

2015 Adult Caddisfly Surveys on Mount Hood National Forest

Final Report

**Prepared for USDA Forest Service – Region 6 and DOI Bureau of Land Management
Interagency Special Status/Sensitive Species (ISSSSP) Inventory Coordinator**

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Introduction

Mount Hood National Forest contains six caddisfly species identified by the USDA Forest Service – Region 6 and DOI Bureau of Land Management Interagency Special Status/Sensitive Species Program (ISSSSP) as sensitive (Scotts apitanian caddisfly *Allomyia scotti* and Caddisfly *Namamyia plutonis*) or strategic (Tombstone prairie caddisfly *Oligophlebodes mostbento*, One-spot rhyacophilan caddisfly *Rhyacophila unipunctata*, a caddisfly *Moselyana comosa*, and a caddisfly *Lepania cascada*) (Wanner and Arendt 2015). Other sensitive species such as *Rhyacophila chandleri*, *R. haddock*, *R. leechi*, and *Namamyia plutonis* occur in nearby areas south of Mount Hood and may be expanding their range northwards as climate change causes warming in northern latitudes (Wanner and Arendt 2014). These rare species have narrow habitat requirements, and are under constant threat of habitat loss from recreational use, development, and other human impacts.

Larval caddisfly surveys were conducted around Mount Hood in 2013 and 2014 in search of Scott's apitanian caddisfly, a sensitive species endemic to Mount Hood (Wanner and Arendt 2015). However many species of caddisflies are yet to be described in their larval form, making adult surveys necessary to gain a better understanding of the distribution of caddisflies on Mount Hood. This information is needed to guide decisions in habitat and land use management in order to protect these sensitive and strategic species.

Study Area

The 2015 adult caddisfly study occurred in the same study area as the 2013 and 2014 larval caddisfly studies on Mt. Hood. Located 50 miles east of Portland, Mt. Hood is the highest peak in Oregon (11,239 feet), and the fourth highest among the volcanic peaks in the Cascade Range. The mountain is home to 12 named glaciers or snowfields. This caddisfly study targeted perennial 1st through 3rd order clear water streams (non-glacial) at elevations of 4000-5500 feet.

Most of the clear water streams that originate within the band between 4,000 and 5,500 feet originate from springs and seeps either directly out of the mountain or from wet meadows above. Most streams originating above 5,500 feet are fed by snow fields or glacial melt. Annual precipitation at these elevations ranges from 80 to 120 inches.

Methods

Surveys were conducted in summer of 2015, starting on August 31st and concluded on September 9th. Particular attention was given to areas near known populations of sensitive and strategic caddisfly species. Due to low flows and drought conditions, presence of water also became a consideration in sample site selection.

Surveys were conducted by actively pursuing adult caddisflies for a period of 10 minutes at each site. Samples were collected using a 15" diameter circular butterfly net with a 3' long wooden handle. One to two surveyors would walk for 10 minutes, sweeping the net through the riparian area, paying particular attention to vegetation and woody debris where adult caddisflies may land. The nets were checked periodically, and if adult caddisflies were present, they were

removed with tweezers and preserved in 95% alcohol. Vouchered specimens were sent to an expert to be identified. All individuals were identified to the genus level, and when possible, down to species and group.

Habitat and location information were recorded at each site. An estimate of average stream depth, wetted width, and substrate composition were recorded for the length of the survey area. GPS coordinates, elevation, water temperature, instream vegetation, and over-story vegetation were also recorded.

Results and Discussion

Thirty-eight samples were taken from thirty-six streams around Mount Hood. Adult caddisflies were captured at 11 sites. Capture success was low, likely due to dry, drought conditions in 2015. Unusually warm conditions in spring and early summer caused early snow melt, which may have caused early emergence of adult caddisflies. Many of the anticipated survey sites were found to be completely dry, so were not surveyed. To increase our sampling success, we should have begun our adult caddisfly sampling as early as March in the lower elevations (4,000) in 2015.

Surveys in 2015 focused on the south side of Mount Hood, primarily near roads and trails for ease of access. Due to the dry conditions, sample sites were often chosen by walking a trail and sampling all streams with water present. Thirty-six streams were sampled (Figure 1), with two subsamples taken in two creeks. Elevations of sample sites ranged from 3980 feet to 5854 feet.

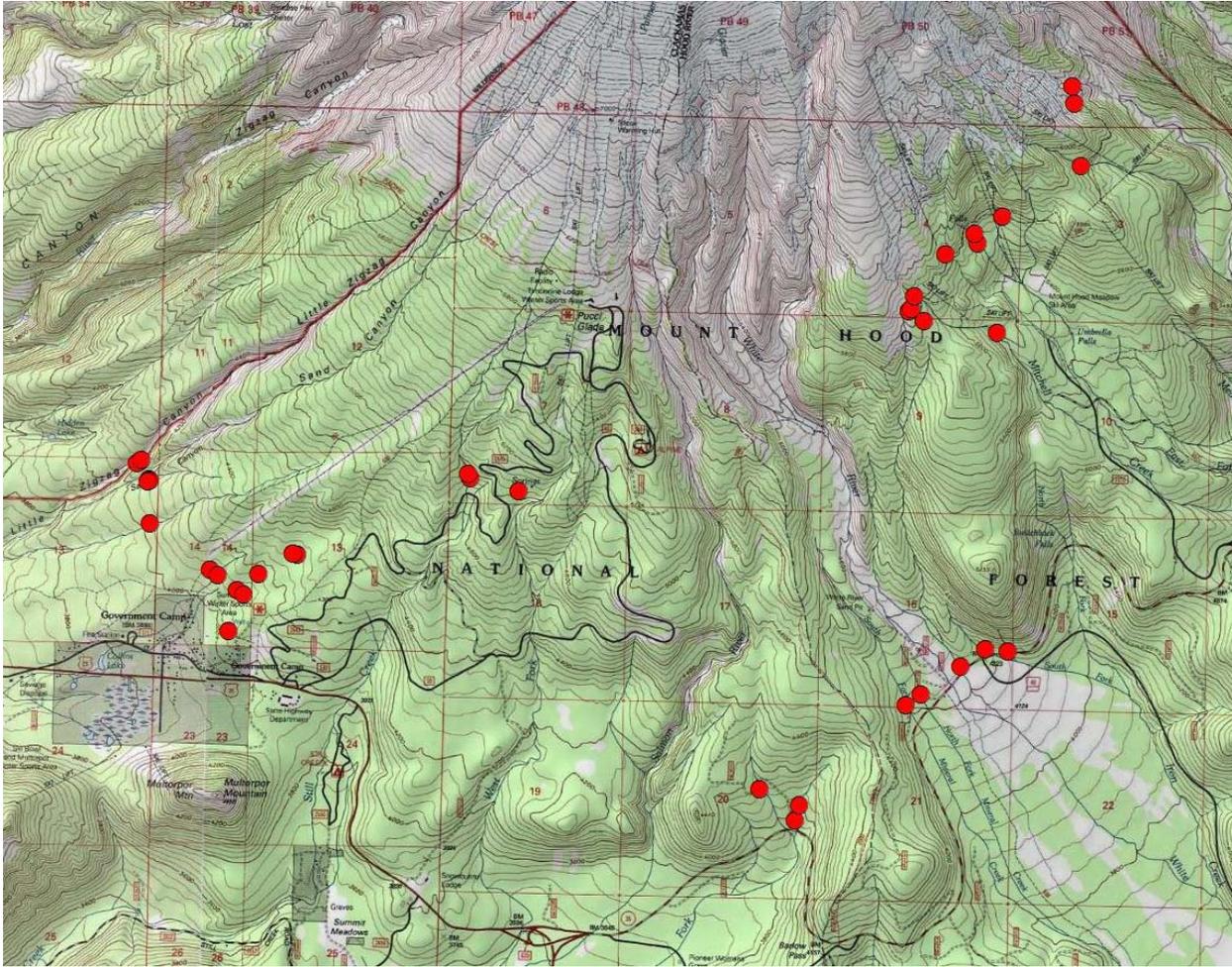


Figure 1. 2015 adult caddisfly survey locations

Caddisflies collected

Twenty adult caddisflies were captured from 11 sample sites (Table 1). Only one site, a tributary to East Fork Salmon River, yielded more than one species. No sensitive or strategic caddisfly species were found in any of the surveys in 2015.

Table 1. Adult caddisflies collected around Mt. Hood in 2015.

Taxa	Trib to Still Creek	Trib to West Fork Salmon River	Trib to East Fork Salmon River	East Fork Salmon River	Green Apple Creek	South Fork Iron Creek	Trib to South Fork Iron Creek	Trib to East Fork Hood River	Trib to East Fork Hood River	Trib to Sand Canyon	Little Zigzag River
Lepidostomatidae											
Lepidostoma			1								
Limnephilidae											
Limnephilus sitchensis		1									
Philopotamidae											
Dolophilodes pallidipes	2					6	1			1	
Wormaldia			1								
Rhyacophilidae											
Rhyacophila kincaidi (alberta group)											1
Rhyacophila perda (betteni group)									1		
Rhyacophila vagrita (vagrita group)					3						
Rhyacophila verrula (verrula group)				1				1			

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References

Wanner, G., and K. Arendt. 2014. Mt. Hood's Sensitive and Strategic Caddisflies: The New Discovery. Interagency Special Status Species Program FY 2014 Inventory & Conservation Planning Proposal Form. U.S. Department Agriculture Forest Service, Mt. Hood National Forest – Zigzag Ranger District, Zigzag, OR.

Wanner, G., and K. Arendt. 2015. Caddisfly Survey around Mt. Hood: Search for Scott's apatanian and other sensitive caddisfly species. Final Report prepared for USDA Forest Service – Region 6 and DOI Bureau of Land Management Interagency Special Status/Sensitive Species (ISSSSP) Coordinator. U.S. Department Agriculture Forest Service, Mt. Hood National Forest – Zigzag Ranger District, Zigzag, OR.