

# **Interagency Special Status/Sensitive Species Program FY2005 Inventory & Conservation Planning Status Report**

## **PROJECT TITLE:**

Crooked River National Grassland Pygmy Rabbit Habitat Assessment and Survey

## **PROJECT LEAD(S):**

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## **PROJECT OBJECTIVES AND BACKGROUND REVIEW:**

In 1992, a pygmy rabbit and associated burrow were sighted by a Biosystems Analysis Inc. wildlife biologist surveying for a gas pipeline across the Grassland. This is the first and last known official survey effort for pygmy rabbits until 2003. In 2003, I was able to secure a small amount of funding and completed a thorough search in the area of this historic sighting. A "highly suspicious" burrow and several piles of fresh pellets were found during this search. In January 2005 after a good snowfall, I checked this site and found tracks that match those described in various papers on pygmy rabbits and by biologists working with the species.

The objectives of this project proposal were to assess the habitat on the Grassland for pygmy rabbits and to try to confirm presence. This project is included in a multi-agency, statewide effort to learn more about pygmy rabbits in Oregon

An additional objective of this proposal is to use the data generated to guide these restoration projects on the Grassland to not only prevent/slow further declines in pygmy rabbits, but to hopefully stabilize and even increase populations.

## **PROJECT PHASES**

### ***Habitat, Burrow, and Rabbit Identification Training***

Dede Steele (biologist on Lookout Mountain RD) and I went to Lakeview to meet Todd Forbes of the BLM for this training. (I funded Dede and her crew to help me complete the surveys.) We spent two days reviewing habitat, burrows and trapping pygmy rabbits in the field.

Todd has been working with pygmy rabbits for quite a while now and gave us some tips for identifying potential habitat and what to look for when surveying. He found that using GIS to identify survey areas was not a good use of time. These animals burrow in areas that are not identifiable on the maps. Generally data layers in GIS do not identify small inclusions of special habitats; they are basically lumped in with the predominant vegetation and soil types. He recommended doing "drive by" surveys and looking for pockets of deep soil and larger sagebrush. Once areas are chosen, he said that he found wandering transects (keying in on the best habitat) to be more efficient and cost effective than straight transects.

We also looked at many different burrows made by several different species as well as those utilized by pygmy rabbits. He gave us characteristics he has noted such as: double entrances, pellets carpeted in and near by the burrow entrance, and trails entering burrows from the sides - not from the front. By the end of our stay we felt more confident in identifying pygmy rabbit burrows vs. other rodent burrows.

Trapping and radio collaring pygmy rabbits made the trip even more worthwhile. We were able to view in hand several pygmy rabbits as well as a juvenile cottontail to see the differences between the two species. We were also able to watch the rabbits travel through the sage and see their movement patterns and differences.

All in all, it was great start to the project. Dede and I felt ready to conduct surveys on the Grassland, more confident in our abilities to identify potential habitat, burrows, and the rabbits themselves.

### ***Protocol Review***

After visiting with Todd Forbes, I reviewed the pygmy rabbit survey protocol by Ulmschneider, 2003. She recommends targeting your searches as pygmy rabbits are not randomly distributed throughout the landscape. To identify potential survey areas she suggests starting with GIS at a landscape level, then to aerial photos at the mid-scale, and then using local knowledge (driving and walking transects) at the fine scale.

At the patch scale, she suggests doing the heaviest sampling in high priority areas and lighter sampling in the lower priority areas. She also keyed in on targeting the tallest, thickest patches of sage. She says that depending on the area you may need to do loop, triangle, straight, or meandering transects and that all are acceptable. In addition, transect length should be dictated by the extent of the habitat patch. She does also say that during driving surveys you should occasionally walk some unsuitable habitat if it is surrounded or near by suitable habitat.

### ***Survey Area Selection***

#### Landscape Scale Assessment

Although Todd Forbes found that GIS habitat assessment was not helpful for him, I started with it at the landscape level looking at the entire Crooked River National Grassland (CRNG). The layers I used were:

- aspect
- slope
- vegetation cover - grass or shrub (we do not have an accurate vegetation species layer)
- soils
- water resources
- elevation

I looked up areas I thought of as potential from personal knowledge and they were represented on the map as an area I would not choose to survey based on the literature and discussions with Todd Forbes. They would have been some of the lowest priority areas looked at. So, I found much like Todd, GIS was only helpful to exclude large areas of non-habitat. This is also much like the findings in Predicting the Suitability of Habitat in Southeast Idaho for Pygmy Rabbits by Gabler, Laundre and Heady, 2000. They found using GIS modeling a 100% probability of predicting areas not occupied but only a 57% probability of predicting occupied areas.

#### Mid-Scale Assessment

Since the GIS mapping did not help much, this level is where I really got started narrowing down high potential habitat. I utilized local field knowledge, aerial photos, vegetation cover maps, historical records, and potential sightings to find high priority areas to start surveying.

Once the crew completed surveys in the highest potential habitat I decided to have them survey treatment (burning, juniper thinning and reseeded) units from the Crooked River Grassland Environmental Impact Statement (EIS) for other potential habitat.

### Fine Scale Assessment

After I identified the high priority areas, Dede and I completed drive-by surveys to see if we should send the crew out to do more intensive surveys in the areas I identified. As it turns out, I identified the highest potential habitat on the Grassland to start surveying. After the crew had two weeks of experience surveying areas we had identified, we gave them the EIS map and had them complete drive-by surveys and choose additional areas within the units to search. Some of the units from the EIS were dropped in the office due to local knowledge and some units we did not have time to survey.

### Survey Techniques

Dede and I started the crew (three person) out with a training session on habitat assessment and burrow and rabbit identification. At least one of us worked with them for the first two weeks. In addition, one of the members used a GPS to map the actual survey areas as we went.

Since we started with the highest priority areas and we truly didn't know what to expect, we did straight line transects and surveyed the entire area identified. The crew spread out and completed parallel transects. More often than not, we found that we partially overlapped transects. For the first week, each time a burrow was found, Dede or I would check the identification made by the crew member.

What we found as we surveyed areas initially identified as high probability habitat was that there was unsuitable habitat mixed in with or separating areas of potentially suitable habitat. Instead of skipping the unsuitable habitat in between, we continued our straight transects right through it. Not only is this suggested in the survey protocol, but I wanted to make sure that we were not missing anything and that our assumptions on high probability habitat were correct.

After two weeks of straight transect surveys through both suitable and unsuitable habitat I felt like we truly did have an idea of where we were finding burrows and where we were not. Since one of the objectives of this assessment was to try to confirm presence, when we surveyed the EIS units for habitat, we shifted to the drive by method to find the best habitat possible in these areas and then to the meandering transects throughout that habitat. At this point, I did not want to waste survey dollars looking in areas that we were starting to recognize as completely unsuitable. Even using this method, we ended up surveying quite a bit of unsuitable habitat.

All burrows identified as rabbit or badger were GPS'd as present/future potential rabbit burrows.

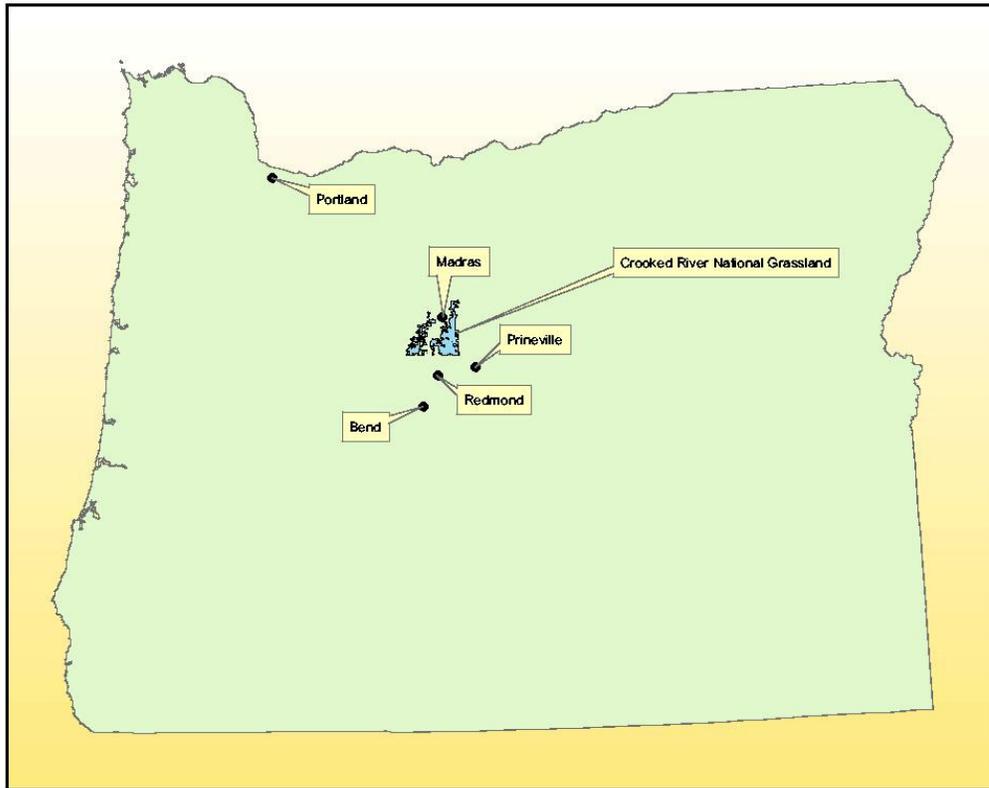
At this time we did not complete the data sheets for pygmy rabbit surveys. That was a huge error on my part. I will at a later date revisit all rabbit burrows found (three suspicious sites) and fill them out.

## ***Results***

### Area Surveyed

Again, the surveys were completed on the Crooked River National Grassland in Madras, Oregon. See Map 1 for a vicinity map.

Map 1. Vicinity Map of the Crooked River National Grassland



The CRNG covers a total of 110,000 acres, of which we surveyed 3,128 acres of high probability habitat. As mentioned before, once we got on the ground and started surveying, not all of these acres ended up being identified as suitable, but they were all surveyed.

There are approximately 48,600 acres identified for either burning, juniper thinning or reseeding identified in the EIS. Of those acres not already identified as high probability habitat:

- approximately 28,700 acres were surveyed from the road and determined to be low probability habitat,
- approximately 6,200 acres were dismissed from the office as not pygmy rabbit habitat at all and,
- approximately 13,400 acres were not surveyed due to funding constraints.

See Map 2 for the areas surveyed for pygmy rabbits.

I found during the habitat assessment and surveys that there was no good way to map all suitable and non-suitable habitat. I could map out the obvious non-suitable habitat (steep slopes, timbered stands) but it would have taken too much time away from the surveys to try to map rabbitbrush areas vs. sagebrush areas then rocky sagebrush vs. deep soil sagebrush.

#### Burrows Found

During our habitat surveys there were 89 burrows GPSd. Of these, 50 were badger dens, 4 were coyote dens, and 35 were rabbit burrows. Although we found 35 rabbit burrows, we felt that there are only three sites with potentially active pygmy rabbits. Many of the other rabbit burrows were either old, collapsed, or being used by cottontails. There were many, many other small rodent burrows but they were too numerous to count or to GPS.

See Map 3 for all burrows found during these surveys.

### Rabbits Found

Although we did identify any pygmy rabbits during these surveys, we did see numerous cottontails and jackrabbits. According to Todd Forbes with small populations this is not uncommon. Most of the time we were doing burrow searches which is a very different search pattern than when you are looking for the actual animals.

### FUTURE WORK TO BE DONE

At this time I did not receive additional funding for pygmy rabbit work in FY06, but listed below are the next steps I will take as soon as funding and time become available.

- Try to confirm presence of pygmy rabbits on the CRNG.
- Return to rabbit burrows, in order of priority, and fill out the data sheets for pygmy rabbit surveys.
- Enter data into appropriate database(s).
- Survey rabbit burrows, in order of priority, for tracks after fresh snows.
- Complete surveys of EIS units not completed this year.
- Continue to work with other agencies to add to the pygmy rabbit knowledge base in Oregon.