SPECIES AND HABITAT: BOTANY

Characterization

Most of the South Fork Coos Watershed is forested, with some populated bottomlands in the western portion, from Daniels Creek to Dellwood. The vegetation across this Watershed reflects a transition from moist coastal conditions to the drier forests on the eastern edge of the District. Potential habitats for Special Status, Survey & Manage, and Protection Buffer plants include all seral stages. Early to mid-seral stands the habitats for certain mosses and fungi. These stands tend to be extensive. The old growth stands, which are potential habitat for vascular plants, epiphytic and terrestrial cryptogams, and fungi, tend to be more scattered and smaller due to a combination of logging and fires. Nearly all the old-growth is on Federal land and most of that is in either an LSR or Riparian Reserve or withdraw status. The mountainous portions of the Watershed contain many rock outcrops. Some of these outcrops support a grass/forb community, and are considered special habitats. Special status plants, Survey and Manage species, and Protection Buffer species are documented in this Watershed. Table BOT-1 in the Species and Habitats: Botanical Appendix lists of special status plants known or suspected to occur in this area. **References to Survey and Manage status and categories in this chapter are based on standards and guidelines for the Forest Plan (USDA;USDI 1994). The status and category for some plant species may change as the result of the *Amendment to the Survey and Manage, Protection Buffer, and Other Mitigating Measures Standards and Guideline* (in preparation).**

Current Conditions

Since the inception of the Forest Plan, several new sites of Survey and Manage species and Protection Buffer species have been found on BLM lands in this Watershed.

Rock outcrops, common in this area, are often too steep to support herbaceous plant life. Bryophytes, which can tolerate the dessication and lack of soil, can be found on these steep, often exposed, rock areas. Balds or small dry prairies occur where sufficient soil has accumulated on and around rocklands to support a grass/forb communities. These balds often provide habitat for special status plants, such as *Romanzoffia thompsonii*, Thompson's mistmaiden, and *Phacelia verna*, spring phacelia. Cusick's checkermallow (*Sidalcea cusickii)*, a tracking species, was found on a bald in the Tioga Subwatershed. This checkermallow was also observed on private land and may be fairly common in this area where there is suitable habitat. As most of the balds in this Watershed are unsurveyed, it is unknown if other special status plants are present on those sites.

Due to the steep, rocky condition of these mountains, there are many waterfalls. These provide habitat for unique bryophytes, some of which are considered rare. The Burnt Mountain area is the center of the range of a rare moss, *Platyhypnidium riparioides*. The waterfalls near the bottoms of Burnt Creek and Water Tank Creek are known sites for this moss.

A perennially wet meadow in the Beyers Way area supports a diversity of sedges and mosses and is considered a special habitat. The Tioga Subwatershed contains at least two natural ponds that may contain aquatic vegetation. One is backed up behind a log jam on a tributary of Tioga Creek (T27S, R9W, Sec. 22). A slide created the second pond in T27S, R9W, Sec. 26.

Reference Conditions

The historical relative abundance and distribution of plant species is unknown, beyond what is indicated by range maps and the common trees and shrubs listed in old survey notes. Thus species of concern and the condition and distribution of their habitats in the Watershed can not be identified. True early seral habitat and high shade habitat existed in the past on parts of the Watershed, and were due to frequent

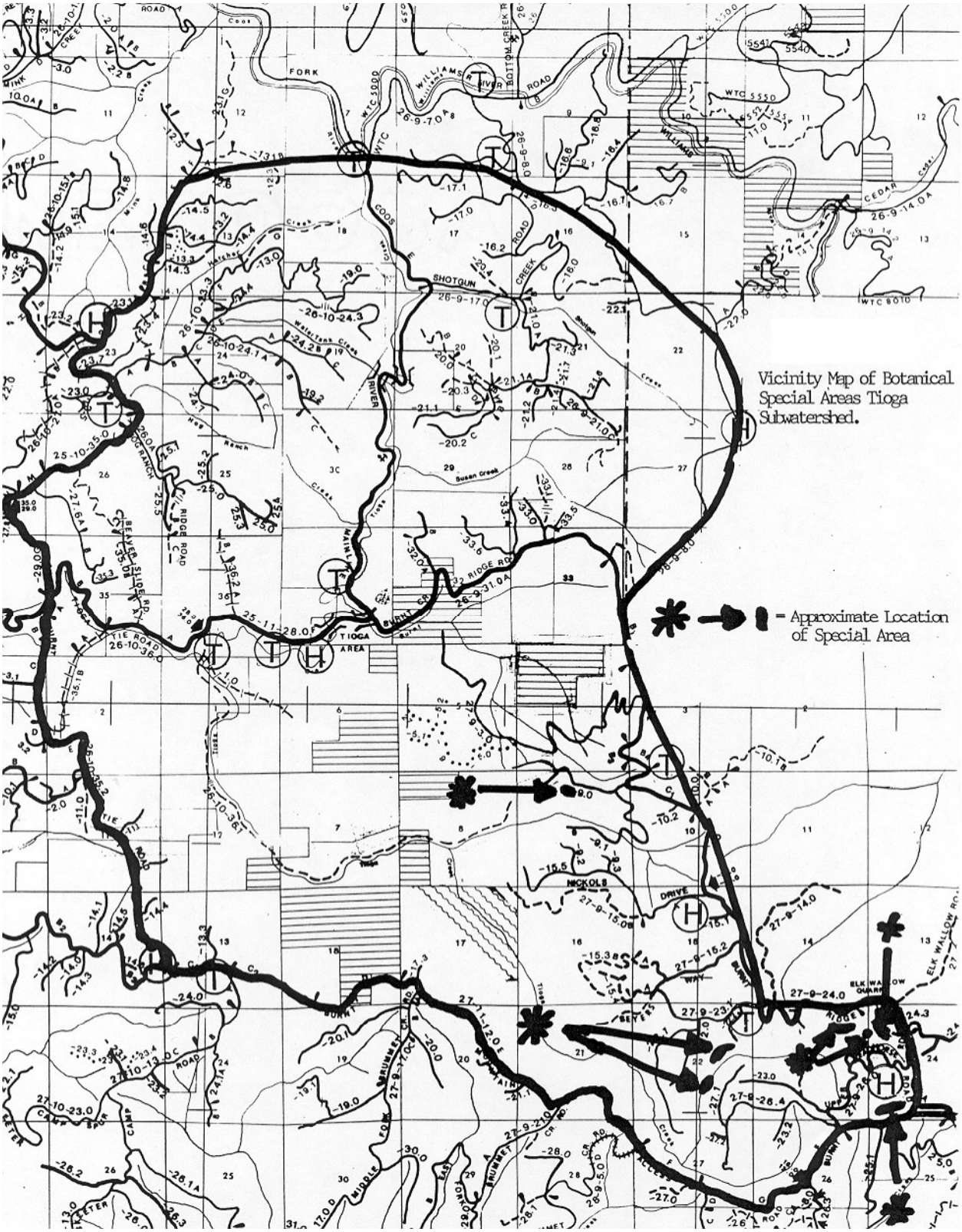
fire. These habitats are now rare. The 1943 aerial photos show small areas that appear to be fire created and possibly maintained openings on south to west facing ridge tops in and to the east of Tioga Creek Subwatershed, and Fall Creek Drainage. These photos also show where wildfire set back succession, exposed rock bands and cliffs and created snags over large areas in Williams River and Tioga Creek. This area is visible on figure 1 in the Images of the Landscape section of the Introduction Chapter. Other figures in that section show additional open areas created by fire. Refer to the Reference Condition section in the Vegetation chapter in this analysis, the Tioga Appendix: Fire History, and the Vegetation Appendix for discussions concerning the pre-management processes, landscape scale patterns, and the probable fire history for the Watershed.

Two blocks provide a reference condition for what most of the forested parts of the Watershed may have resembled prior to harvesting. For the low elevation forests, refer to a large, contiguous block of old growth in section 10, T.26S., R.9W. along Williams River. Aerial photos show that the ridges in this area may have burned many years ago. For the high elevation forests on the eastern side of the Watershed, section 30, T.25S., R.8W. is representative. The forests in this area tend to be a little drier and have less underbrush. This results in a slightly different species composition than the lower elevation forests. Goldthread (*Coptis laciniata*) and little prince's pine (*Chimaphila menziesii*) are common plants in the higher, drier forests**.** Both of these old growth stands are on LSR land.

Synthesis and Interpretation

Two of the processes that have influenced the vegetation composition in the South Fork Coos Watershed are fire and resource harvest. Logging has caused the most recent impacts on the habitats in this Watershed by converting old growth to early or mid seral stages. Logging techniques and utilization standards of 30-50 years ago generally left more habitat elements than the more recent harvesting practices that we used up until the implementation of the Forest Plan. Consequently, many mid seral stands have a large component of coarse woody debris, small patches of older trees, and a deep duff layer, which provide habitat for some Survey and Manage species. Large cull trees were left standing and many cull logs were left in the unit because harvesting these for chips or hog fuel was not profitable back then. Eventually market conditions and harvesting techniques changed, leading to more thorough resource utilization. Therefore, the seral stands, originating from stands sold and cut in the 1980's and early 1990's have less of a large wood component compared to earlier and later regeneration harvest units. The Forest Plan requirements for retaining green trees, down wood and snags has reversed that trend resulting in more legacy material left on Federal timber harvest units sold after 1994. Fire exclusion may have caused the loss of habitat used by those species dependent on fire maintained prairies or sunny cliffs. Periodic wildfire would have maintained those features for decades or longer allowing increased species richness over time. The practice of rapidly regenerating a site following timber harvest does not allow sufficient time for a prairie plant community to develop and replace the complex of residual forest plants and early seral species associated with new clearcuts and young plantations. Before effective fire exclusion, wildfire followed by lengthy regeneration periods may have periodically opened connectivity corridors for genetic exchange and the spread of shade intolerant plant species among the ridge top prairies.

Some of the rock outcrops may provide a native grass seed source for erosion control and forage seeding on restoration projects or timber sales. Many of the other rock bands are too vertical to provide good herbaceous habitat. Rock outcrop sites in the Tioga Creek Subwatershed, along with the pond in section 22, T27S,R9W, are shown on Map Botany-1 as "special areas."



Map Botany-1: Botanical Special Areas in the Tioga Creek Subwatershed

References

USDA, USDI. 1994. *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl/ Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Related Species Within the Range of the Northern Spotted Owl*. USFS; BLM, Portland, OR.