

2008 Interagency Special Status/Sensitive Species Program
2008 Special Status Fungi Inventory

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In fiscal year 2008, the Bureau of Land Management (BLM) State Office funded the Marys Peak Resource Area, Salem District BLM with \$7,000.00 to conduct bureau special status fungal inventories. The funding was utilized in three different projects; 1) Inventory project; funding provided labor dollars to complete inventories conducted by the resource area botanist, 2) *Phaeocollybia* study; provided funding to initiate a timber harvest study on the fungal genus *Phaeocollybia*, and 3) Contract; provided contract dollars for additional inventories to be conducted by the resource area botanist and a professional mycologist.

Budget:

This project funded \$5,000 in labor dollars to the Marys Peak botanist and \$2,000 for a micro-purchase contract for additional inventories with a well known mycologist, Dr. Lorelei Norvell. A micro-purchase contract was negotiated with Dr. Lorelei Norvell and will provide a total of four days of surveying when the contract is completed. To date, only one of those days has been completed with the remainder of the surveys to be completed by December 31, 2009. One spring 2009 and two fall 2009 surveys are anticipated to complete this contract.

Project 1: Inventory Project

Inventory summary:

Areas to be surveyed were selected by the Marys Peak botanist based on their knowledge of the resource area and knowledge of the habitats where other bureau special status fungal species have been located over the past 12 years. Some of the areas targeted were older mature forests with a western hemlock (*Tsuga heterophylla*) component and also targeted noble fir (*Abies procera*) areas which have been rich in special status species in previous inventories.

Most all surveys were conducted on only a small portion (up to 5 acres) of the existing suitable habitat in the selected areas and were surveyed using the complete survey method. Two spring surveys were conducted and several fall surveys conducted beginning on October 6 and ending on November 24th, 2009. The fall surveys covered 25 different sites and included 9 return visits later in the season.

One hundred and forty-nine collections were made by the resource area botanist. Each collection was photographed in the field and assigned a unique number. Back in the lab, macroscopic and microscopic notes were recorded for each species and generally within 1-2 days of collecting. All notes were incorporated into a "herbarium label" which included all location data and species notes. All species were initially identified by the resource area botanist. In addition, all photographs were reviewed and the best ones kept and filed with the unique species number. All specimens were dried and placed into a plastic zip lock type bag which included the "cut to size"

herbarium label and sent to the BLM State Office for inclusion into a fungal verification contract. Of the 149 specimens submitted for verification, seven were determined to be different species than the species originally determined by the botanist. Of those seven species, preliminary DNA suggests that four of the species may be synonymous with the name originally placed on the specimen by the resource area botanist.

Of the 149 collections made, 90 were verified as bureau special status species. They include:

Species	Number of Collections
<i>Gomphus kauffmanii</i>	2
<i>Leucogaster citrinus</i>	1
<i>Phaeocollybia attenuata</i>	13
<i>P. californica</i>	6
<i>P. dissiliens</i>	6
<i>P. gregaria</i>	1
<i>P. lilacifolia</i>	4
<i>P. olivacea</i>	12
<i>P. piceae</i>	10
<i>P. pseudofestiva</i>	2
<i>P. radicata</i>	3
<i>P. scatesiae</i>	5
<i>P. sipei</i>	15
<i>P. spadicea</i>	7
<i>Stropharia albovelata</i>	2
<i>Rickenella swartzii</i>	<u>1</u>
Total	90

Other collections included: *Phaeocollybia ammiratii* (5), *P. benzokauffmanii* (4), *P. fallax* (7), *P. kauffmanii* (10), *P. ochraceocana* (3), *P. phaeogaleroides* (7), *P. pleurocystidiata* (7), *P. redheadii* (3), *P. rifflipes* (1), and *P. tibiikauffmanii* (12).

Project 2: *Phaeocollybia* study

Five study plots were incorporated into a sold commercial conifer thinning project named, Parker Bear. A tree was designated as the plot center and all *Phaeocollybia* species found within a 20 foot radius plot was recorded for each plot. In addition, the entire area outside of the plots was surveyed and all *Phaeocollybia* species not included in any of the plots were recorded as “at large” collections. The center plot tree was tagged and painted at stump height. No other trees were marked and the plot center tree not necessarily reserved from cutting. The objective of this study is to observe the effects of the commercial timber thinning operation on known *Phaeocollybia* sites in a western hemlock forest association in northwestern Oregon. The trees should be severed and harvested within the next two seasons. At the completion of the study, a summary will be provided. Data collected so far only includes plot number and species present. Additional habitat data will be collected this spring. The Plot data includes:

<u>Plot</u>	<u>Species</u>
A	<i>P. attenuata</i>
B	<i>P. attenuata</i> & <i>P. spadicea</i>
C	<i>P. attenuata</i> , <i>P. piceae</i> & <i>P. redheadii</i>
D	<i>P. ammiratii</i> , <i>P. attenuata</i> , <i>P. benzokauffmanii</i> , <i>P. piceae</i> , <i>P. scatesiae</i> & <i>P. tibiikauffmanii</i>
E	<i>P. scatesiae</i>
Species at large	<i>P. phaeogaleroides</i> & <i>P. sipei</i>

Project 3: Contract

The resource area botanist negotiated with Dr. Lorelei Norvell to survey areas for bureau special status fungal species. The contract includes four days of surveys and expires December 31, 2009. To date only one day has been completed. Twenty collections were made during the surveys with only six collections representing bureau special status species. The bureau special status species include: *Phaeocollbyia attenuata* (3), *P. dissiliens* (1), *P. piceae*, and *P. sipei* (1).

Three additional survey days will be completed in 2009 with the possibility of one of those days spent surveying for spring *Ramaria* species toward the first of June, 2009 on Mt. Hood.

Discussion:

In the northern Coastal Mountain Range of Oregon, within the Marys Peak Resource Area, the fall of 2008 was considered a fairly dry. There were some good rain events in mid August to September but October was fairly dry. This led to few fungal sporocarps produced during the first portion of the fungal season. The 2009 season brought few *Ramaria* sporocarps and it was anticipated that this funding opportunity would add at least a few new known sites of *Ramaria* species. Although this funding opportunity concentrated mainly on epigeous fungal species, occasional surveys were conducted for hypogeous species with only one bureau special status species identified (*Leucogaster citrinus*). Surveying for hypogeous fungi lead to the realization the BLM could use some sort of hypogeous fungal training/workshop to enhance the field efforts of detecting many of the BLM listed species.

Funding of additional inventory projects are important to document new known sites of rare and uncommon species in Oregon. These projects not only allow for the identification of new known sites, they also provide additional habitat information about individual species. These projects can also document that perhaps some of these species may not be as "rare or uncommon" as initially speculated. Take into consideration that Doug Goldenberg's (Eugene BLM 2009 study) funded project identified 24 new known sites and 14 of these were species of *Phaeocollbyia* [(att (4), dis (1), oli (2), pic (1), rad(1), sip (3), spa (2)]. This funding opportunity identified 96 known sites and 90 were species in the genus *Phaeocollybia*. At this rate of identifying new known sites, several of these species will surely drop off the bureau's list of special status fungal species in the future.

Conclusion/Summary:

This funding opportunity provided:

- i) Additional surveys in areas determined by the resource area botanist to harbor bureau special status fungal species and recorded 96 known sites.
- ii) Provided materials to be included in a non-related DNA study which was funded by and administered by the Oregon State Office.
- iii) Provided significant new material and photos to be incorporated in a soon to be published monograph on the fungal genus *Phaeocollybia* including the reorganization of an existing key to the identification of *Phaeocollybia*.
- iv) Allowed for the initial establishment of plots in a commercial thinning to study the effects of logging on several *Phaeocollybia* species within a western hemlock plant association in the Oregon Coastal Mountains.
- v) Allowed the resource area botanist to sharpen skills in identifying the fungal genus *Phaeocollybia* which may reduce the amount of specimens submitted to the Oregon State BLM Office in the future. An excellent self taught learning opportunity.

On Going Efforts:

- i) The timbersale study is a multi-year study and will take additional efforts each fall to document presence or absence of species in the study area.
- ii) There are 3 more surveys remaining on the contract portion of this funding.
- iii) Consider future funding with Doug Goldenberg for some statistical study of several of the species of *Phaeocollybia*. Many species are regionally abundant near the southern end of the Salem BLM's jurisdiction in the Oregon Coast Range Mountains.

References:

Exeter, Ron. 2008. Unpublished Marys Peak Resource Area 2008 fungi collections.

Goldenberg, Douglas. 2008. Unpublished Final Report, Interagency Special Status/Sensitive Species Program, Inventory and Conservation Planning, Siuslaw Resource Area 2008 Special Status Fungi Inventory Surveys. March 30, 2009.

Norvell, Lorelei. 2008. Unpublished 2008 fungi collections from Marys Peak Resource Area.