TITLE

A Survey to Identify and Document Mushrooms and other Fleshy Fungi in the Black Hills of South Dakota.

INTRODUCTION

The purpose of this study was to initiate a study to collect and identify mushrooms and other fleshy fungi from the Black Hills of South Dakota. Results from this one-year study will provide the first useable data on mushrooms and fleshy fungi for the South Dakota Natural heritage Database. Data for each species collected included date collected, primary and secondary vegetation in the habitat, site, substrate and land use. Conclusions and/or predictions can be made regarding best time to collect, seasonality of common fungi, the most common group collected, the most common substrate, sites with the most diversity, and uncommon or rare fungi collected.

PROCEDURE

During the summer of 1998 fungi were collected during June, July and August from each of the four permanent sites. Botany Bay (Lawrence County, T5N, R2E, Sec. 4) is a narrow moist canyon diverging from Spearfish Canyon. Vegetation is dominated by *Pinus ponderosa* and *Picea glauca*. The collecting area was approximately 2,500 square meters. Eleventh Hour Spring (Lawrence County, T5N, R1E, Sec. 12) site was approximately 35,700 square meters with *Populus tremuloides* dominating the landscape. The relatively dry east-facing slope of the Alabaugh Canyon (Fall River County, T8S, R5E, Sec 20, NW 1/4) site included approximately 77,000 square meters. It was the only site with *Juniperus scopulorum* dominating. *Pinus ponderosa* and small areas of prairie were interspersed with the juniper. The Rochford-USFS Rd. 127-1B (Pennington County, T2N, R3E, Sec 22, EC 1/4) site is a wet north-facing slope with dense stands of *Pinus ponderosa* and *Picea glauca*. It covers approximately 8,750 square meters. The Rochford Cemetery Area (Pennington County, T2N, R3E, Sec 22, SW 1/4 & T2N, R3E, Sec 27 NW 1/4) is approximately 20,000 square meters, flat, and dominated almost exclusively by *Pinus ponderosa*. These sites are a small portion of the black hills, but were picked to represent different habitats, which would be representative of a much larger area. Site, date collected, major taxonomic group, reference used for identification, primary vegetation and secondary vegetation at the site, substrate, visible land use, edibility and collection number were noted for each species collected. No attempt was made to quantitate numbers of fruitings for any species or numbers of collections/square meter. The study was designed to show presence only of a species. Collecting was not restricted to these sites and other specimens from various areas in the Black Hills were also collected and added to the database. Edibility is based entirely on the recommendation of the reference listed for that particular specimen. Voucher specimens were prepared for each different species and from each site collected and are housed at Black Hills State University. However, in some cases the specimen would not dry down or was in poor condition and no voucher specimen was prepared. Attempts at photographing specimens did not result in the quality of photographs needed to be useful. Fungal nomenclature frequently changes and since several references were used to identify the fungi, some identifications may not be the current name for a species.

RESULTS AND DISCUSSION

Two-hundred eighty six specimens are included in the database (Appendix A), but 135 different species of fungi were collected because the database includes collections of the same species on different dates and at different sites. This information is useful to establishing seasonality and distribution of species. In addition, nine different genera not identified to species were collected.

August was the best collecting month. Approximately three times more specimens were collected in August compared to those collected in June and approximately two times more specimens were collected in August compared to those collected in July. The pattern from this study agrees with information, which predicts that late summer to fall following a rain is the best time to collect (Evenson, 1997).

The database (Appendix A) shows presence only of a species. No attempt was made to quantitate numbers of fruitings for any species. However, especially common fungi were noted at the permanent sites. A very common species throughout the summer was *Collybia dryophila*. This is reported to occur under *Quercus* sp. It was collected under *Populus tremuloides, Pinus ponderosa* and *Picea glauca* in this study. During August all sites except Botany Bay had many fruitings of *Russula* spp. *Hygrophorus* spp. were collected frequently during June. At Alabaugh Canyon during the August collection, many fruitings of *Marasmius oreades* and *Suillus granulatus* were observed. There were many fruitings of the slime mold *Fuligo* at the Alabuagh Canyon site in July and August. The cosmopolitan species, *Fuligo septica* and the western species, *F. megaspora* were both present under *Juniperus scopulorum*. Other frequently collected species included: *Amanita vaginata* and *Pleurotus ostreatus*, both of which were collected during June, July and August; and Clitocybe *gibba, Fomitopsis pinicola, Gloeophyllum sepiarium, Inocybe fastigata, Lycoperdon perlatum, Collybia acervata, Lycogola epidendrum* and *Coprinus atramentarius*, all of which were collected in both July and August.

Members of the Agaricales (mushrooms and boletes) were most commonly collected (167 collections), Aphyllophorales (bracket fungi, coral fungi) less commonly collected (54 collections) and Gasteromycetes (puffballs, earth starts), lichens, Ascomycetes (cup fungi) and Myxomycetes (slime molds) still less commonly collected. Although an attempt was made to collect all visible fungi, the small ascomycetes and myxomycetes may have been observed less frequently than a larger specimen.

Soil was the most common substrate. One-hundred and forty-six of the 286 specimens were collected from soil. All the fungal species which are mycorrhizal is not known, but since many fungi in forests are ectomycorrhizal with trees (Alexopoulous, et al., 1996) it is reasonable to predict that many of the soil collections from this study were mycorrhizal. Ectomycorrhizae are widespread and are estimated to occur on 10% of the world's flora and to form relationships with members of the Pinaceae (Alexopoulous, et al., 1996). It has been suggested that without mycorrhizal associates most plants could not survive in the highly competitive environments in which they live and that the rise of land plants was attributed to these relationships (Alexopoulous, et al., 1996). The presence of mycorrhizal fungi indicate well-being of their plant associate. Some ectomycorrhizal genera are: *Suillus, Russula, Lactarius, Tricholoma, Laccaria*

and *Amanita*. All of these genera were collected in the Black Hills during the summer of 1998.

Of the five permanent sites, Rochford-USFS Rd. 127-1B produced the greatest diversity of species (42 different species) and Botany Bay was second (41 different species). At both of these sites *Pinus ponderosa and Picea glauca* were the dominant trees and both pine and spruce forests have been reported to be rich in mycorrhizal mushrooms (Arora, 1989). *Juniperus scopulorum*, reported to have few mycorrhizal associations was a dominant tree at the Alabaugh Canyon site (Arora, 1986) where 21 different species were collected. The Rochford Cemetery area is almost exclusively *Pinus ponderosa* and 27 different species were collected from this site. Eleventh Hour Spring is primarily a *Populus tremuloides* site and 30 different species were collected. Although aspen forests of northern and western North America are reported to be excellent areas for fungi (Arora, 1989), this site was not as productive as the sites with pine and spruce.

Since this is the first data for Black Hills fungi and species of fungi do not fruit every year, but very irregularly, it is difficult to determine what might be a rare species in the hills. However, based on information from the literature and several years of collecting fungi from the Midwest, five species are judged to be unusual. *Amanita crocea* collected at the Rochford-USFS Rd. 127-1B site is listed as rare and found in mixed coniferous and hardwood forests from New York to Colorado (Phillips, 1991). The lichen, *Icmadophila ericetorum* collected in Spearfish Canyon (T4N, R2E, Sec 21) has an arctic-boreal distribution, but is listed as occurring in the northern hills (Wetmore 1968). The exquisite, *Leptonia parva* collected in Spearfish Canyon near *Picea glauca* (T4N, R2E, Sec 21) occurs in coastal California and the Pacific northwest (Arora, 1986), and would be unusual for this area. *Pluteus aurantiorugosus*, collected from a dead stump in Botany Bay is described by Arora (1986) as a beautiful, but rare species. Another spectacular mushroom, *Rhodotus palmatus* is reported as uncommon in eastern Kansas (Horn, 1993) and found infrequently on dead maple (Arora, 1989). The present collection was growing on dead hardwood in Botany Bay.

Based on one year of data, western, eastern and boreal species of fungi were collected in the Black Hills. The fungal community of the Black Hills may be similar to the flora and fauna, which includes disjunct populations that have evolved in isolation (Froiland, 1990). Most forest fungi are ectomycorrhizal with trees (Ing, 1996). It would be reasonable to conclude that the fungal communities would reflect the plant communities and higher diversity of fungi would occur in areas with diverse flora.

It is difficult to predict how species present and numbers of species collected during the summer 1998, will compare to subsequent collections. Summer 1998 was an extremely wet summer for western South Dakota with frequent rain throughout July and August. Perhaps fewer species and numbers of species would be collected in a more dry, typical western South Dakota summer.

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Appendix A Fungi Collected in the Black Hills of South Dakota, summer 1998.

A	A	B	C	D	E	F	G
1	SITE	TWP/RANGE/SEC	COUNTY	DATE	TAXONOMY	GENUS	SPECIES
2	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Agaricus*	*diminutivus Peck*
3	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Agaricus*	*silvicola (Vitt.) Sacc.*
4	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Agaricales	*Agaricus*	*silvicola (Vitt.) Sacc.*
5	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Agaricales	*Amanita*	*sp.*
6	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	06-15-98	Agaricales	*Amanita*	*vaginata (Bull.:Fr.) Quel.*
7	Big Hill - Trail B	T5N, R1E, Sec 12	Lawrence	07-10-98	Agaricales	*Amanita*	*vaginata (Bull.:Fr.) Quel.*
8	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Agaricales	*Amanita*	*vaginata (Bull.:Fr.) Quel.*
9	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Amanita*	*vaginata (Bull.:Fr.) Quel.*
10	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Amanita*	*crocea (Quel.)*
11	Big Hill - Trail B	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Amanita*	*vaginata (Bull. ex Fr.) Vitt. senus lato*
12	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Amanita*	*vaginata (Bull. ex Fr.) Vitt. senus lato*
13	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-11-98	Ascomycetes	*Aplosporina*	*morbosa (Fr.) von Arx*
14	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Ascomycetes	*Aplosporina*	*morbosa (Fr.) von Arx*
15	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Ascomycetes	*Aplosporina*	*morbosa (Schw.) von Arx*
16	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Ascomycetes	*Aplosporina*	*morbosa (Schw.) von Arx*
17	Big Hill - Trail B	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Boletus*	*chrysenteron Fries*
18	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Boletus*	*chrysenteron Fries*
19	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Gasteromycetes	*Calvatia*	*craniformis (Bosc.) Morg.*
20	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	06-15-98	Gasteromycetes	*Calvatia*	*cyathiformis (Bosc) Morgan*
21	Ridge East of Falls Canyon	T8S, R4E, Sec 3 SE 1/4	Fall River	06-15-98	Agaricales	*Calvatia*	*cyathiformis (Bosc) Morgan*
22	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Gasteromycetes	*Calvatia*	*cyathiformis (Bosc) Morgan*
23	Wild Horse Sanctuary	T9S, R4E, Sec 29	Fall River	08-26-98	Gasteromycetes	*Calvatia*	*gigantea (Batsch:Pers.) Lloyd*
24	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Aphyllophorales	*Cerrena*	*unicolor (Bull. ex Fr.) Murr.*
25	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Aphyllophorales	*Cerrena*	*unicolor (Bull. ex Fr.) Murr.*
26	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Lichens	*Cladonia*	*sp.*
27	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Lichens	*Cladonia*	*sp.*
28	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Lichens	*Cladonia*	*sp.*
29	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Lichens	*Cladonia*	*sp.*
30	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	07-15-98	Aphyllophorales	*Clavariadelphus*	*truncatus (Quel) Donk*
31	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Aphyllophorales	*Clavariadelphus*	*truncatus (Quel) Donk*
32	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Clitocybe*	*dealbata (Sow. ex Fr.) Kummer*
33	Big Hill - Trail B	T5N, R1E, Sec 12	Lawrence	07-04-98	Agaricales	*Clitocybe*	*gibba (Fr.) Kummer*
34	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	07-10-98	Agaricales	*Clitocybe*	*gibba (Fr.) Kummer*
35	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Clitocybe*	*gibba (Fr.) Kummer*
36	Big Hill - Trail B	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Clitocybe*	*gibba (Fr.) Kummer*
37	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Clitocybe*	*gibba (Fr.) Kummer*

H	I	J	K	L	M	N
REFERENCE	PRIMARY VEGETATION	2ND VEGETATION	SUBSTRATE	USE	ED.	NO.
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	Yes	205
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	187
Groves, 1975	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	225
Huffman, 1989	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	109
Huffman, 1989	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	44
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	103
Tiffany,	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	108
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	145
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	119E
Phillips, 1991	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	088E
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	108E
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	*Prunus virginiana*	Not obs	No	14
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	*Prunus virginiana*	Not obs	No	95
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	*Prunus virginiana*	Not obs	No	105E
Phillips, 1991	*Picea glauca*	*Picea glauca*	*Prunus virginiana*	Not obs	No	127E
Evenson, 1997	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	Yes	115E
Evenson, 1997	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	Yes	210
Huffman, 1989	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	Yes	151
Smith, 1981	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	Yes	34
Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	Yes	41
Huffman, 1989	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	Yes	160
Huffman, 1989	*Pinus ponderosa*	*Juniperus scopulorum*	Soil	Horses	Yes	028E
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	034E
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	112E
Wetmore, 1967	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	033E
Wetmore, 1967	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	068E
Wetmore, 1967	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	066E
Wetmore, 1967	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	136E
Arora, 1986; Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	Yes	128
Arora, 1986; Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	Yes	118E
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	204
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	71
Huffman, 1989	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	No	102
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	135
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	083E
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	195

A	A	B	C	D	E	F	G
38	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Clitocybe*	*gibba (Fr.) Kummer*
39	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Agaricales	*Clitocybe*	*gibba (Fr.) Kummer*
40	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Agaricales	*Clitocybe*	*nuda (Fries) Bigelow & Smith*
41	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Clitocybe*	*nuda (Fries) Bigelow & Smith*
42	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Clitocybe*	*odora (Bull. ex Fr.) Kummer*
43	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	07-04-98	Agaricales	*Collybia*	*acervata*
44	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	07-04-98	Agaricales	*Collybia*	*acervata*
45	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Collybia*	*acervata (Fr.) Kummer*
46	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Collybia*	*acervata (Fr.) Kummer*
47	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	07-15-98	Agaricales	*Collybia*	*acervata (Fr.) Kummer*
48	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	07-10-98	Agaricales	*Collybia*	*dryophila (Bull. ex Fr.)*
49	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	07-10-98	Agaricales	*Collybia*	*dryophila (Bull. ex Fr.) Kummer*
50	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	07-15-98	Agaricales	*Collybia*	*dryophila (Bull. ex Fr.) Kummer*
51	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Agaricales	*Collybia*	*dryophila (Bull. ex Fr.) Kummer*
52	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Agaricales	*Collybia*	*dryophila (Bull. ex Fr.) Kummer*
53	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Agaricales	*Collybia*	*dryophila (Bull. ex Fr.) Kummer*
54	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Collybia*	*dryophila (Bull. ex Fr.) Kummer*
55	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Collybia*	*dryophila (Bull. ex Fr.) Kummer*
56	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Collybia*	*dryophila (Bull. ex Fr.) Kummer*
57	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Collybia*	*radicata (Fr.) Quel.*
58	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Aphyllophorales	*Coniophora*	*olivacea*
59	Piedmont - Elk Creek Road	T3N, R7E, Sec 7 SW 1/4	Meade	07-10-98	Agaricales	*Conocybe*	*lactea (Lange)*
60	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Conocybe*	*tenera (Schaeff. ex Fr.) Kuhner*
61	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	07-10-98	Agaricales	*Coprinus*	*atramentarius (Bull.ex Fr.) Fries*
62	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Coprinus*	*atramentarius (Bull.ex Fr.) Fries*
63	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Coprinus*	*atramentarius (Bull.ex Fr.) Fries*
64	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Coprinus*	*atramentarius (Bull.ex Fr.) Fries*
65	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Coprinus*	*disseminatus (Pers. ex Fr.) S.F. Gray*
66	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	06-16-98	Agaricales	*Coprinus*	*niveus (Pers. ex. Fr.) Fr.*
67	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	06-12-98	Agaricales	*Coprinus*	*quadrifidus PK.*
68	Botany Bay	T5N, R2E, Sec 4	Lawrence	06-11-98	Agaricales	*Coprinus*	*quadrifidus Pk*
69	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Coprinus*	*sp.*
70	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Coprinus*	*sp.*
71	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Coprinus*	*sp.*
72	Rochford Cemetary	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	07-15-98	Agaricales	*Cortinarius*	*sp.*

H	I	J	K	L	M	N
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	121E
Huffman, 1989	*Juniperus virginiana*	*Pinus ponderosa*	Soil	Not obs	No	226
Evenson, 1997	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	Yes	93
Evenson, 1997	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	Yes	120E
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	Yes	206
Phillips, 1991	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	69
Phillips, 1991	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	72
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	148E
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	212
Phillips, 1991; Smith, 1981	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	073E
Phillips, 1991	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	No	048E
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	101
Huffman, 1989	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	123
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	115
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	117
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	064E
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	140
Miller, 1977; Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	109E
Huffmann, 1989	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	123E
Groves, 1975	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	Yes	159
Fergus, 1960	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	90
Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	053E
Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	219
Miller, 1977	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	No	051E
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	138
Arora, 1986; Groves, 1975	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	No	087E
Arora, 1986; Miller, 1977	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	107E
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	104E
Boll, 1983	*Picea glauca*	*Pinus ponderosa*	Manure (Cow)	Cattle	No	54
Huffman, 1989	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	Yes	32
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	Yes	20
Groves, 1975	*Populus tremuloides*	*Pinus ponderosa*	Manure (Cow)	Cattle	No	137
Groves, 1975	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	101E
Groves, 1975	*Populus tremuloides*	*Populus tremuloides*	Wood	Cattle	No	149
Arora, 1986	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	071E

A	A	B	C	D	E	F	G
73	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Cortinarius*	*sp.*
74	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Cortinarius*	*sp.*
75	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	07-10-98	Agaricales	*Cortinarius*	*sp.*
76	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Agaricales	*Cortinarius*	*sphaerosporus Pk.*
77	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Crepidotus*	*applanatus (Pers. ex Pers.) Kummer*
78	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Crepidotus*	*applanatus (Pers. ex Pers.) Kummer*
79	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Crepidotus*	*fulvotomentosus Peck*
80	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Crepidotus*	*mollis (Fr.)*
81	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Gasteromycetes	*Crucibulum*	*laeve (Huds.: Rehlan) Kambly*
82	Old Baldy Trail	T5N, R1E, Sec 28 SW 1/4 T5N, R1E, Sec 33 NW 1/4	Lawrence	06-06-98	Ascomycetes	*Cryptomycina*	*pteridis (Rebentisch ex Fr) von Hohnel*
83	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Aphyllophorales	*Dacrymyces*	*deliquescens*
84	Botany Bay	T5N, R2E, Sec 4	Lawrence	06-11-98	Ascomycetes	*Dasyscypha*	*scabro-villosa*
85	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Aphyllophorales	*Exidia*	*alba*
86	Old Baldy Trail	T5N, R1E, Sec 28 SW 1/4 T5N, R1E, Sec 33 NW 1/4	Lawrence	06-06-98	Aphyllophorales	*Exidia*	*glandulosa (Bull. ex Fr.)*
87	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4	Pennington	08-10-98	Agaricales	*Flammula*	*spumosa (Fr.) Kummer*
88	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Flammula*	*spumosa (Fr.) Kummer*
89	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Flammulina*	*velutipes (Wm.Curtis: Fr.) Sing.*
90	Old Baldy Trail	T5N, R1E, Sec 28 SW 1/4 T5N, R1E, Sec 33 NW 1/4	Lawrence	06-06-98	Aphyllophorales	*Fomes*	*fomentarius (L. ex Fr.) Kickx.*
91	Botany Bay	T5N, R2E, Sec 4	Lawrence	06-11-98	Aphyllophorales	*Fomes*	*fomentarius (L. ex Fr.) Kickx.*
92	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	06-12-98	Aphyllophorales	*Fomes*	*fomentarius (L. ex Fr.) Kickx.*
93	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Aphyllophorales	*Fomes*	*fomentarius (L. ex Fr.) Kickx.*
94	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Aphyllophorales	*Fomitopsis*	*pinicola (Swartz ex Fr.) Karsten*
95	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	06-16-98	Aphyllophorales	*Fomitopsis*	*pinicola (Swartz) Karsten*
96	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	06-16-98	Aphyllophorales	*Fomitopsis*	*pinicola (Swartz) Karsten*
97	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	06-20-98	Aphyllophorales	*Fomitopsis*	*pinicola (Swartz) Karsten*
98	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	06-25-98	Aphyllophorales	*Fomitopsis*	*pinicola (Swartz) Karsten*
99	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Aphyllophorales	*Fomitopsis*	*pinicola (Swartz) Karsten*
100	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Aphyllophorales	*Fomitopsis*	*pinicola (Swartz) Karsten*
101	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Myxomycetes	*Fuligo*	*megaspora Sturgis*
102	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Myxomycetes	*Fuligo*	*megaspora Sturgis*
103	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Myxomycetes	*Fuligo*	*megaspora Sturgis*
104	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Myxomycetes	*Fuligo*	*septica (L.) Weber*
105	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Myxomycetes	*Fuligo*	*septica (L.) Weber*
106	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Myxomycetes	*Fuligo*	*septica (L.) Weber*
107	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Myxomycetes	*Fuligo*	*septica (L.) Weber*
108	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Aphyllophorales	*Ganoderma*	*applanatum (Pers.) Patouillard*
109	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Gasteromycetes	*Geastrum*	*campestre (Morgan) Kambly & Lee*
110	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	06-16-98	Gasteromycetes	*Geastrum*	*pectinatum*

H	I	J	K	L	M	N
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	216
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	217
Arora, 1986	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	No	105
Phillips, 1991	*Picea glauca*	*Picea glauca*	Soil	Not obs	No	147E
Phillips, 1991	*Populus tremuloides*	*Populus tremuloides*	Wood	Cattle	No	164
Miller, 1977; Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	110E
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Cattle	Yes	201
Arora, 1986; Groves, 1975	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	No	092E
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	211
Bache-Wilg, 1940	*Populus tremuloides*	*Betula papyrifera*	*Pteridium aquilinum*	Cattle	No	8
Arora, 1986	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	065E
Shaw, 1973	*Picea glauca*	*Pinus ponderosa*	*Rubus parviflorus*	Not obs	No	15
Arora, 1986	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	161
Huffman, 1989	*Populus tremuloides*	*Betula papyrifera*	Wood - deciduous	Cattle	No	6
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Wood	Not obs	No	208
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	200
Huffman, 1989	*Populus tremuloides*	*Populus tremuloides*	Wood	Cattle	Yes	150
Phillips, 1991	*Populus tremuloides*	*Betula papyrifera*	Wood - deciduous	Cattle	No	7
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	129
Phillips, 1991	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	No	046E
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	038E
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	178
Evenson, 1997	*Pinus ponderosa*	*Pinus ponderosa*	Wood - conifer	Not obs	No	55
Evenson, 1997	*Picea glauca*	*Pinus ponderosa*	Wood	Cattle	No	51
Phillips, 1991	*Picea glauca*	*Picea glauca*	Wood - conifer	Not obs	No	015E
Phillips, 1991	*Populus tremuloides*	*Pinus ponderosa*	Wood - conifer	Cattle	No	021E
Evenson, 1997	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Cattle	No	116
Evenson, 1997	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	069E
Martin, 1949	*Juniperus scopulorum*	*Pinus ponderosa*	Needles - juniper	Not obs	No	056E-B
Martin, 1949	*Juniperus scopulorum*	*Pinus ponderosa*	Needles - juniper	Not obs	No	110
Martin, 1949	*Juniperus scopulorum*	*Pinus ponderosa*	Needles - juniper	Not obs	No	143E
Farr, 1981; Martin, 1949	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	045E
Martin, 1949	*Juniperus scopulorum*	*Pinus ponderosa*	Needles - juniper	Not obs	No	056E-A
Farr, 1981; Martin, 1949	*Juniperus scopulorum*	*Pinus ponderosa*	Needles - juniper	Not obs	No	108
Farr, 1981; Martin, 1949	*Juniperus scopulorum*	*Pinus ponderosa*	Wood - conifer	Not obs	No	142E
Evenson, 1997	*Juniperus scopulorum*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	078E
Smith, 1981	*Juniperus scopulorum*	*Pinus ponderosa*	Needles - juniper	Not obs	No	107
Arora, 1986	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	63

A	A	B	C	D	E	F	G
111	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Gasteromycetes	*Geastrum*	*saccatum (Fr.)*
112	Spearfish Canyon (Bill's Canyon)	T3N, R2E, Sec 6	Lawrence	07-26-98	Gasteromycetes	*Geastrum*	*saccatum (Fr.)*
113	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	06-16-98	Aphyllophorales	*Gloeophyllum*	*sepiarium (Fr.) Karst.*
114	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	07-07-98	Aphyllophorales	*Gloeophyllum*	*sepiarium (Fr.) Karst.*
115	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	07-10-98	Aphyllophorales	*Gloeophyllum*	*sepiarium (Fr.) Karst.*
116	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Aphyllophorales	*Gloeophyllum*	*sepiarium (Fr.) Karst.*
117	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Aphyllophorales	*Gloeophyllum*	*sepiarium (Fr.) Karst.*
118	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Aphyllophorales	*Gloeophyllum*	*sepiarium (Fr.) Karst.*
119	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Aphyllophorales	*Gloeophyllum*	*sepiarium (Fr.) Karst.*
120	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	06-15-98	Agaricales	*Hygrophorus*	*chrysodon (Fr.) Fr.*
121	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	06-15-98	Agaricales	*Hygrophorus*	*chrysodon (Fr.) Fr.*
122	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	07-15-98	Agaricales	*Hygrophorus*	*chrysodon (Fr.) Fr.*
123	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Hygrophorus*	*chrysodon (Fr.) Fr.*
124	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	06-15-98	Agaricales	*Hygrophorus*	*coccineus (Fr.) Fr.*
125	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	06-15-98	Agaricales	*Hygrophorus*	*coccineus (Fr.) Fr.*
126	Ridge East of Falls Canyon	T8S, R4E, Sec 3 SE 1/4	Fall River	06-15-98	Agaricales	*Hygrophorus*	*coccineus (Fr.) Fr.*
127	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	06-16-98	Agaricales	*Hygrophorus*	*coccineus (Fr.) Fr.*
128	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	07-15-98	Agaricales	*Hygrophorus*	*coccineus (Fr.) Fr.*
129	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	07-07-98	Agaricales	*Hygrophorus*	*conicus (Fr.) Fr.*
130	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Hygrophorus*	*speciosus Pk.*
131	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Lichens	*Icmadophila*	*ericetorum (L.) Zahlbr.*
132	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	06-15-98	Agaricales	*Inocybe*	*fastigiata (Schaeff. ex Fr.) Quel*
133	Englewood	T4N, R3E, Sec 29	Lawrence	07-25-98	Agaricales	*Inocybe*	*fastigiata (Schaeff. ex Fr.) Quel*
134	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Inocybe*	*fastigiata (Schaeff. ex Fr.) Quel*
135	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Inocybe*	*fastigiata (Schaeff. ex Fr.) Quel*
136	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Inocybe*	*fastigiata (Schaeff. ex Fr.) Quel*
137	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Inocybe*	*fastigiata (Schaeff. ex Fr.) Quel*
138	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Agaricales	*Inocybe*	*geophylla (Fr.) Kummer*
139	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Inocybe*	*napipes*
140	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Inocybe*	*sp.*
141	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Aphyllophorales	*Inonotus*	*tomentosa (Fr.) Kar.*
142	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Agaricales	*Laccaria*	*bicolor*
143	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Laccaria*	*bicolor*
144	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Lactarius*	*controversus (Fr.) Fries*
145	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Lactarius*	*deceptivus Peck*

H	I	J	K	L	M	N
Smith, 1981	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	96
Huffmann, 1989	*Picea glauca*	*Picea glauca*	Soil	Not obs	No	080E
Tylutki, 1979	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Cattle	No	50
Huffmann, 1989	*Picea glauca*	*Picea glauca*	Wood - conifer	Not obs	No	031E
Huffmann, 1989	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	No	98
Huffmann, 1989	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Cattle	No	121
Huffmann, 1989	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	No	091E
Huffmann, 1989	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	196
Evenson, 1997	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Cattle	No	130E
Groves, 1975	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	Yes	39
Phillips, 1991	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	Yes	43
Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	Yes	127
Evenson, 1997	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	Yes	209
Phillips, 1991	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	36
Phillips, 1991	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	46
Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	40
Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	58
Arora, 1986	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	072E
Phillips, 1991	*Picea glauca*	*Picea glauca*	Wood - conifer	Not obs	No	032E
Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	Yes	122E
Duncan, 1970	*Picea glauca*	*Picea glauca*	Wood	Not obs	No	138E
Groves, 1975	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	38
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	078E
Huffmann, 1989	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	114E
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	215
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	194
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	202
Smith, 1979	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	062E
Arora, 1986	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	214
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	176
Laessoe, 1996; Arora 1986	*Picea glauca*	*Picea glauca*	Wood - conifer	Not obs	No	139E
Arora, 1986	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	94
Arora, 1986	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	224
Evenson, 1997; Laessoe, 1996	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	094E
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	172

A	A	B	C	D	E	F	G
146	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Lactarius*	*deceptivus Peck*
147	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	07-10-98	Agaricales	*Leccinum*	*insigne Smith, Thiers, & Watling*
148	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Lentinus*	*ponderosa*
149	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Leptota*	*acutaesquamosa (Weinm.) Kummer*
150	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Leptota*	*acutaesquamosa (Weinm.) Kummer*
151	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Agaricales	*Leptota*	*clypeolaria (Bull. ex Fr.) Kummer*
152	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Leptota*	*clypeolaria (Bull.ex Fr.) Kummer*
153	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Agaricales	*Leptota*	*clypeolaria (Bull.ex Fr.) Kummer*
154	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Leptota*	*clypeolaria (Bulliard) Kummer*
155	Big Hill - Trail B	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Leptota*	*sp.*
156	Botany Bay	T5N, R2E, Sec 4	Lawrence	06-11-98	Lichens	*Lepraria*	*membranacea*
157	Botany Bay	T5N, R2E, Sec 4	Lawrence	06-11-98	Lichens	*Lepraria*	*membranacea*
158	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Agaricales	*Leptonia*	*parva*
159	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Agaricales	*Leucopaxillus*	*amarus (Albertini & Schweinitz) Kuhner*
160	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Agaricales	*Leucopaxillus*	*giganteus (Fr.) Sing.*
161	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Myxomycetes	*Lycogala*	*epidendrum (L.) Fr.*
162	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Myxomycetes	*Lycogala*	*epidendrum (L.) Fr.*
163	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Myxomycetes	*Lycogala*	*epidendrum (L.) Fr.*
164	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Myxomycetes	*Lycogala*	*epidendrum (L.) Fr.*
165	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	06-16-98	Gasteromycetes	*Lycoperdon*	*foetidum*
166	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Gasteromycetes	*Lycoperdon*	*molle Pers.*
167	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Gasteromycetes	*Lycoperdon*	*perlatum Pers.*
168	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Gasteromycetes	*Lycoperdon*	*perlatum Pers.*
169	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	06-15-98	Gasteromycetes	*Lycoperdon*	*perlatum (Pers.)*
170	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Gasteromycetes	*Lycoperdon*	*perlatum (Pers.)*
171	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Gasteromycetes	*Lycoperdon*	*perlatum (Pers.)*
172	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Gasteromycetes	*Lycoperdon*	*perlatum (Pers.)*
173	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Gasteromycetes	*Lycoperdon*	*perlatum (Pers.)*
174	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Gasteromycetes	*Lycoperdon*	*pyriforme Pers.*
175	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	06-16-98	Agaricales	*Marasmius*	*androsaceus*
176	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Agaricales	*Marasmius*	*androsaceus*
177	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Agaricales	*Marasmius*	*oreades (Bolton:Fr.) Fr.*
178	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Agaricales	*Marasmius*	*oreades (Bolton:Fr.) Fr.*
179	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Marasmius*	*siccus (Schw.) Fr.*
180	Botany Bay	T5N, R2E, Sec 4	Lawrence	06-11-98	Agaricales	*Marasmius*	*sullivanti Montagne*
181	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	07-10-98	Agaricales	*Melanoleuca*	*cognata (Fr.) Konrad & Maublanc*
182	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	06-16-98	Agaricales	*Naucoria*	*semiorbicularis (Bull) Fr.*
183	Englewood	T4N, R3E, Sec 29	Lawrence	07-25-98	Ascomycetes	*Pachyella*	*clypeata (Schw.) Le Gal*

H	I	J	K	L	M	N
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	186
Evenson, 1997	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	100
Arora, 1986	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	Yes	213
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	157
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	197
Groves, 1975	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	145E
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	180
Groves, 1975	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	227
Evenson, 1997	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	085E
Groves, 1975	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	089E
	Picea glauca	*Pinus ponderosa*	Rock	Not obs	No	76
	Picea glauca	*Pinus ponderosa*	Rock	Not obs	No	22
Arora, 1986	*Picea glauca*	*Picea glauca*	Soil	Not obs	No	146E
Arora, 1986; Evenson, 1997	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	114
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	Yes	92
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	060E
Huffman, 1989	*Juniperus scopulorum*	*Pinus ponderosa*	Wood - conifer	Not obs	No	131E
Huffman, 1989	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	No	097E
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	168
Arora, 1986	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	62
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	Yes	125E
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	Yes	124E
Phillips, 1991	*Picea glauca*	*Picea glauca*	Wood - conifer	Not obs	Yes	129E
Huffman, 1989	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	Yes	42
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	Yes	136
Phillips, 1991	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	Yes	098E
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	Yes	199
Huffman, 1989	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	Yes	228
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	Yes	126E
Arora, 1986	*Pinus ponderosa*	*Pinus ponderosa*	Needles - pine	Not obs	No	56
Arora, 1986	*Picea glauca*	*Pinus ponderosa*	Needles - spruce	Cattle	No	120
Huffman, 1989	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	Yes	112
Huffman, 1989	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	Yes	135E
Huffman, 1989	*Pinus ponderosa*	*Pinus ponderosa*	Needles - pine	Not obs	No	183
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	19
Evenson, 1997	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	No	104
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Grass	Cattle	Yes	53
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	NW	077E-B

A	A	B	C	D	E	F	G
184	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Panaeolus*	*campanulatus group*
185	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Panaeolus*	*foeniseciI (Persoon) Kuhner*
186	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Panaeolus*	*foeniseciI (Persoon) Kuhner*
187	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-12-98	Agaricales	*Panaeolus*	*semiovatus (Sowerby) Lundell & Nannfeldt*
188	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Panaeolus*	*semiovatus (Sowerby) Lundell & Nannfeldt*
189	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-11-98	Lichens	*Parmelia*	*sulcata Tayl.*
190	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-16-98	Lichens	*Parmelia*	*sulcata Tayl.*
191	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Lichens	*Parmelia*	*ulophyllodes (Vain.) Sav.*
192	Wild Horse Sanctuary	T9S, R4E, Sec 29	Fall River	08-01-98	Ascomycetes	*Paroldiella*	*sp.*
193	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-16-98	Lichens	*Peltigera*	*aphthosa (L.) Willd.*
194	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-12-98	Lichens	*Peltigera*	*canina (L.) Willd.*
195	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Lichens	*Peltigera*	*canina (L.) Willd.*
196	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Aphyllophorales	*Peniophora*	*rufa (Fr.) Boudier*
197	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-11-98	Ascomycetes	*Peziza*	*repanda Pers.*
198	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-08-98	Aphyllophorales	*Phaeolus*	*schweinitzii (Fr.) Patouillard*
199	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Gasteromycetes	*Phallus*	*impudicus Persoon*
200	Old Baldy Trail	T5N, R1E, Sec 28 SW 1/4 T5N, R1E, Sec 33 NW 1/4	Lawrence	08-08-98	Aphyllophorales	*Phellinus*	*nigricans (Fr.) Karsten*
201	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Pholiota*	*vermiflua Peck*
202	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Agaricales	*Pholiota*	*vernalis (Peck) Smith & Hesler*
203	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Agaricales	*Phyllotopsis*	*nidulans (Pers.:Fr.) Sing.*
204	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Phyllotopsis*	*nidulans (Pers.:Fr.) Sing.*
205	Big Hill - Trail C	T5N, R2E, Sec 18 NE 1/16	Lawrence	04-25-98	Myxomycetes	*Physarum*	*diderma Rost. Monog.*
206	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-12-98	Agaricales	*Pleurotus*	*ostreatus (Jacq.:Fr.) Kummer*
207	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-15-98	Agaricales	*Pleurotus*	*ostreatus (Jacq.:Fr.) Kummer*
208	Big Hill - Trail B	T5N, R1E, Sec 12	Lawrence	07-04-98	Agaricales	*Pleurotus*	*ostreatus (Jacq.:Fr.) Kummer*
209	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Pleurotus*	*ostreatus (Jacq.:Fr.) Kummer*
210	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Agaricales	*Pluteus*	*atromarginatus (Konrad) Kuhner*
211	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Pluteus*	*aurantiorugosus*
212	Old Baldy Trail	T5N, R1E, Sec 33 NW 1/4	Lawrence	08-08-98	Agaricales	*Pluteus*	*cervinus (Schff.:Fr.) Kummer*
213	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	07-04-98	Agaricales	*Pluteus*	*cervinus (Schff.:Fr.) Kummer*
214	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Pluteus*	*cervinus (Schff.:Fr.) Kummer*
215	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-11-98	Aphyllophorales	*Polyporus*	*arcularius Batsch:Fr*
216	Big Hill - Trail B	T5N, R1E, Sec 12	Lawrence	07-04-98	Aphyllophorales	*Polyporus*	*arcularius Batsch:Fr*
217	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Aphyllophorales	*Polyporus*	*elegans (Bull.ex Fr.) Fr.*
218	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Aphyllophorales	*Polyporus*	*varius (Pers. ex Fr.)*
219	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Psathyrella*	*candolleana group (Fr.) Maire*
220	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-12-98	Aphyllophorales	*Pycnoporus*	*cinnabarinus (Jacq.:Fr.) Karst.*
221	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Aphyllophorales	*Ramaria*	*acris (Peck) Corner*
222	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-08-98	Aphyllophorales	*Ramaria*	*acris (Peck) Corner*
223	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Aphyllophorales	*Ramaria*	*apiculata (Fr.) Donk*
224	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Aphyllophorales	*Ramaria*	*ochraceo-virens (Jungh.) Donk*

H	I	J	K	L	M	N
Arora, 1986	*Populus tremuloides*	*Populus tremuloides*	Manure (Cow)	Cattle	No	102E
Evenson, 1997	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	152
Evenson, 1997	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	No	155
Evenson, 1997	*Populus tremuloides*	*Populus tremuloides*	Manure (Cow)	Cattle	No	013E
Evenson, 1997	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	154
Hale, 1979; Wetmore, 1967	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	77
Hale, 1979; Wetmore, 1967	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Cattle	No	78
Hale, 1979; Wetmore, 1967	*Juniperus scopulorum*	*Pinus ponderosa*	Wood - conifer	Not obs	No	054E
	Pinus ponderosa	*Juniperus scopulorum*	*Psoralea tenuiflora*	Not obs	No	082E
Hale, 1979; Wetmore, 1967	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Cattle	No	79
Hale, 1979	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	No	81
Hale, 1979	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	132
Evenson, 1997	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	No	095E
Huffman,	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	24
Evenson, 1997	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	113E
Evenson, 1997; Huffman, 1989	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	058E
Phillips, 1991	*Populus tremuloides*	*Betula papyrifera*	Wood - deciduous	Cattle	No	10
Groves, 1975	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	103E
Evenson, 1997	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	88
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	037E
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Wood - deciduous	Cattle	No	139
Farr, 1961; Martin, 1949	*Populus tremuloides*	*Pinus ponderosa*	Vegetation	Not obs	No	2
Huffman, 1989	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	Yes	33
Huffman, 1989	*Juniperus scopulorum*	*Pinus ponderosa*	Wood - conifer	Not obs	Yes	45
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Wood - deciduous	Cattle	Yes	64
Huffman, 1989	*Populus tremuloides*	*Populus tremuloides*	Wood	Cattle	Yes	166
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Cattle	Yes	119
Laessoe, 1996; Arora, 1986	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	171
Huffman, 1989	*Populus tremuloides*	*Betula papyrifera*	Wood - conifer	Cattle	Yes	11
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Wood	Cattle	Yes	67
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	Yes	203
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	17
Huffman, 1989	*Populus tremuloides*	*Pinus ponderosa*	Wood - conifer	Cattle	No	85
Miller, 1977	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	039E
Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	169
Evenson, 1997	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	No	153
Huffmann, 1989	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	No	31
Smith, 1981	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	86
Smith, 1981	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	175
Smith, 1981	*Pinus ponderosa*	*Pinus ponderosa*	Wood	Not obs	No	222
Smith, 1981	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	220

'A	A	B	C	D	E	F	G
225	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Aphyllophorales	*Ramaria*	*sp. (apiculata or stricta)*
226	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Aphyllophorales	*Ramaria*	*suecia (Fr.) Donk*
227	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Aphyllophorales	*Ramaria*	*suecia (Fr.) Donk*
228	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Agaricales	*Rhodotus*	*palmatus*
229	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Russula*	*aeruginea Lindbl.*
230	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Russula*	*aeruginea Lindbl.*
231	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Russula*	*brevipes Peck*
232	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Russula*	*brevipes Peck*
233	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Russula*	*claroflava*
234	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Russula*	*emetica group (Schaeff. ex Fr.) Pers. ex. S.F. Gray*
235	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	07-15-98	Agaricales	*Russula*	*emetica group (Schaeffer) Persoon*
236	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Russula*	*emetica group (Schaeffer) Persoon*
237	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Agaricales	*Russula*	*emetica group (Schaeffer) Persoon*
238	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Russula*	*foetens Pers. ex Fr.*
239	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Russula*	*foetens Pers. ex Fr.*
240	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Russula*	*fragilis*
241	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Russula*	*fragrantissima Romagnesi*
242	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Russula*	*lutea (Huds. ex Fr.) S.F. Gray*
243	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Agaricales	*Russula*	*lutea (Huds. ex Fr.) S.F. Gray*
244	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Russula*	*paludosa Britz*
245	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	07-04-98	Agaricales	*Russula*	*sardonia Fr.*
246	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	Agaricales	*Russula*	*sordida Peck*
247	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Russula*	*sp.*
248	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Russula*	*sp.*
249	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Russula*	*sp.*
250	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Russula*	*sp.*
251	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Russula*	*sp.*
252	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Russula*	*sp.*
253	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Agaricales	*Russula*	*sp.*
254	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-12-98	Aphyllophorales	*Schizophyllum*	*commune Fr.*
255	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	07-07-98	Ascomycetes	*Scutellinia*	*scutellata (L: St. Amans) Lambotte*
256	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Ascomycetes	*Scutellinia*	*scutellata (L: St. Amans) Lambotte*
257	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	07-15-98	Ascomycetes	*Scutellinia*	*scutellata (L: St. Amans) Lambotte*
258	Englewood	T4N, R3E, Sec 29	Lawrence	07-25-98	Ascomycetes	*Scutellinia*	*scutellata (L: St. Amans) Lambotte*
259	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Ascomycetes	*Scutellinia*	*scutellata (L: St. Amans) Lambotte*
260	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Ascomycetes	*Scutellinia*	*scutellata (L: St. Amans) Lambotte*
261	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Aphyllophorales	*Spongipellis*	*pachydon (Pers.) Kotl. & Pouz.*

H	I	J	K	L	M	N
Smith, 1981	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	116E
Smith, 1981	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	221
Smith, 1981	*Picea glauca*	*Picea glauca*	Soil	Not obs	No	141E
Arora, 1986; Horn, 1993	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	158
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	Yes	179
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	Yes	207
Evenson, 1997; Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	181
Evenson, 1997	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	189
Arora, 1986	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	Yes	163
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	117E
Phillips, 1991	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	124
Evenson, 1997	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	146
Evenson, 1997	*Picea glauca*	*Picea glauca*	Soil	Not obs	No	144E
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	182
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	192
Arora, 1986	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	086E
Horn, 1993; Phillip, 1991	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	No	084E
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	Yes	191
Groves, 1975	*Picea glauca*	*Picea glauca*	Soil	Not obs	Yes	140E
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	No	184
Phillips, 1991	*Populus tremuloides*	*Populus tremuloides*	Soil	Cattle	No	73
Groves, 1975	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	Yes	185
Groves, 1975	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	162
Groves, 1975	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	No	093E
	Picea glauca	*Pinus ponderosa*	Soil	Cattle	No	132E
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Cattle	No	133E
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	193
Groves, 1975	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	223
Groves, 1975	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	No	229
Huffman, 1989	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	No	26
Huffman, 1989	*Picea glauca*	*Picea glauca*	Wood - conifer	Not obs	No	030E
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	No	036E
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	063E
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	077E-A
Huffmann, 1989	*Populus tremuloides*	*Populus tremuloides*	Wood	Cattle	No	165
Huffman, 1989	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	111E
Arora, 1986; Phillips, 1991	*Juniperus scopulorum*	*Pinus ponderosa*	Wood - conifer	Not obs	No	055E

*A	A	B	C	D	E	F	G
262	Big Hill - Trail B	T5N, R1E, Sec 12	Lawrence	07-04-98	Agaricales	*Suillus*	*granulatus (Fries) Kuntze*
263	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	07-10-98	Agaricales	*Suillus*	*granulatus (Fries) Kuntze*
264	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Agaricales	*Suillus*	*granulatus (Fries) Kuntze*
265	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	07-13-98	Agaricales	*Suillus*	*granulatus (Fries) Kuntze*
266	Big Hill - Trail A	T5N, R1E, Sec 12	Lawrence	08-05-98	Agaricales	*Suillus*	*granulatus (Fries) Kuntze*
267	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	08-12-98	Agaricales	*Suillus*	*granulatus (Fries) Kuntze*
268	Big Hill - Trail C	T5N, R2E, Sec 18 NE 1/16	Lawrence	04-25-98	Aphyllophorales	*Tremella*	*mesenterica (S.F. Gray) Pers.*
269	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	06-16-98	Aphyllophorales	*Tremella*	*mesenterica (S.F. Gray) Pers.*
270	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Aphyllophorales	*Tremella*	*mesenterica (S.F. Gray) Pers.*
271	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Aphyllophorales	*Tremella*	*mesenterica (S.F. Gray) Pers.*
272	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Aphyllophorales	*Tremella*	*mesenterica (S.F. Gray) Pers.*
273	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Aphyllophorales	*Tremella*	*mesenterica (S.F. Gray) Pers.*
274	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	08-05-98	Aphyllophorales	*Tremella*	*reticulata (Berk.) Farlow*
275	Eleventh Hour	T5N, R1E, Sec 12	Lawrence	06-12-98	Aphyllophorales	*Trichaptum*	*biforme (Fr. in Klotzch) Ryv.*
276	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	06-16-98	Agaricales	*Tricholoma*	*leucophyllum*
277	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Tricholoma*	*sp.*
278	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	08-10-98	*Agaricales*	*Tricholomopsis*	*flammula*
279	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	08-10-98	Agaricales	*Tricholomopsis*	*rutilans*
280	Botany Bay	T5N, R2E, Sec 4	Lawrence	06-11-98	Agaricales	*Tubaria*	*furfuracea (Pers. ex Fr.) Gillet*
281	Botany Bay	T5N, R2E, Sec 4	Lawrence	08-06-98	Aphyllophorales	*Tyromyces*	*chioneus (Fr.) Karsten*
282	Rochford-USFS Rd. 127-1B	T2N, R3E, Sec 22 EC 1/4	Pennington	06-16-98	Lichens	*Usnea*	*cavernosa Tuck.*
283	Botany Bay	T5N, R2E, Sec 4	Lawrence	07-08-98	Lichens	*Usnea*	*cavernosa Tuck.*
284	Alabaugh Canyon	T8S, R5E, Sec 20 NW 1/4	Fall River	06-15-98	Lichens	*Usnea*	*hirta (L.) Wigg*
285	Rochford Cemetery	T2N, R3E, Sec 22 SW 1/4 T2N, R3E, Sec 27 NW 1/4	Pennington	06-16-98	Lichens	*Usnea*	*hirta (L.) Wigg*
286	Spearfish Canyon	T4N, R2E, Sec 21	Lawrence	08-15-98	Lichens	*Xanthoria*	*polycarpa (Ehrh.) Oliv.*

H	I	J	K	L	M	N
Arora, 1986; Evenson, 1997	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	Yes	75
Arora, 1986; Evenson, 1997	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	Yes	99
Arora, 1986; Evenson, 1997	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	Yes	111
Evenson, 1997; Smith, 1981	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	Yes	057E
Evenson, 1997	*Populus tremuloides*	*Pinus ponderosa*	Soil	Cattle	Yes	134
Evenson, 1997	*Juniperus scopulorum*	*Pinus ponderosa*	Soil	Not obs	Yes	134E
Miller, 1977	*Populus tremuloides*	*Pinus ponderosa*	Wood - conifer	Cattle	Yes	1
Miller, 1977	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Cattle	Yes	49
Miller, 1977	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	Yes	096E
Miller, 1977	*Picea glauca*	*Pinus ponderosa*	Wood	Not obs	Yes	173
Miller, 1977	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	Yes	106E
Miller, 1977	*Picea glauca*	*Picea glauca*	Wood - conifer	Not obs	Yes	128E
Huffman, 1989	*Populus tremuloides*	*Populus tremuloides*	Wood	Cattle	No	167
Phillips, 1991	*Populus tremuloides*	*Populus tremuloides*	Wood - deciduous	Cattle	No	130
Arora, 1986	*Pinus ponderosa*	*Pinus ponderosa*	Soil	Not obs	Yes	59
Smith, 1981	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	190
Arora, 1986; Laessoe, 1996	*Pinus ponderosa*	*Pinus ponderosa*	Wood	Not obs	No	188
Arora, 1986; Laessoe, 1996	*Picea glauca*	*Pinus ponderosa*	Soil	Not obs	No	198
Groves, 1975; Phillips, 1991	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	21
Phillips, 1991; Tylutki, 1979	*Picea glauca*	*Pinus ponderosa*	Wood - deciduous	Not obs	No	170
Wetmore,	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Cattle	No	80
Hale, 1979	*Picea glauca*	*Pinus ponderosa*	Wood - conifer	Not obs	No	131
Hale, 1979	*Juniperus scopulorum*	*Pinus ponderosa*	Wood - conifer	Not obs	No	133
Wetmore,	*Pinus ponderosa*	*Pinus ponderosa*	Wood - conifer	Not obs	No	82
Hale, 1979	*Picea glauca*	*Picea glauca*	Wood	Not obs	No	137E