, on *Artemesia*
COMMON SPECIES: none

RARE SPECIES: *Cyathus olla f. lanatus*

Saprophyte on *Betula*
COMMON SPECIES: *Piptoporus betulinus*

RARE SPECIES: *Crepidotus montanensis*

Saprophyte under *Juniperus*
COMMON SPECIES: *Tulostoma brumale*

RARE SPECIES: *Battarraea stevensii*

Saprophyte on dead *Populus*
COMMON SPECIES: none

RARE SPECIES: *Psathyrella lepidotoides, Psathyrella nauorioides, Psathyrella praetenuis, Psathyrella variata*

Saprophyte on dead *Prunus*
COMMON SPECIES: *Phellinus prunicola*

RARE SPECIES: none

Saprophyte on dead *Quercus*
COMMON SPECIES: none

RARE SPECIES: *Galerina nigripes, Psathyrella quercicola*

Saprophyte on live *Pinus contorta*
COMMON SPECIES: none

RARE SPECIES: *Crepidotus payettensis, Pholiota malicola var. macropoda*

Saprophyte. on unknown debris
COMMON SPECIES: *Clavulinopsis pulchra*

RARE SPECIES: *Psathyrella fulva, Psathyrella pallida*

Saprophyte on twigs of *Ribes*
COMMON SPECIES: *Crepidotus villosus*

RARE SPECIES: none

Saprophyte on twigs of *Salix* or *Populus*
COMMON SPECIES: *Perrotia flammea*

RARE SPECIES: none

Saprophyte asoociated with sphagnum moss
COMMON SPECIES: *Mycena amabilissima*

RARE SPECIES: *Galerina borealis, Galerina diabolissima, Galerina mainsii, Galerina payettensis, Psathyrella roothaanensis*

Saprophyte on moss under *Salix*
COMMON SPECIES: Conocybe aberrans

RARE SPECIES: none

Saprophyte on sand dunes
COMMON SPECIES: none

RARE SPECIES: *Peziza ammophila*

Saprophyte on *Picea* or *Abies*
COMMON SPECIES: none

RARE SPECIES: *Pholiora hiemalis, Psathyrella abieticola, Psathyrella ellenae, Psathyrella mesocystis*

Saprophyte on *Pinus ponderosa*
COMMON SPECIES: none

RARE SPECIES: *Hygrophorus ellenae, Leucopaxillus septentrionalis,*

Saprophyte under *Pseudotsuga* and mixed conifers and hardwoods
COMMON SPECIES: *Psathyrella fulvoumbrina*

RARE SPECIES: *Abstoma citrina, Calvatia lloydii, Calvatia lycoperdoides*

Saprophyte on live and dead *Tsuga heterophylla*
COMMON SPECIES: *Pholiota flavida*

RARE SPECIES: none

Saprophyte on conifer or hardwoods
COMMON SPECIES: none

RARE SPECIES: *Pseudorhizina sphaerospora*

Saprophyte on soil under conifers
COMMON SPECIES: *Morchella crassistipa, Otidea alutacea var. microspora, Otidea cantharella, Otidea cantharella var. minor, Otidea concinna, Otidea grandis, Otidea microscopica, Otidea rainierensis, Otidea smithii*

RARE SPECIES: *Hygrophorus velatus, Pholiota milleri, Plectania milleri*

Saprophyte on soil under *Abies*
COMMON SPECIES: none

RARE SPECIES: *Psathyrella subradicata*

Saprophyte on soil under *Alnus*
COMMON SPECIES: *Psathyrella alnicola*

RARE SPECIES: none

Saprophyte on *Alnus*
COMMON SPECIES: none

RARE SPECIES: *Galerina fuscobrunnea*

Saprophyte on soil under *Betula*
COMMON SPECIES: none

RARE SPECIES: *Psathyrella sublongipes*

Saprophyte on soil under *Picea*
COMMON SPECIES: none

RARE SPECIES: *Pholiota agglutinata, Pholiota avellaneifolia, Psathyrella uskensis*

Saprophyte on soil under *Populus*
COMMON SPECIES: none

RARE SPECIES: *Clavicorona divaricata, Crepidotus sububer, Psathyrella populorum, Psathyrella subnuda var. velosa*

Saprophyte on soil under *Salix*
COMMON SPECIES: *Conocybe pygmaeoaffinis, Naucoria salicis*

RARE SPECIES: none

'Saprophyte on soil under hardwoods near streams
COMMON SPECIES: *Helvella atra*

RARE SPECIES: *Morchella semilibera*

Saprophyte on soil after fire
COMMON SPECIES: *Geopyxis cupularis*

RARE SPECIES: *Pholiota fulvozonata, Pholiota subsaponacea, Psathyrella gruberi*

Saprophyte under *Thuja*
COMMON SPECIES: *Ceriporiopsis rivulosa*

RARE SPECIES: *Pholiota umbilicata*

Saprophyte under *Tsuga* and *Thuja*
COMMON SPECIES: *Hygrophorus pusillus*

RARE SPECIES: *Hygrophorus nordmanensis*

Saprophyte under *Tsuga mertensiana*

COMMON SPECIES: *Lyophyllum montanum*

RARE SPECIES: none

Saprophyte under *Tsuga*, old growth
COMMON SPECIES: none

RARE SPECIES: *Psathyrella annulata*

Saprophyte under *Larix*
COMMON SPECIES: none

RARE SPECIES: *Pholiota gruberi*

Saprophyte under *Larix* and *Pinus*
COMMON SPECIES: none

RARE SPECIES: *Spathularia flavida var. ramosa*

Saprophyte under *Pinus contorta* and *Abies*
COMMON SPECIES: none

RARE SPECIES: *Psathyrella stuntzii*

Saprophyte under *Pinus contorta* and other *Pinaceae*
COMMON SPECIES: *Endoptychum depressum*

RARE SPECIES: none

Saprophyte under *Populus tremuloides*
COMMON SPECIES: none

RARE SPECIES: *Lentinellus truebloodii*

Saprophyte under *Purshia*
COMMON SPECIES: none

RARE SPECIES: *Abstoma townei*

Saprophyte under *Salix* and *Betula*
COMMON SPECIES: none

RARE SPECIES: *Psathyrella salictaria*

Saprophyte under *Grayia spinosa*, *Chrysothamnus*, grass & *Artemesia*
COMMON SPECIES: *Montagnea arenaria*

RARE SPECIES: none

Saprophyte in pastures
COMMON SPECIES: *Melanoleuca melaleuca*

RARE SPECIES: none

Saprophyte on bones
COMMON SPECIES: none

RARE SPECIES: *Onygena equina*

Saprophyte on unknown wood
COMMON SPECIES: *Crepidotus lagenicystis, Lachnellula fuscosanguinea*

RARE SPECIES: none

Saprophyte on soil
COMMON SPECIES: *Agaricus bisporus, Agaricus diminutivus, Agaricus minores, Agaricus piloporus, Agaricus silvaticus, Agaricus subrutilescens, Agrocybe dura, Agrocybe erebia, Agrocybe putanaminum, Alboleptonia sericella, Clavulina amethystina, Mutinus caninus, Psathyrella multipedata, Ramsbottomia crec'hqueraultii*

RARE SPECIES: *Agaricus albolutescens, Mycenastrum corium, Psathyrella boulderensis, Psathyrella crassulistipes, Psathyrella fuscospora, Psathyrella grasmerensis, Psathyrella idahoensis, Psathyrella nezpercii, Psathyrella pseudotrepida, Psathyrella psilocyboides, Psathyrella rufogrisea var. riparia, Psathyrella subalpina, Psathyrella subcaespitosa, Psathyrella vesiculocystis, Psathyrella warrenensis*

Saprophyte on unknown substrate
COMMON SPECIES: *Anomoporia myceliosa, Baeospora myriadophylla, Byssocorticium terrestre, Callistosporium xanthophyllum, Calocybe cerina, Calocybe ionides, Calvatia bovista var. hungarica, Calvatia lepidophora, Calvatia rubro-flava, Calvatia subareolata, Calvatia subargillaceae, Chlamydopus myenianus, Clitocybe crassa, Clitocybe fasciculata, Clitocybe gibba var. gibba, Clitocybe gibba var. occidentalis, Clitocybe odora var. pacifica, Clitocybe rainierensis, Clitocybe sinopica, Clitocybula lacerata, Collybia badiialba, Collybia exculpta, Collybia maculata var. scorzonera, Collybia polyphyllia, Collybia tenacella, Coprinus flocculosus, Coprinus macrocephalus, Cotylidia diaphana, Crucibulum parvulum, Cudoniella clavus, Cyathus pygmaeus, Cystoderma amianthinum var. rugosoreticulatum, Cystoderma granulosum var. adnatifolium, Dasyscyphus tenuissimus, Exidiopsis glaira, Exidiopsis pallida, Flammulaster granulosa, Flammulaster limulata, Flammulaster rhombospora, Galerina dimorpocystis, Galerina fallax, Galerina laevis, Galerina mammillata, Galerina mutabilis, Galerina stordalii, Galerina tibiicystis, Galerina triscopa, Geastrum hygrometrirus, Geastrum quadrifidum, Geastrum recolligens, Geastrum vulgatum, Geastrum xerophilum, Geoglossum glabrum, Geoglossum nigritum, Geopetalum carbonarium, Gerronema chrysophylla var. salmonispora, Gloeodontia columbiensis, Gymnopilus liquiritiae, Gymnopilus penetrans, Gymnopilus picreus, Gymnopilus punctifolius, Gyromitra ambigua, Hydropus marginellus, Hygrophorus angustifolius, Hygrophorus fuscoalboides, Hygrophorus olivaceoalbus, Hygrophorus picea, Hygrophorus russula, Hygrophorus sordidus, Hygrophorus turundus var. sphagnophilus, Hymenoscyphus calyculus, Hypholoma udum, Kavinia alboviridis, Kuehneromyces mutabilis, Lentinellus cochleatus, Lepiota felina, Leptoglossum lobatum, Leptoglossum muscigenum, Leptonia asprella, Leptonia decolorans, Leptonia mougeotii, Lycoperdon acuminatum, Lycoperdon dakotensis, Lycoperdon dimorphocystis, Lycoperdon pulcherrimum, Lycoperdon spadiceum, Lyophyllum connatum, Lyophyllum loricatum, Lyophyllum rancidum, Lyophyllum semitale, Macrocystidia cucumis, Macrolepiota, Macroscyphus macropus, Marasmius pallidocephaleus, Marasmius plicatulus, Melanoleuca microspora, Melanoleuca subalpina, Mollisia ramealis, Mycena filopes, Mycenajlavoalba, Mycena griseoviridis, Mycena hiemalis, Mycena nodulosa, Mycena occidentalis, Mycena pseudolactea, Mycena pterigena, Mycena rosella, Naucoria striarula, Nidula candida, Nidula niveo-tomentosa, Nolanea hirtipes, Nolanea nitens,*

Omphalina rivulincola, Otidea propinquata, Panellus mitis, Peniophora flavoferruginea, Peniophora junipercola, Peniophora montana, Peniophora pithya, Phanerochaete laevis, Phanerochaete sordida, Phanerochaete velutina, Pholiota conica, Pholiota molesta, Pleurotus lignatalis, Pleurotus ostrearus, Pluteus exigeus, Pluteus granularis, Pluteus granulatus, Pluteus lutescens, Pluteus nanus, Pluteus pallidus, Pluteus semibulbosus, Pluteus tomentosus, Psilocybe comipes, Rhodocybe truncata, Sclerotinia tuberosa, Scytinostroma galactinum, Strobilurus trullisatus, Stropharia semiglobata var. stercoraria, Tricholoma focale, Tricholoma olida, Tricholoma pardinum, Tricholoma sulphureum, Tubaria pallidospora, Tubaria pellucida, Tulostoma simulans, Tulostoma striatum, Volvariella bombycina, Volvariella hipopithys, Volvariella pusilla, Xeromphalina comui

RARE SPECIES: *Abstoma reticulatum, Bovista aestivalis, Bovista californica, Calocybe onychina, Calvatia cretacea, Calvatia fumosa var. idahoensis, Ciboria alni, Clitocybe caperata, Clitocybe deceptiva, Clitocybe epigaea, Clitocybe gruberi, Clitocybe pallidipes, Clitocybe payettensis, Clitocybe profundidisca, Clitocybe pungens, Clitocybe varispora, Cliyocybe multicarpa, Coprinus martini, Crepidotus srratosus, Cyathus farcta, Cyathus fimbriatus, Cystodenna subpurpureum, Fayodia gracilipes, Galera martipes, Galerina fontinalis, Galerina fuscobrunnea, Galerina nordmaniana, Gymnopilus rufobrunneus, Gymnopilus terrestris, Henningsomyces candidus, Hygrophorus burgdorfensis, Hygrophorus caeruleus, Hygrophorus vinicolor, Hypoxylon serpens var. macrospora, Itajahya galericulata, Kuehneromyces carbonicola, Lepiota atrodisca, Leptonia sarcitula, Leptosphaeria hysterioides, Leucopaxillus albissimus var. monticola, Lyophyllum brunellae, Lyophyllum canescetipes,' Lyophyllum chamaeleon, Lyophyllum chondrocephalum, Lyophyllum fistulosum, Lyophyllum gracile, Lyophyllum investitum, Lyophyllum leptosarx, Montagnea candollei, Omphalina chrysophylla var. salmonispora, Peniophora decorticans, Phellorinia inquinans, Pholiota pulchella var. brevipes, Pholiota scamboides, Psilocybe pelliculosa, Psilocybe semilanceara, Psilocybe subborealis, Simocybe rubi, Strupharia aeruginosa, Tapesia strobicula*

Unknown function on soil
COMMON SPECIES: *Discina olympiana var. diluta, Ramsbottomia asperior, Smardaea planchonis*

RARE SPECIES: none

Unknown function unknown substrate
COMMON SPECIES: *Discina olympiana var. olympiana, Fimaria hepatica, Peziza apiculata, Trichophaea bouderi*

RARE SPECIES: none

Unknown function on soil under conifer or hardwoods
COMMON SPECIES: *Helvella cupuliformis, Peziza phaeotheca, Tarzetta bronca*

RARE SPECIES: *Rhodoscypha ovilla*

Unknown function on soil under conifers in meadows
COMMON SPECIES: none

RARE SPECIES: *Nannfeldtiella aggregata*

Unknown function on soil in disturbed areas
COMMON SPECIES: *Melastiza chateri*

RARE SPECIES: none

Unknown function on soil under *Populus*
COMMON SPECIES: *Helvella queletii*

RARE SPECIES: none

Unknown function on soil under *Ceanothus*
COMMON SPECIES: *Discina olympiana*

RARE SPECIES: none

Unknown function associated with *Polytrichum* or other bryophytes
COMMON SPECIES: *Neottiella aphanodictyon, Neottiella rutilans, Octospora leucoloma, Octospora rubens, Pulvinula laeterubra*

RARE SPECIES: none

3 Biodiversity Information

a. Centers of diversity and or high species richness

Additional review of extant collections needed to assess centers of diversity.

b. Centers of endemism

The following are geographic areas of special concern. The species listed after each location are the fungal species of special concern that occur there. Usually these areas are also areas of high richness for other species but additional analysis would be needed to confirm this. These areas should receive special emphasis in the report for mycological hot spots or mycological reserve status of some type. These areas generally also have a significant number of type specimens associated with them.

Because I am not familiar with these areas I have listed some possible habitat in these areas that should be considered. This information is derived from the data listed in the scientific literature, some quite dated, for each species and may not be accurate. In addition, many specimens were collected years if not decades ago and the habitat may have drastically changed in these areas due to management activities.

The first group of species after the locale are the mycorrhizal species and they are separated from the nonmycorrhizal species by a blank line. Some species are entered under more than one category because they are known from multiple collections which sometimes are from multiple habitats.

Idaho, Bonner Co., Nordman, especially in surrounding forests with conifer debris
Rhizopogon milleri

Galerina castanescens, Galerina nordmaniana, Hygrophorus nordmanensis, Pholiota aurantioflava, Pholiota pulchella var. brevipes

Idaho, Bonner Co., Priest Lake, especially in surrounding forests with *Tsuga* or *Pinus* contorta for mycorrhizal species; Saprophytes associated with *Populus*, cow dung or old growth *Tsuga*
Destuntzia subborealis, Hebeloma latisporum, Lactarius nordmanensis, Rhizopogon arenicola, Rhiziopogon chamaleotincrus. Rhiziopogon semitectus, Rhizopogon subcaerulescens var. viridescens

Crepidotus sububer, Pholiota flavida var. graveolens, Pholiota fulvozonata, Pholiota heimalis, Pholiota scamboides, Psathyrella annulata, Psathyrella aregentata, Psathyrella crassulistipes, Psathyrella fulva, Psathyrella lepidotoides, Psathyrella pseudolimicola, Psathyrella pseudotrepida, Psathyrella subnuda var. velosa, Psathyrella variata

Idaho, Bonner Co., Priest River, especially in surrounding forests contianing a component of *Psuedotsuga menziesii*, *Abies* sp., or *Pinus contorta;* Saprophytes found on conifer logs
Lactarius rufus var. parvus, Rhizopogon deceptivus, Rhizopogon ochraceobrunnescens, Rhizopogon parvulus, Rhizopogon subcinnamomeus, Rhizopogon subclavitisporus, Rhizopogon subgelatinosus

Pholiota hiemalis, Pholiota occidentalis var. luteifolia, Pholiota subsaponacea

Idaho, Bonner Co., Priest River Experimental Forest, especially in surrounding forests contiaing *Abies lasiocarpa, Pseudotsuga menziesii, Pinus ponderosa* or *Tsuga* sp.
Rhizopogon albiroseus, Rhizopogon cinerascens, Rhizopogon inquinatus, Rhizopogon olivaceoluteus, Rhizopogon rudus, Rhizopogon sublateritius, Rhizopogon subsalmonius var. griseolilascens, Rhizopogon villescens

Psathyrella communis, Psathyrella rufogrisea var. bonnerensis

Idaho, Custer Co., near Stanley, especially in forests containing *Pinus* sp. or *Picea engelmannii*
Hebeloma stanleyense, Macowanites acris, Macowanites citrinus, Macowanites subolivaceus, Rhizopogon subbadius, Rhizopogon subpurpurescens

Hygrophorus vinicolor

Idaho, Idaho Co., Burgdorf, especially in surrounding conifer forests with logs present
Hebeloma salmonense, Rhizopogon deceptivus

Galerina pseudostylifera, Hygrophorus burgdorfensis, Hygrophorus velatus, Psathyrella safictaria, Psathyrella vesiculocystis

Idaho, Idaho Co., Seven Devils Mountains, especially in conifer forests with logs present
Hebeloma mesophaeum var. subobscurum, Helvella maculata

Galerina diabolissima, Galerina pubescentipes, Psathyrella sublongipes, Wynnella silvicola

Idaho, Idaho Co., Seven Devils Mountains, Heavens Gate Ridge, especially in forests with *Pinus ablicaulis*
Hebeloma alpinicola, Hebeloma mesophaeum var. subobscurum, Hebeloma vinaceogriseum, Rhiziopogon butyraceus, Rhiziopogon deceptivus, Rhizopogon evadens var. subalpinus, Rhizopogon kauffmanii, Rhiziopogon molligleba, Rhiziopogon ochraceobrunnescens, Rhizopogon subsalmonius var. roseitinctus, Rhiziopogon variabilisporus

n o n e

Idaho, Owyhee Co., especially where *Populus* and *Pseudotsuga* occur for mycorrhizal species; Saprophytes associated with *Artemesia, Abies, Populus* or grasses
Amanita armillariformis, Amanita aurantiasquamosa, Leccinum truebloodii

Calvatia owyheensis, Cyathus olla f. lanatus, Psathyrella deserticola, Psathyrella owyheensis, Psathyrella populorum, Psathyrella subradicata

NOTE: sites in Owyhee Co., Idaho containing species of of special concern; Browns Creek, Drydens Gulch, near summit between Current Creek and Pleasant Valley, Peters Gulch, Reynolds Creek, South Fork Boulder Creek, Sunshine Valley, Upper Jump Creek/Sands Basin

Idaho, Valley Co., especially in forests containing *Pinus contorta*, *Picea engelmannii* or *Abies lasiocarpa*
Gymnomyces ferruginascens, Hebeloma idahoense, Leucophleps magnata, Rhizopogon abietis, Rhizopogon brunneicolor, Rhizopogon clavitisporus, Rhizopogon colossus **var.** *colossus, Rhizopogon flavofibrillosus, Rhizopogon griseogleba, Rhizopogon luteorubescens, Rhizopogon lutescens, Rhizopogon obscurus, Rhizopogon ochraceisporus, Rhizopogon ochroleucus, Rhizopogon rubescens var. pallidimaculatus, Rhizopogon subcroceus, Rhizopogon udus, Rhizopogon zelleri*

Pholiota brunnea, Psathyrella wapinitaensis

Idaho, Valley Co., near McCall, especially in surrounding forests with *Pseudotsuga menziesii, Abies lasiocarpa, Pinus albicaulis* or *Picea engelmannii* present for the mycorrhizae formers; *Abies* and *Picea* are habitat for the saprophytes

Gastroboletus turbinatus var. flammeus, Hebeloma pseudofastible var. distans, Hebeloma strophosum var. occidentale, Macowanites fulvescens, Macowanites fuscoviolaceus, Macowanites lilacinus, Macowanites nauseosus, Macowanites pseudometicus, Macowanites subrosaceus, Macowanites vinicolor, Martellia fragans, Martellia fulvispora, Martellia subochracea, Martellia subalpina, Rhizopogon albidus, Rhizopogon alpestris, Rhizopogon fragans, Rhizopogon hysterangioides, Rhizopogon laetiflavus, Rhiziopogon luteoalboides, Rhizopogon pseudoaffinis, Rhizopogon pseudoalbus, Rhizopogon subolivascens, Truncocolumella citrina var. separabilis

Pholiota avellaneifolia, Pholiota fulvodisca, Pholiota luteola, Pholiota macrocystis, Pholiota obscura, Psathyrella abieticola, Psathyrella boulderensis, Psathyrella ellenae, Psathyrella equina, Psathyrella mesocystis, Psathyrelia rufogrisea var. riparia

Idaho, Valley Co., Payette Lake, especially in surrounding forests with *Salix* or *Picea engelmannii* and conifer debris
Helvella corium, Rhiziopogon argillaceus, Rhiziopogon subgelatinosus

Galerina anelligera. Galerina fontinalis, Galerina payettensis, Galerina triscopa f. longocystis, Pholiota pallida, Psathyrella fragans, Psathyrella fuscospora

Monatana, Flathead Co., Flathead National Forest, Echo Lake
none

Crepidotus montanensis, Pseudorhizina sphaerospora , Wynnella silvicola

Oregon, Hood River Co., Mt. Hood, Bear Springs, especially in surrounding forests containing Pinaceae and *Castanopsis chrysophylla*
Rhizopogon brunneifibrillosus, Rhizopogon quericola

Psathyrella subcaespitosa, Psathyrella gruberi

Oregon Hood River Co., Waupanitia Summit, especially in forests containing *Alnus*
Hebeloma parcivelum

Galerina fuscobrunnea

Oregon Klamath Co., Crater lake National Park, especially in forests containing *Pinus contorta, Tsuga mertensiana* or *Abies lasiocarpa*
Rhizopogon subpurpurescens

Hygrophorus albicameus

Oregon, Wasco Co., east flank Mt. Hood, especially in forests containing *Alnus*, or *Pinus* spp.
Hebeloma occidentale, Hebeloma oregonense, Hebeloma parcivelum, Hebeloma pungens, Rhizopogon masonae

Galerina fuscobrunnea, Hygrophorus albicameus, Hygrophorus albiflavus

Utah, Box Elder Co. especially in forests containing *Pinus monophylla*
Genabea cerebriformis

Sclerogaster xerophilum

Washington, Mt Adams, especially in forests containing *Pinus albicaulis*
Rhizopogon colossus var. nigromaculatus, Rhizopogon fragmentatus, Rhizopogon molligleba

Pholiota subechinata

Washington, Ferry Co., Roosevelt Lake, especially in forests containing *Pinus ponderosa*
Rhizopogon odoratus, Rhizopogon subradicatus

none

Washington, Pend Oreille Co., especially in forests containing *Pseudotsuga menziesii, Pinus ponderosa,* or *Abies grandis*
Plectania milleri, Protogautieria lutea, Rhizopogon alkalivirens, Rhizopogon avellaneitectus, Rhizopogon luteoalboides, Rhizopogon ochraceisporus, Rhizopogon proximus, Rhizopogon quercicola, Rhizopogon semireticulatus, Rhizopogon sordidus, Rhizopogon umbrinoviolascens, Rhizopogon vesiculosus, Rhizopogon villescens

Psathyrella uskensis

Washington, Pierce Co., Mt Rainier
Helvella crassitunicata

Crepidotus lagenicystis, Psathyrella subalpina

Wyoming, Teton Co., especially in forests containing *Picea engelmannii, Abies lasiocarpa, Pinus ponderosa, Pinus contorta* or *Tsuga mertensiana*
Lactarius gossypinus, Rhizopogon semireticulatus, Rhizopogon subpurpurescens

Byssonectria cartilagineum, Nannfeldtiella aggregata, Pholiota tetonensis

Table 2 Status of Rare Fungal Communities

No rare community summary is submitted because data of this type is lacking for all fungal communities. We are involved in a number of projects that will get this type of community structure data over the next few years, unfortunately only for a few isolated fungal cornrnunities'in western Oregon.

4. Further Information, Monitoring and Research Needs & IV. Discussion

These two sections are presented together because they are not easily separated. The folowing are presented as ideas in need of further discussion and elaboration but all have a bearing on the quality of this report and the resulting assessment.

The foundation of data on which this report is written is limited because only a few herbaria were contacted for information and of the informationcontributed much was lacking by way of specific ecological and locational information. The distinct lack of computerization of collections in herbaria was a significant impediment to this work. The mycological community is in a transition stage of accomplishing this work but it will be a few more years before herbarium holdings are readily accessible. As more and more data on extant collections become available these data will need to be incorporated to update this report.

The data gathered for this study were from collections that were the result of systematic research, not ecological research. Taxonomic studies such as.these have an emphasis on sporocarp morphology. As such much data on habitat structure is lacking and locations are often vague, i.e., from Priest River. None the less the data shows trends and offers direction for areas of special concern as emphasized in the endemism section. Additional education of members of mycological societies and clubs to include more comprehensive locational and habitat information will facilitate more accurate assessment of fungal organisms for a variety of purposes.

Numerous fungal species have significant nomenclatural difficulties and some contain species complexes. Specific taxonomic effort on these groups or individuals will reduce uncertainties concerning CRB populations and extralimital populations.

Certain fungal species, especially some *Boleus*, *Morchella* and *Cantharellus* species, are important to recreational and commercial gatherers. Some effort to elucidate the ecological parameters and specific biology and life history of these species is critical for long term management of this resource in the region.

Extensive fungal surveys are critically needed because the fungal flora of North America is poorly known or understood. It has been common in the past to rely on published descriptions , often poor ones, from the literature on fungi found in Europe and then to identify specimens in North America with keys and descriptions developed for Europe. It is now more readily apparent that overlap between species from Europe and North America is much more minimal then traditionally thought for mycorrhizal species and for saprophytic species. A modem reassessment of all fungal species from North America that carry “European” names is called for, particularly the those mycorrhizal species associated with specific hosts.

Many collections were made prior to major changes in vegetation due to forest timber harvesting over the last thirty years. Retrospective analysis is needed for vegetation associations at time of collection.

Identification of extant specimens are not always correct due to non-expert identification prior to placement in the herbarium. Non-expert identification is a product of lack of trained professional mycologists. The last decade has seen many classical (alpha-taxonomy) mycologist positions in universities across North America became positions with a strong if not sole focus on molecular biology. This has led to a severe backlog in accession and curation of fungal specimens. This is compounded by the lack of modem species concepts and critical assessment of species complexes.

The CRB is an extremely large geographic area with an extreme diversity of habitats from alpine to desert. The complexity of the landscape makes assessment for rare fungal species extremely difficult. Of special consideration are riparian areas because of the high diversity of ectomycorrhizal hosts found in these habitats. In addition the CRB has vast areas of habitat (soil types) that are restricted in distribution that have not been explored to any degree.

Lack of specific knowledge on the function or role that each fungal species plays in the ecosystem besides that of a general saprophyte or mycorrhizal symbiont. The specific physiological functions of different fungal species even within the same genus can be marked. Effects of management activities on all species are unknown.

Information on population viability of listed fungal species does not exist. We therefore cannot make inferences on the effects of management activities on population trends except in the general category of mycorrhizal fungi which depend upon a host plant for survival. Removal of the host will negatively impact the mycorrhizal fungus or the saprophyte that is host specific. Effects of landscape fragmentation of dispersal is also unknown.

Due to the ephemeral nature of the sporocarps and the strong dependence on abiotic factors for sporulation, such as precipitation, fungal species community analysis requires five to ten years of collecting to adequately and comprehensively assess any one area. We also have no data on shifting or movement through the soil matrix of fungal populations. A particular fungal colony may or may not migrate through hyphal growth over time, i.e. decades.

A number of species are phoenicoid, fruiting after fire, these species need specific study on the effects of fire intensity on sporocarp phenology.

Species that fruit on or in dung are transitory by nature. Spores are either deposited on vegetation which is then consumed by animals or deposited on dung after deposition. In either case the dung is necessary for completion of the fungal life cycle.

Many of these fungi, both mycorrhizal and saprophytic, are somewhat to extremely dependent on plant host species, effort is needed to protect the site as well as the plant association occupying the site.

Some form of protection of type localities of fungal species should be incorporated into the plan. Type localities are specific locations for specimens that were used to describe this species for science, as such they are important historically. Protection should more often than not be in the form of a mycological preserve of varying size depending on habitat and life history of the species.

Biological and ecological information on macrofungal species is generally lacking. A more useful but not fully satisfying alternative is to manage the habitats where fungi of special concern occur or are likely to occur, particularly habitats that are threatened

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