

Columbia Spotted Frog Inventory on the Umatilla National Forest

Umatilla National Forest
Heppner and Walla Walla Ranger Districts

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Abstract: The purpose of this project was to inventory potential Columbia spotted frog habitat on the Heppner and Walla Walla Ranger Districts for the presence/absence of the species. The Columbia spotted frog has not been confirmed present on either of these Districts. Potential habitat was identified based on habitat preferences of the species, and priority habitat inventoried during the 2006 field season. Surveys consisted of a visual survey and the use of dip nets to capture tadpoles and juvenile amphibians. Over the field season, a total of 74 sites were visited and surveyed for the presence of the Columbia spotted frog. Columbia spotted frogs (tadpoles, juveniles, or adults) were noted at eight sites, of which seven were on the Heppner Ranger District.

Introduction

Amphibian surveys on the Umatilla National Forest have been spotty at best. The few surveys that have occurred have been project related and small in scale. Intensive, systematic surveys have not been completed on any of the districts. According to District records, there have been no observations of the Columbia spotted frog on the Heppner Ranger District. This species is present on the adjacent North Fork John Day Ranger District, within five miles of the boundary with the Heppner district. Data on the northern portion of the Forest (Walla Walla and Pomeroy Ranger Districts) is also incomplete; unconfirmed observations of this species have been reported on the Walla Walla Ranger District and no observations have occurred on the Pomeroy District. Inventory of suitable habitat across the Forest would clarify the existing range and distribution of the Columbia spotted frog in this portion of the Blue Mountains.

The objectives of this project are to identify potential habitat on the Heppner and Walla Walla Ranger Districts, prioritize these habitats, and inventory high quality potential habitat for the presence/absence of the Columbia spotted frog.

All surveys completed in conjunction with this project are presence/absence surveys; no estimates of populations or population densities were made due to the fact that the survey protocol used was not designed for this purpose.

Study Area

The study area includes portions of the Heppner and Walla Walla Ranger Districts. All of the survey sites are located in the Blue Mountains of Oregon. Elevation of study sites on the Heppner Ranger District ranged from 3,500 to 4,900 feet; on the Walla Walla Ranger District elevation ranged from 3,775 to 5,240 feet. Generally, the study sites occurred in mixed conifer stands, although some of the lower elevation sites had a greater proportion of Ponderosa pine than higher elevation sites. Higher elevation sites were generally dominated by white and/or grand fir, lodgepole pine, western larch, and Englemann spruce. Lentic and lotic habitats were surveyed during this project. Due to the fact that there was very little potential breeding habitat along streams in the study area, the majority of sites surveyed occurred at perennial stock ponds.

Methods

Suitable habitat on the Forest was identified using GIS vegetation data, existing water source and pond inventory data, stream surveys, and District knowledge. Surveys were focused on subwatersheds where the Columbia spotted frog was not known to occur. Potential breeding habitat was identified on the target Districts based on the known habitat preferences of the Columbia spotted frog. Perennial ponds with a high proportion of shallows and emergent vegetation were identified as priority sites; stream habitat was generally identified as lower priority sites. Fourteen subwatersheds on the Heppner Ranger District and 8 subwatersheds on the Walla Walla Ranger District were identified as having at least one high priority inventory site.

No survey protocol specific to the Columbia spotted frog was available during project development. The survey protocol used was based on the *Standard Operating Procedure for Visual Encounter Survey: Amphibian Research and Monitoring Initiative (ARMI) Mid-Level Monitoring Areas*. Surveys occurred between June 15 and September 15. Dip nets were used to positively identify tadpoles and juvenile and adult amphibians. Because sites were generally small and surveyors were able to sample 100% of the habitat at the sites, only a single visit was made to each of the survey sites. Where spotted frogs (or other non-target amphibians) were found, the following information was collected: date, time, location (UTM), water temperature, description of site and habitat, observation method, observer, species, number of individuals detected and their stage of development, comments, and a sketch of the site.

Data collected during surveys was entered into NRIS FAUNA working data by September 8, 2006. Currently, the survey data is waiting to be migrated into the corporate database.

Results

A total of 74 sites were surveyed for the presence of the Columbia spotted frog during the 2006 field season. Columbia spotted frogs (tadpoles, juveniles, or adults) were noted at eight sites, of which seven were on the Heppner Ranger District. Columbia spotted frogs were noted at one location on the Walla Walla Ranger District. On the Heppner Ranger District, the Columbia spotted frog was observed in 4 subwatersheds where it was previously not known to occur; on the Walla Walla Ranger District, it was observed in 1 subwatershed where it was previously unknown to occur. No amphibians were present at 12 of the ponds that were surveyed. Approximately 62 of the surveyed sites had at least one species of amphibian present; five of the sites had three species of amphibians present.

Discussion

The significance of the results of this study is that the Columbia spotted frog has been confirmed present on the Heppner and Walla Walla Ranger Districts. Previously, it was suspected, but not confirmed present. On the Heppner Ranger District, Columbia spotted frog were found in several distinct areas; one associated with the fringe area of the known Columbia spotted frog range, and one near Bull Prairie Reservoir in the far western portion of the District. Although density measurements were not made, anecdotal observations indicated that there were higher adult and juvenile Columbia spotted frog densities in the eastern portion of the Heppner District (associated with the

known/suspected range of the species) when compared to confirmed spotted frog sites elsewhere on the District. Typically, very few adult or juvenile specimens were discovered in ponds and streams in the Bull Prairie area. Having this new information regarding the range of the species will provide us an opportunity to examine current management in the western portion of the Heppner Ranger District. Potentially, changes in timing of grazing or fencing of all or portions of several ponds where the Columbia spotted frog breeds could benefit the species. Due to the relatively small number of sites surveyed on the Walla Walla Ranger District, little can be said about the Columbia spotted frog distribution in this area; only one site was confirmed to have spotted frogs.

During initial surveys, it was found that small sites such as stock ponds and low order streams could be searched thoroughly over the entire potential habitat area. Because 100% of the potential habitat at these sites could be searched, it was decided that a second visit to sites where spotted frogs were not confirmed present during the first visit would not be necessary. This enabled us to survey more sites across the two Districts during the field season.

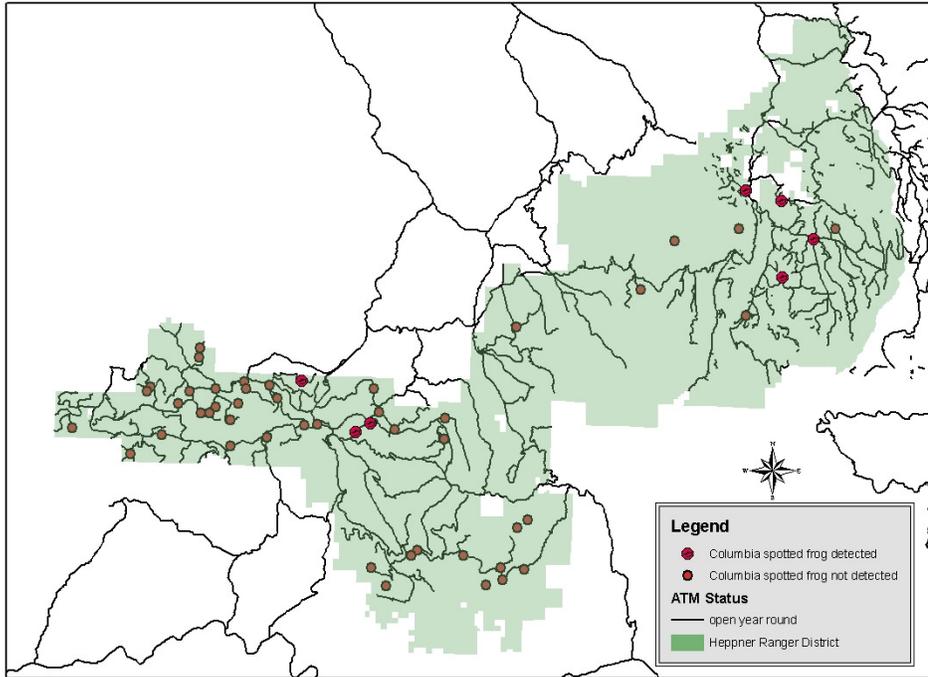
Recommendations

Assess the need for fencing or partially fencing Columbia spotted frog-breeding habitat where these sites are accessible to cattle.

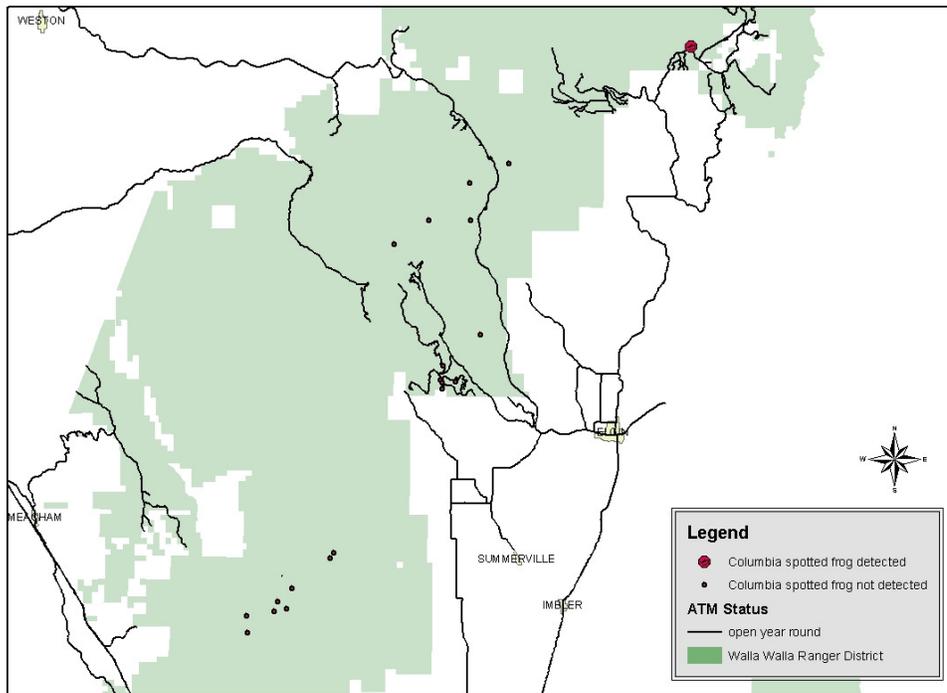
Acknowledgements

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Hepppner Ranger District 2006 Spotted Frog Survey Sites



Walla Walla Ranger District 2006 Spotted Frog Survey Sites





Columbia spotted frog in net.



Typical survey site.