

Northern Waterthrush Breeding Areas  
NRIS Update and Inventory/Monitoring  
Deschutes & Willamette National Forests  
Final Report

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In the United States, breeding habitat is mainly in the northern portion, with a very small population in Central Oregon (NatureServe 2011) (Figure 2). The species is one of Oregon's rarest and most local breeders (Marshall et al. 2003) and a rare migrant or vagrant statewide (NatureServe 2011). Since 1977 an isolated breeding population has been documented in the south-central Cascades of Oregon with the population expanding or contracting from year to year (Marshall et al. 2003). Breeding populations arrive in early June, with variation between years, and leave by late July (Marshall et al. 2003). The population's documented northern reach in Oregon starts in Linn County near Lost Lake Creek and then trends southeast to Gilchrist along the Little Deschutes River, Klamath County, and then extends southwest along Crescent Creek and Salt Creek east of the falls, Lane County. As of yet, no northern waterthrush nest has been found in Oregon. Marshall et al. (2003) suggests the lack of nest findings is due to impenetrable nesting habitat, dense willow and other vegetation thickets along slow moving rivers. Threats to this dense riparian nesting habitat would have immediate and extreme consequences for northern waterthrush in Oregon (Marshall et al. 2003).

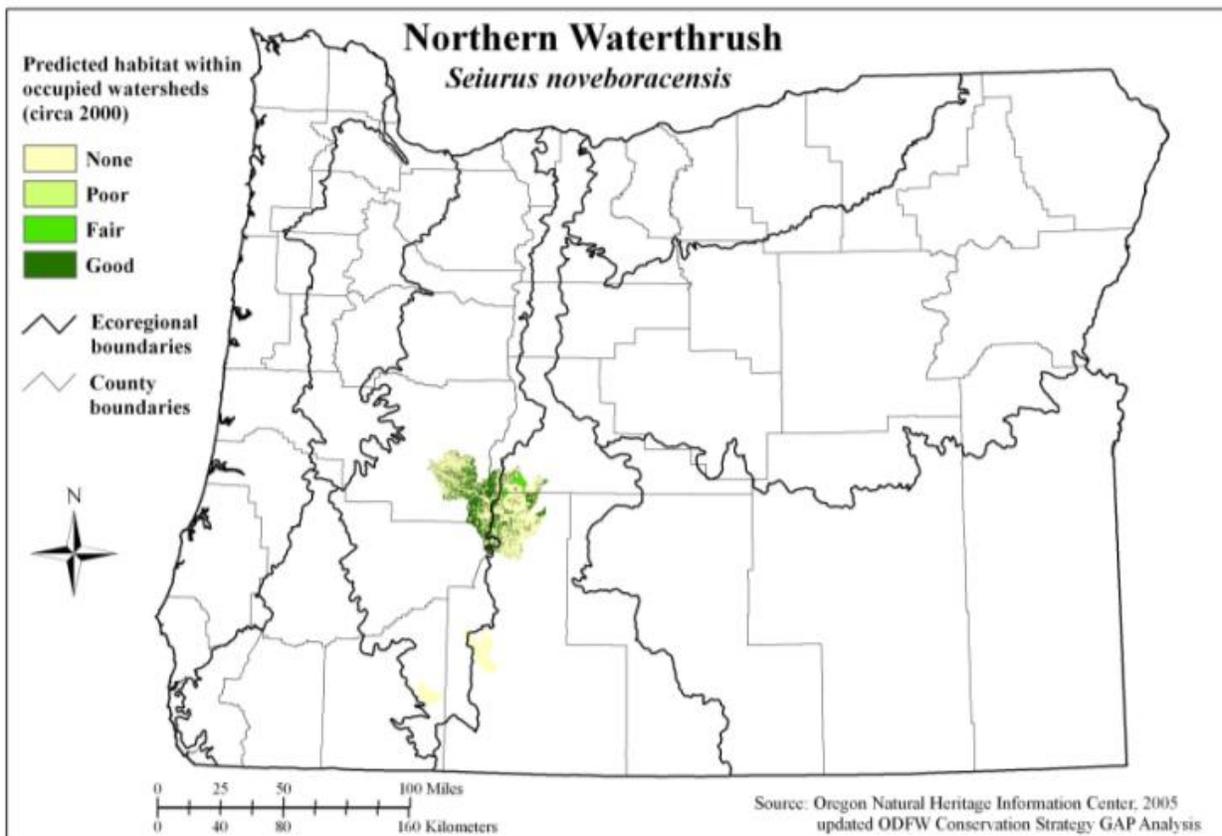


Figure 2. Northern Waterthrush Distribution and Habitat in Oregon. Oregon Department of Fish and Wildlife Website -- <http://oregonexplorer.info/Wildlife/WildlifeViewer/>

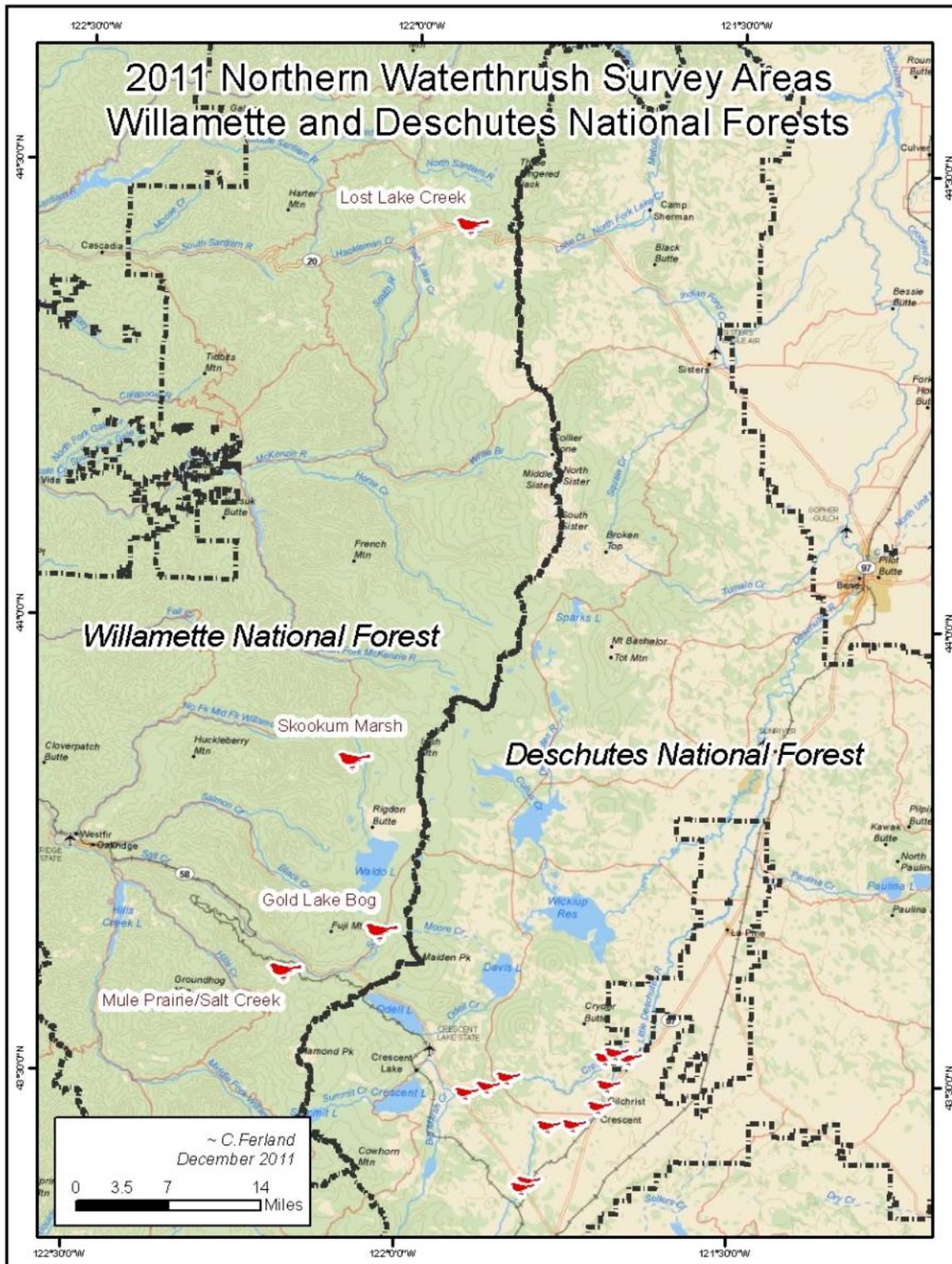
The northern waterthrush is a U.S. Forest Service Region 6 sensitive species. While it has been a bird of interest on the Crescent Ranger District of the Deschutes National Forest due to its somewhat celebrity status among local birders, little is known about the extent of the breeding population. Historically there has been a small breeding population along Crescent Creek that is thought to be quite stable (Marshall et al. 2003). The habitat description fits many willow-dominated riparian sites on the Deschutes and Willamette National Forests, yet few sites are known to be occupied. Marshall et al. (2003) noted several areas where birds were reported during the breeding season near the Cascade Crest on both the Willamette and the Deschutes National Forest. All these records are from the 1970's through the early 1990's. A review of the NRIS Wildlife database prior to this project revealed only a single record on the Deschutes NF and none on the Willamette NF. The lack of information on this species makes assessment for maintaining viable populations in the planning area (i.e. the national forest) problematic. Moreover, a large portion of the Crescent Creek population is on private lands, where a resort is currently being planned, with the remainder on National Forest land.

## **METHODS**

During the winter of 2010/2011 local birders were interviewed for reports of northern waterthrush. The best expert source in Lane County was Lane County Audubon Birder and Bird Report Compiler, Tom Mickel (Eugene, OR). He submitted historic reports of northern waterthrush at three sites on the Willamette National Forest. Subsequently, survey sites were identified on each forest based on current and historic records as well as potentially suitable habitat. Four sites were identified and surveyed on the Willamette National Forest and 12 sites were surveyed on the Deschutes National Forest (Figure 3).

Surveys were conducted using the Birds in Forested Landscapes (Cornell Lab of Ornithology) protocol (Cornell Lab of Ornithology, November 13, 2011 Website). See sample forms in Appendix A. The protocol consists of two visits (when birds are not detected on the first visit) to at least 8 points/area (or complete coverage of all suitable habitat if <8 points at the site) to determine presence/absence and breeding status. The visits included periods of observation, solicitation of response through playback of recorded calls of target species, and behavior watch through playback of mobbing calls. The protocol does not include an active nest search. Breeding was determined by behavior. Where waterthrush were detected, habitat data was collected at three scales: survey point, site (circle 500' radius), and patch including context of patch with the landscape. Photographs were taken of each site.

Figure 3. 2011 Northern waterthrush survey sites on the Willamette National Forest & Deschutes National Forests.



## RESULTS

### Deschutes National Forest

During the 2011 field season 12 sites, which included portions of the Little Deschutes River and Crescent Creek, were surveyed between June 28<sup>th</sup> and July 25<sup>th</sup>. Two of the twelve sites were known to have northern waterthrush and were thought to support breeding birds. ***In 2011, waterthrush were detected at the two known sites as well as two additional new sites.***

Survey area streams were buffered 300 ft (91 meters) on both sides to include edge habitat between riparian and forests where northern waterthrush have been found. Several factors complicated detectability for a few surveys including limited audio detection distances, road and car noise, and dense, impenetrable vegetation.

Deschutes NF Surveyed Sites (See Appendix B for individual site maps):

1. GT2/Little Deschutes River (Known Site)
2. HWY 61/Crescent Creek (Known Site)
3. HWY 58/Little Deschutes River
4. FS road 9770/Little Deschutes River
5. Mohawk/Little Deschutes River
6. Crescent Creek Campground/Crescent Creek
7. FS road 6100.100/Little Deschutes River
8. HWY 58/Crescent Creek
9. FS road 6125.880/Little Deschutes River
10. HWY 62/Crescent Creek
11. FS road 6207/Crescent Creek
12. HWY 62/Little Deschutes River

Northern waterthrush were detected at four sites:

- ***GT2/Little Deschutes River (Known Site)***
- ***HWY61/Crescent Creek (Known Site)***
- HWY 58/Little Deschutes River
- FS road 9770/Little Deschutes River

At GT2/Little Deschutes River (known site) on July 5<sup>th</sup>, two aural detections occurred. At the end of the survey one of the previously identified northern waterthrush flew to a willow overhanging on the road, which allowed the observers to positively confirm identification.

At HWY 61/Crescent Creek (known site) on July 7<sup>th</sup>, there were six aural and one visual detection.

At HWY 58/Little Deschutes River on July 12<sup>th</sup>, there were two aural detections.

At FS road 9770/Crescent Creek on July 25<sup>th</sup>, there were two aural detections.

Habitat use on and near the Crescent Ranger District generally consisted of willow thickets, 5- 8 ft (1.7-2.7m) tall, and other riparian vegetation such as Sitka alder, at the edge of cool, slow-

moving portions of the Little Deschutes River and Crescent Creek. Typical riparian habitat is surrounded by lodgepole and ponderosa pine forests.

### **Willamette National Forest**

During the 2011 field season four sites were surveyed between June 22<sup>nd</sup> and July 27<sup>th</sup>. All four were sites where at least one record of northern waterthrush had occurred in the past. ***In 2011, no waterthrush were detected at any of the sites during two visits.***

Willamette NF Surveyed Sites (See Appendix C for individual site maps):

1. Lost Lake Creek/Lost Lake (Known Site – coarse details on last detection; thought to be in the 1980's)
2. Skookum Marsh (Known Site – last detection early 1990's by Matthew Hunter)
3. Mule Prairie/Salt Creek (Known Site – last detection May 30, 2002 by Lane County Audubon)
4. Gold Lake Bog (Known Site – last detection June 28, 1986 by Lane County Audubon)

Habitat at each of these sites was wetland shrub/forb/grass with a mosaic of shrub clumps and openings that contained sedges, spirea, skunk cabbage, and other herbaceous forbs and grasses. All of the sites were adjacent to lakes and/or creeks and were fairly developed large marsh/bog areas (20-300 acres). Hardwood shrubs included willow, alder and cascara ranging from 5-15' tall. Additionally, there was a small amount of conifer encroachment at sites 2-4.

While no northern waterthrush were detected at any of the sites, numerous other riparian and riparian edge associated species were detected including: common yellowthroat, Stellar's jay, willow flycatcher, Oregon junco, song sparrow, Swainson's thrush, rufous hummingbird, spotted sandpiper, and red-winged blackbird. Bald eagle and osprey were also observed.

### **DISCUSSION**

We expected a substantial increase in northern waterthrush observations. Prior to this study, there was only one observation documented in the Forest Service NRIS Wildlife database. We also expected the 2011 survey data would help determine if past local populations still persist and provide some of the first survey information on northern waterthrush at these sites in more than a decade.

We did increase the amount of data in NRIS Wildlife. There is now occurrence data (historic and present) at a total of four sites on each forest. Two of the Deschutes National Forest sites are new sites.

By confirming historical breeding areas, we improved our knowledge of population distribution as well as habitat characteristics for this rare species. The knowledge gained by this project helps determine appropriate conservation measures and reduces the risk of extirpation. The project also raised awareness of this species, not just among the wildlife biologists, but also other employees. A short presentation about northern waterthrush was developed on the McKenzie

River Ranger District and shown at a district meeting and at a YCC crew education session. One of the YCC crew members assisted with the surveys at Lost Lake

### **Deschutes National Forest Sites**

Based on the habitat where the northern waterthrush were found, potential breeding habitat may occur in multiple additional areas along both Crescent Creek and the Little Deschutes River. Most of the potential habitat areas are quite dense with willows and other vegetation, and have multiple creek fingers making it extremely hard to survey on foot. Two qualified observers would be optimal for the survey, for safety reasons and to aid in the positive identification of northern waterthrush. The use of a kayak or canoe may be useful to access these areas along waterways for future survey efforts.

### **Willamette National Forest Sites**

No waterthrush were detected at any of the four historic sites on the Willamette National Forest. However, the project was beneficial in allowing us to gather and archive historic observations at each of these sites. One year of surveys is not conclusive for such an elusive species with limited distribution in the Cascades. Repeat surveys should continue for the next several years in order to investigate occupancy of these sites, especially at sites with historic detections over multiple years such as Mule Prairie/Salt Creek and Gold Lake Bog. Additionally, other areas with suitable habitat should be surveyed such as Odell Lake, Big Lake, Beaver Marsh, and others.

### **LITERATURE CITED**

- Cornell Lab of Ornithology. Birds in Forested Landscape. <http://www.birds.cornell.edu/bfl/> November 13, 2011 Website.
- DeGraaf, R. M. and J. H. Rappole. 1995. Neotropical Migratory Birds; *Natural History, Distribution, and Population Change*. Cornell University Press. Pp 451-452.
- Marshall, D., B., M. G. Hunter, and A. L. Contreras. 2003. Birds of Oregon: A general reference. Oregon State University Press, Corvallis. 752 pp.
- NatureServe. 2011. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: August 22, 2011).



**SURVEY POINT CHARACTERISTICS** (see pages 2.7–2.8 in the *Study Site Instructions* section)

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_ Elevation: \_\_\_\_\_ ft m (circle)

How did you determine latitude and longitude: (mark one)

- |  |   |
|--|---|
| <input type="checkbox"/> BFL map application                 | <input type="checkbox"/> Provided by my site coordinator  |
| <input type="checkbox"/> Topographic map                     | <input type="checkbox"/> Worldwide Web (or Internet)      |
| <input type="checkbox"/> Global positioning system (GPS)     | <input type="checkbox"/> Other map (write on lines below) |
| <input type="checkbox"/> Geographic information system (GIS) | <input type="checkbox"/> Other (write on lines below)     |

Distance to nearest: (circle one)

- edge: \_\_\_\_\_ ft mi m km  
road: \_\_\_\_\_ ft mi m km  
water: \_\_\_\_\_ ft mi m km  
occupied building: \_\_\_\_\_ ft mi m km

**STUDY SITE CHARACTERISTICS** (see pages 2.8–2.12 in the *Study Site Instructions* section)

Hydrology in breeding season: (mark all that apply)

- No water
- Stream/flowing water
- Pond/standing water
- Forested wetland
- Riparian forest strip

Forest cover type: (mark one)

- Conif. (natural)
- Conif. plantation
- Deciduous
- Mixed conif./decid.

Slope: (mark one)

- Sloped
- Level
- Undulating

Land use: (mark all that apply)

- Undisturbed
- Light recreation
- Heavy recreation
- Partially cut
- Commercial forest
- Grazed
- Recently burned
- Suburban woodlot
- Other \_\_\_\_\_

Ownership: (mark one)

- Private
- Timber Co.
- State
- County/Town
- Forest Service
- BLM
- USFWS
- Other federal
- Tribal lands
- Other \_\_\_\_\_

Canopy height: \_\_\_\_\_ ft m

Percentage of canopy cover: \_\_\_\_\_ = % Deciduous cover \_\_\_\_\_ + % Coniferous cover \_\_\_\_\_

Most common trees in canopy: (list three if known) \_\_\_\_\_

Percentage of low vegetation cover: \_\_\_\_\_ = % Saplings \_\_\_\_\_ + % Deciduous shrubs + \_\_\_\_\_  
+ % Coniferous shrubs \_\_\_\_\_ + % Ground cover \_\_\_\_\_ + % Dead \_\_\_\_\_ (leaf litter, fallen trees, etc.)

Most common low vegetation plants: (list three if known) \_\_\_\_\_

**LANDSCAPE LEVEL CHARACTERISTICS** (see pages 2.12–2.15 in the *Study Site Instructions* section)

Patch edge: (check all that are adjacent to your patch)

- |  |  |
|--|--|
| <input type="checkbox"/> Industrial/Commercial | <input type="checkbox"/> Desert scrub      |
| <input type="checkbox"/> Residential           | <input type="checkbox"/> Natural grassland |
| <input type="checkbox"/> Agricultural          | <input type="checkbox"/> Wetland           |
| <input type="checkbox"/> Second growth         | <input type="checkbox"/> Open water        |
| <input type="checkbox"/> Natural shrub         | <input type="checkbox"/> Other             |

Forest patch size: \_\_\_\_\_ acres ha (circle one) Was this measured  or estimated?

Percentage of forest: \_\_\_\_\_ %

Linear distance of edge: \_\_\_\_\_ ft m (circle one)

Isolation measurements: (if your patch is 1,000 acres (400 hectares) or more, you do not need to complete this measurement)

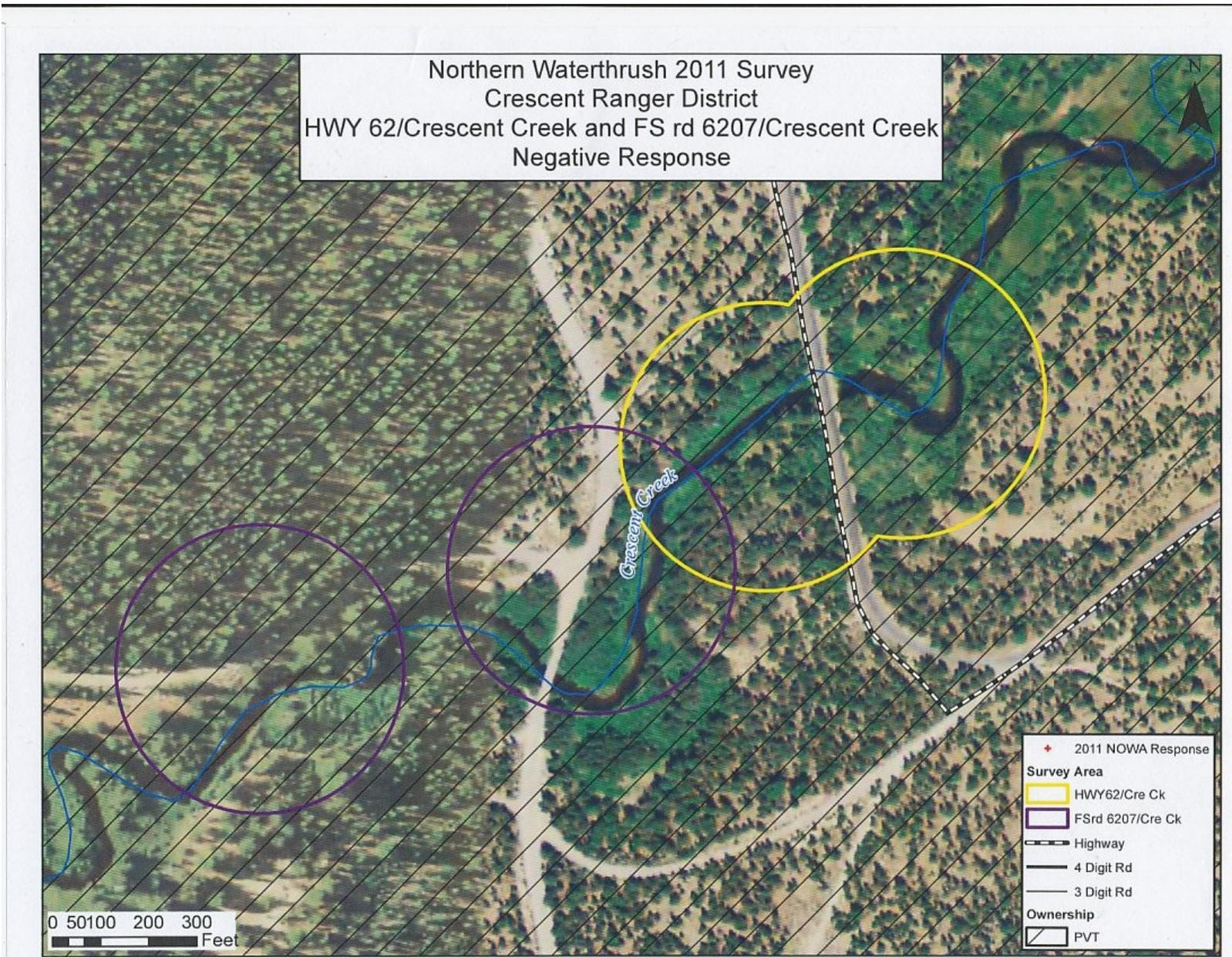
Distance from your patch to the nearest patch of 100 acres (40 hectares) or more: \_\_\_\_\_ ft mi m km (circle one)

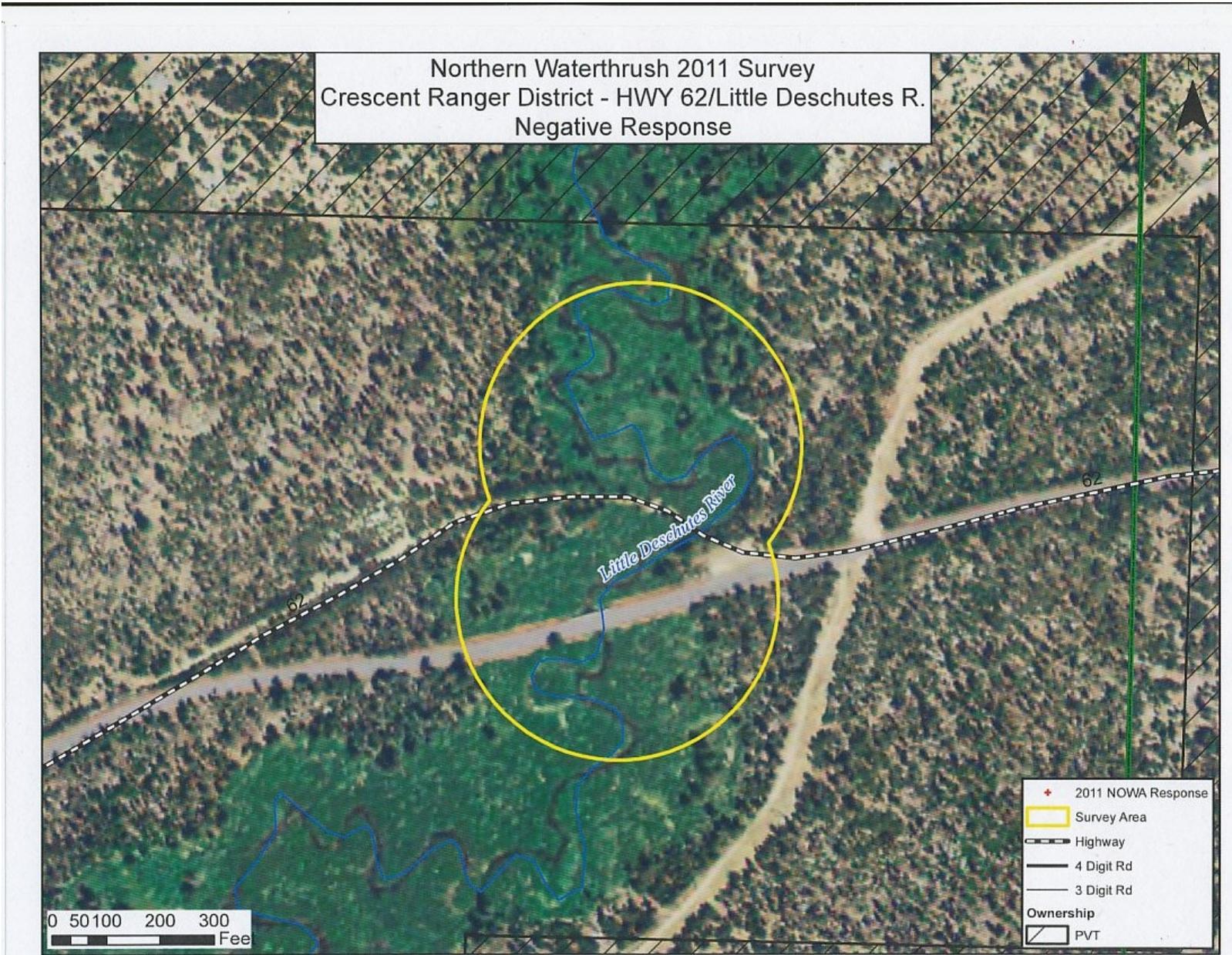
Distance from your patch to the nearest patch of 500 acres (200 hectares) or more: \_\_\_\_\_ ft mi m km (circle one)

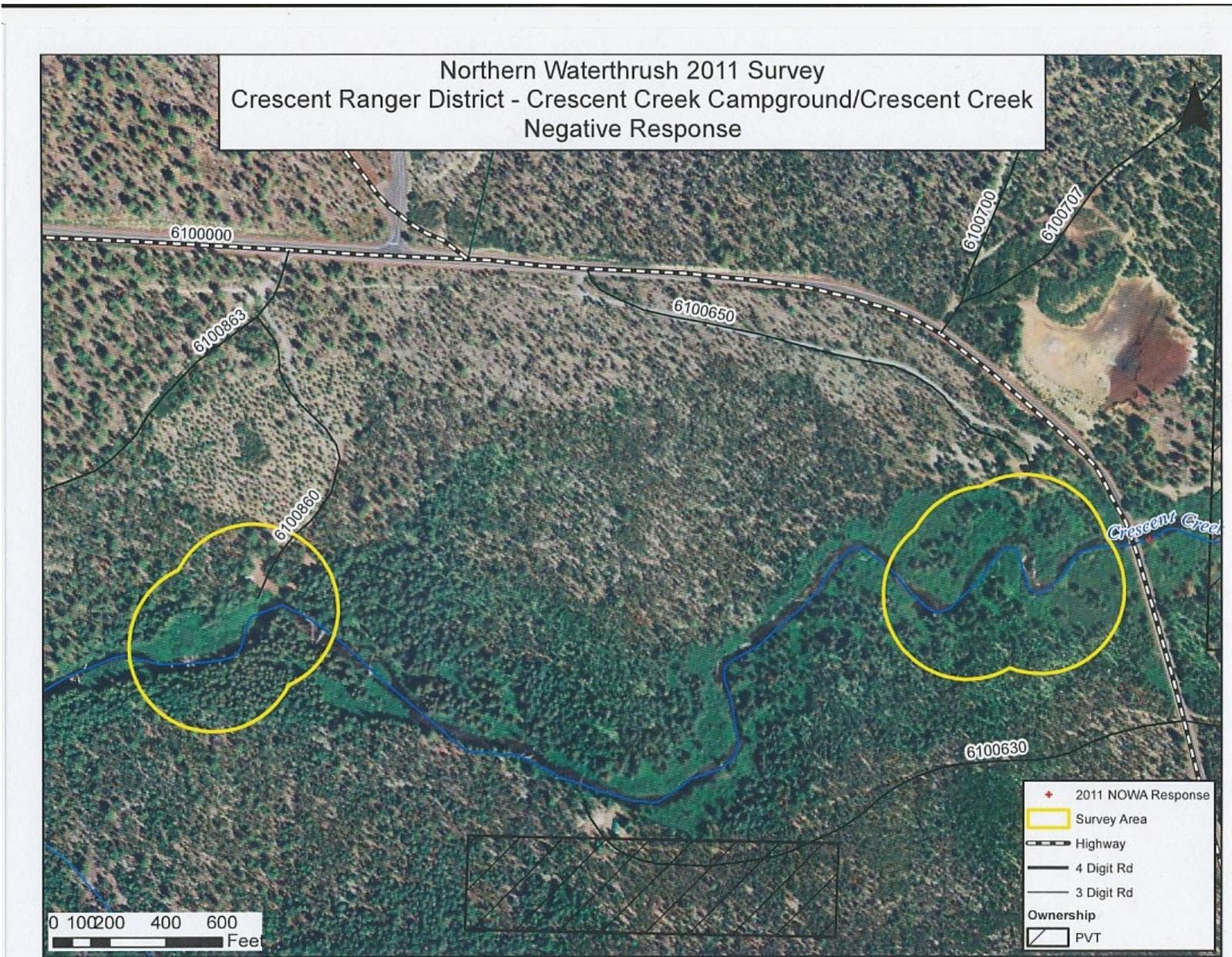
Sources of information: (mark all that apply)

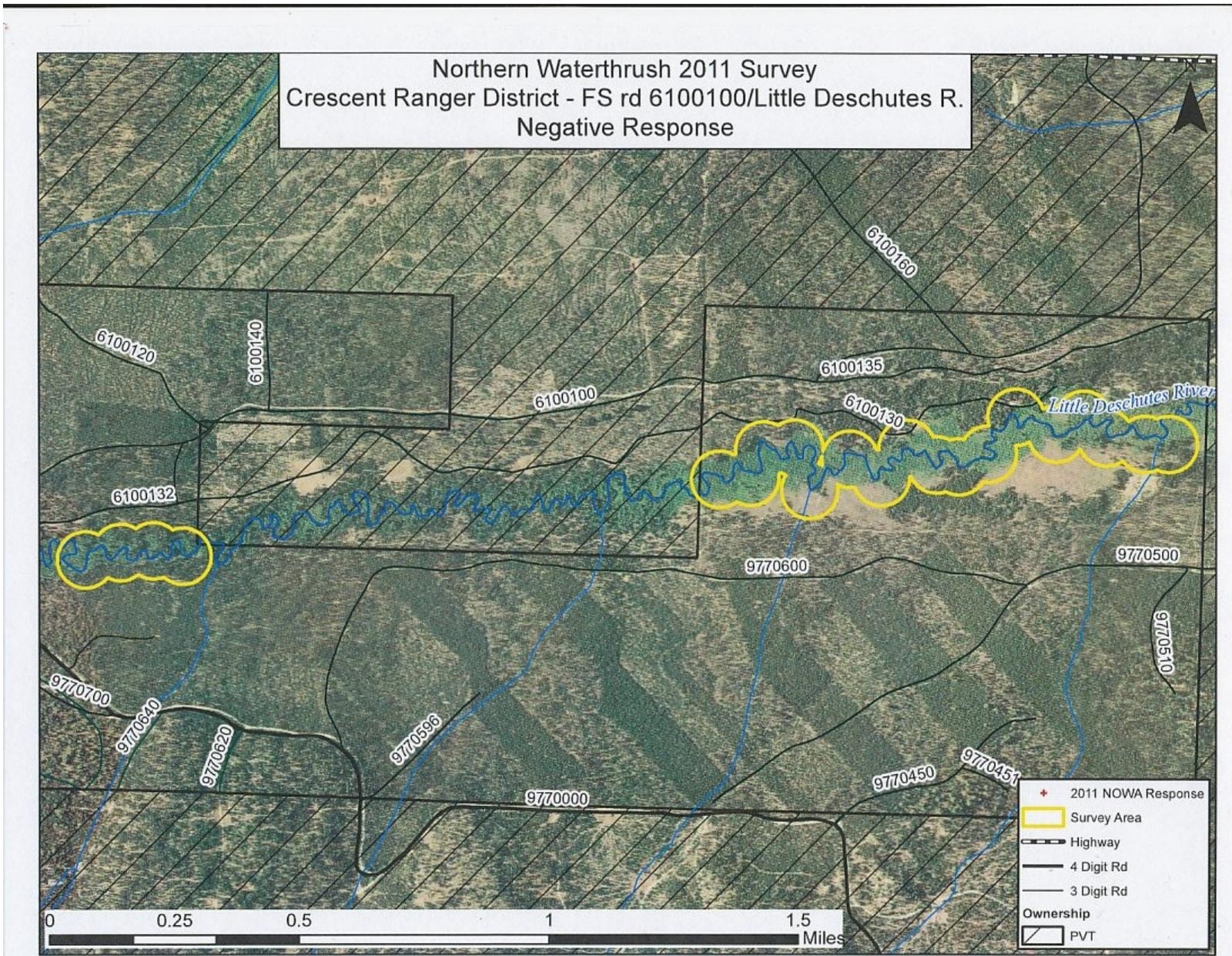
- |  |  |                                       |
|--|--|---------------------------------------|
| <input type="checkbox"/> Topographic map | <input type="checkbox"/> Other map (write on lines to right) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Aerial photo    | <input type="checkbox"/> Geographic Information System (GIS) | _____                                 |

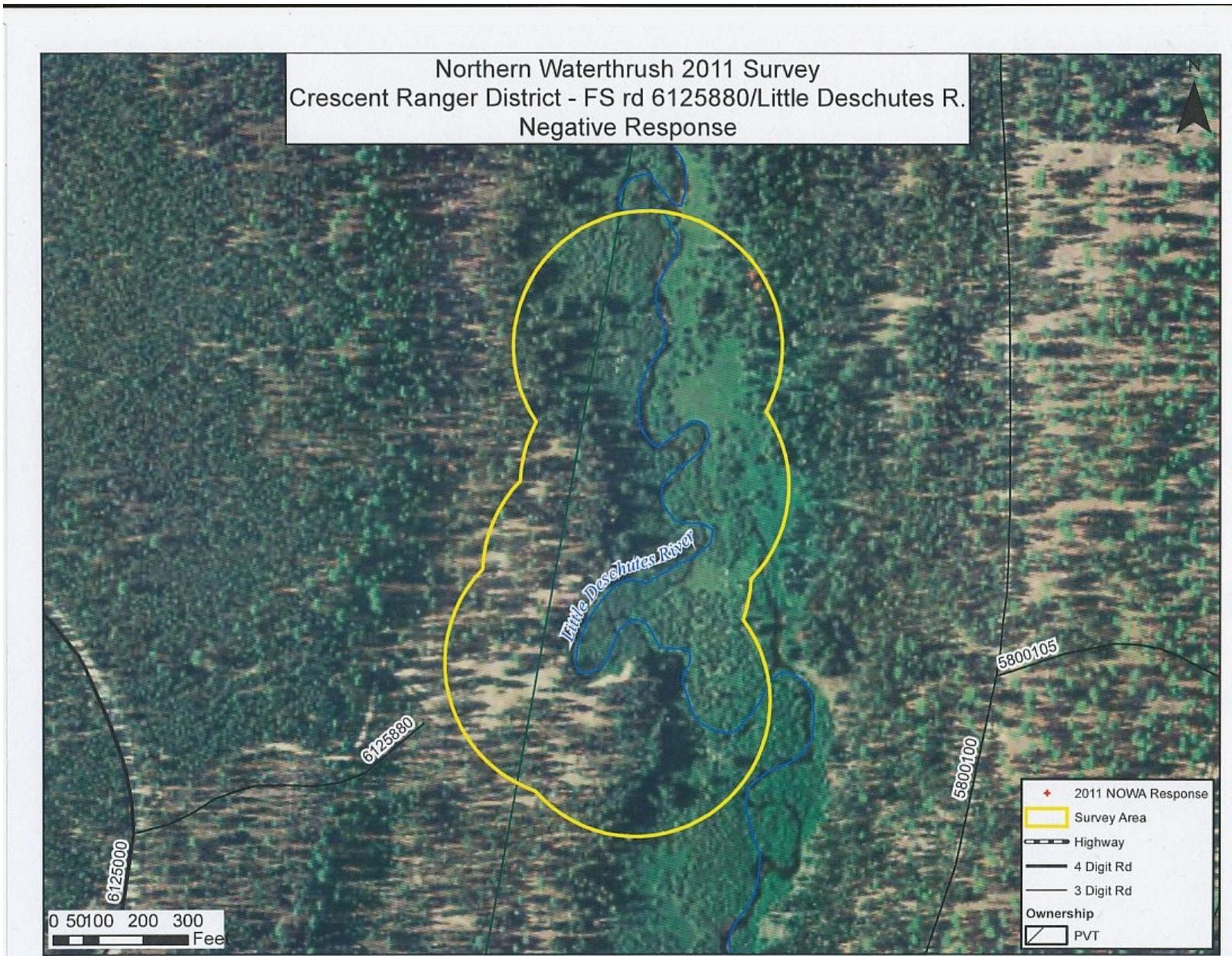


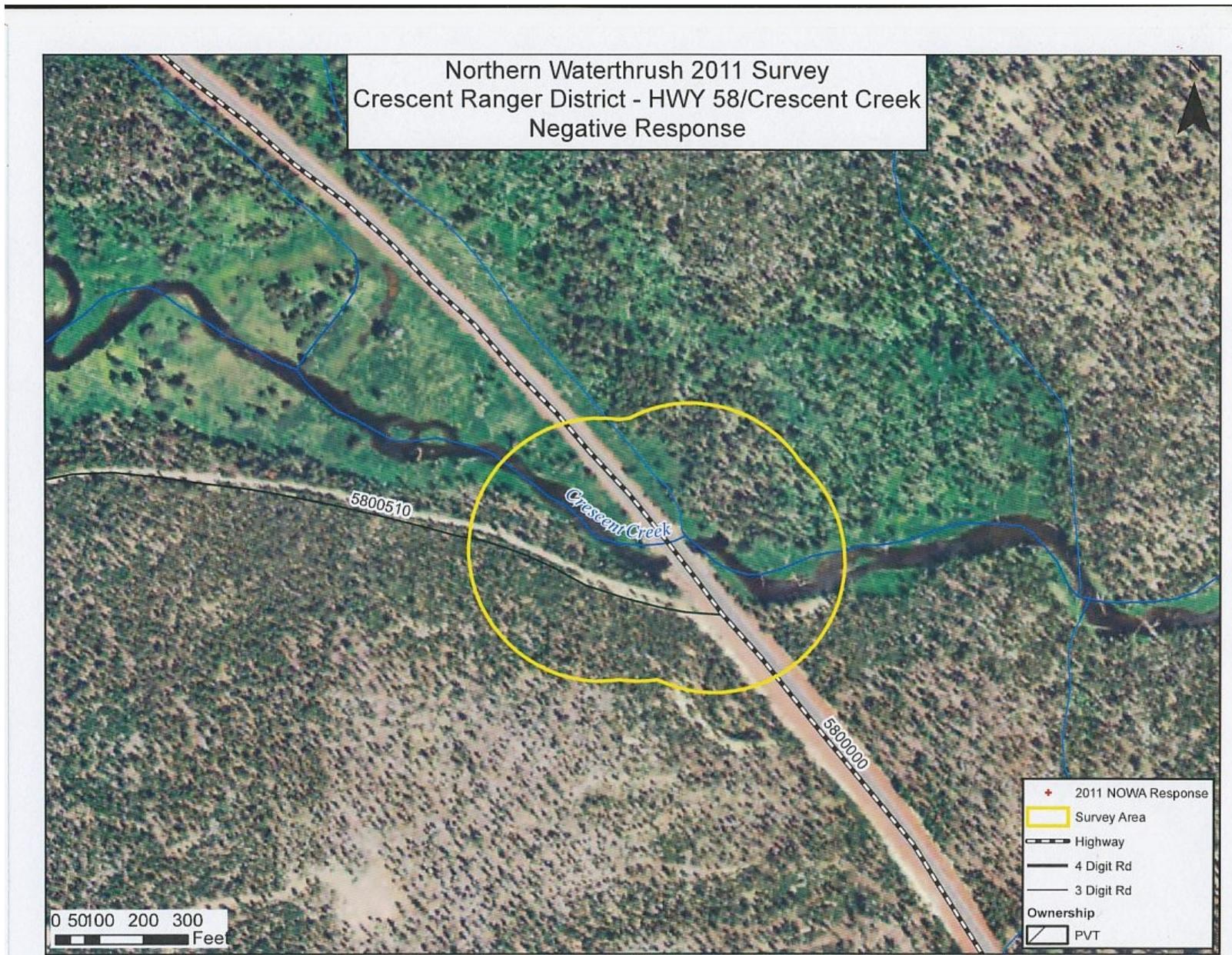


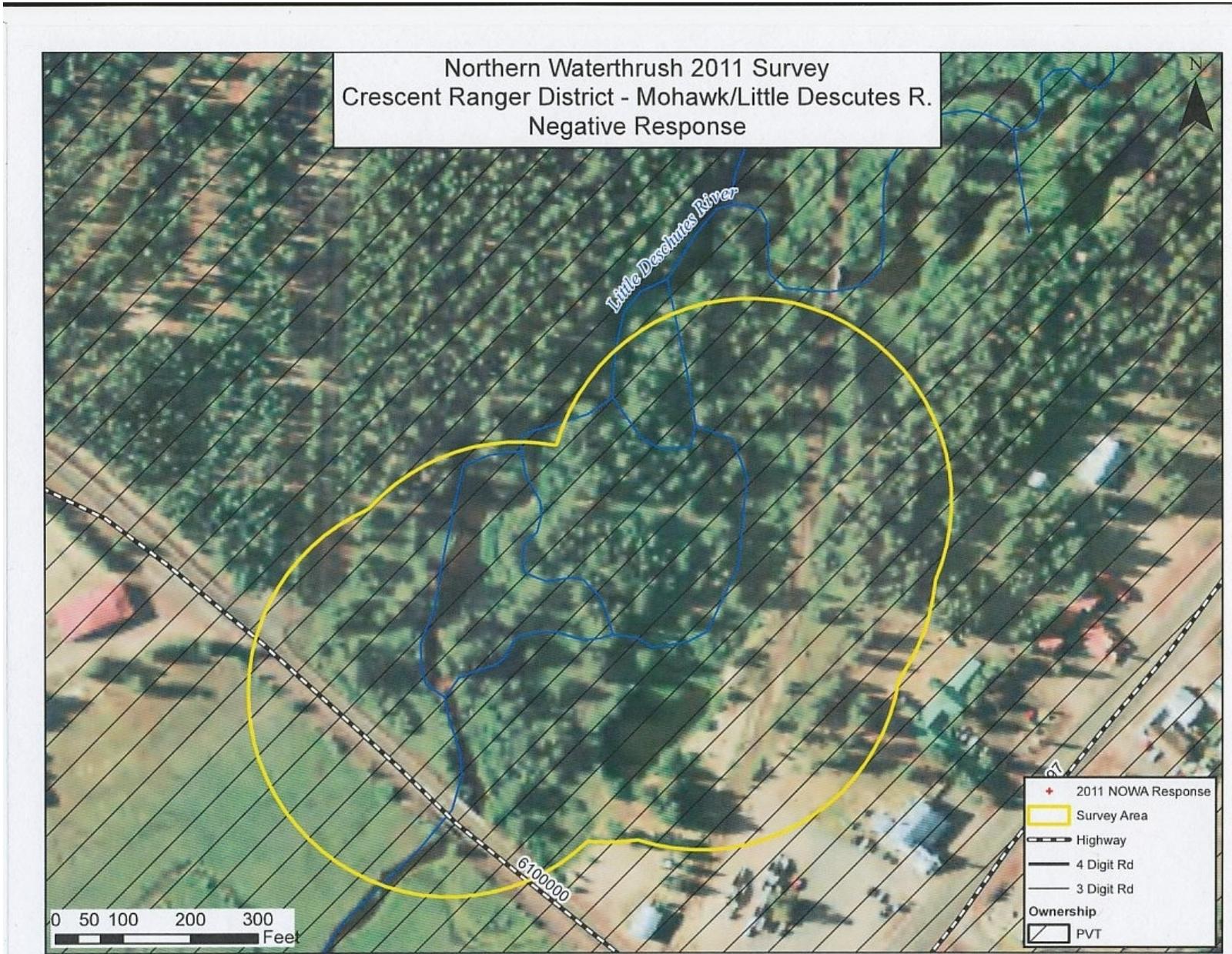


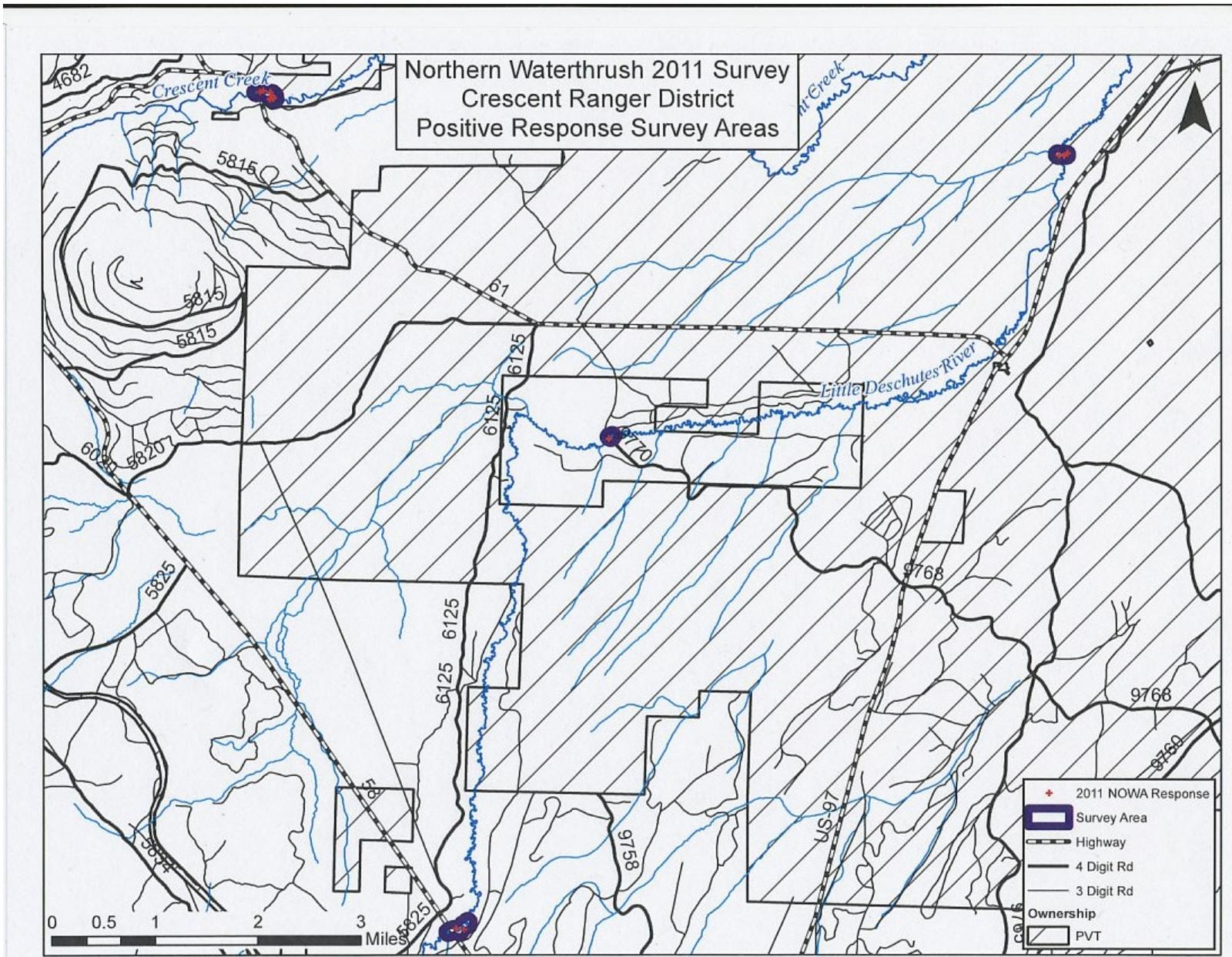


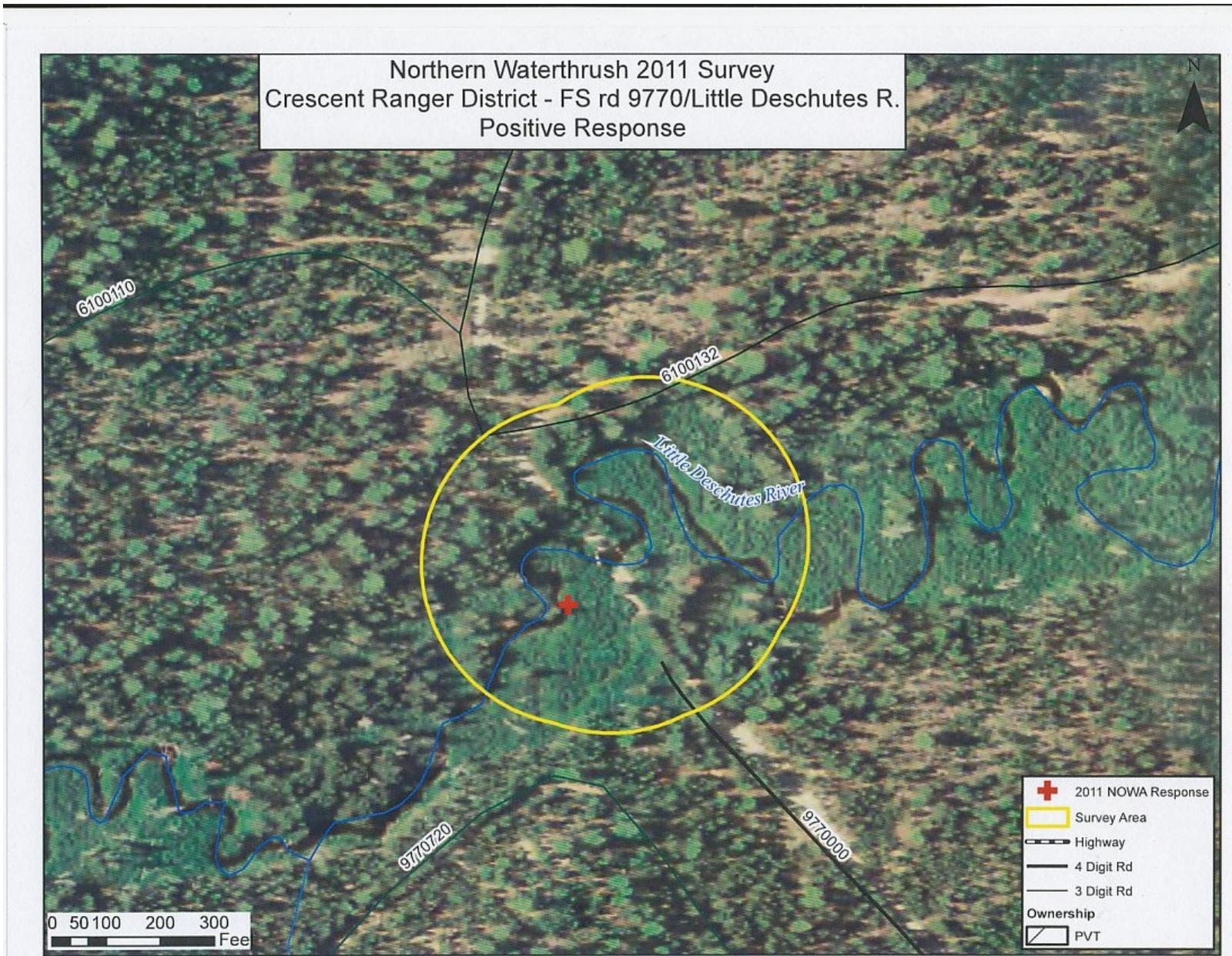


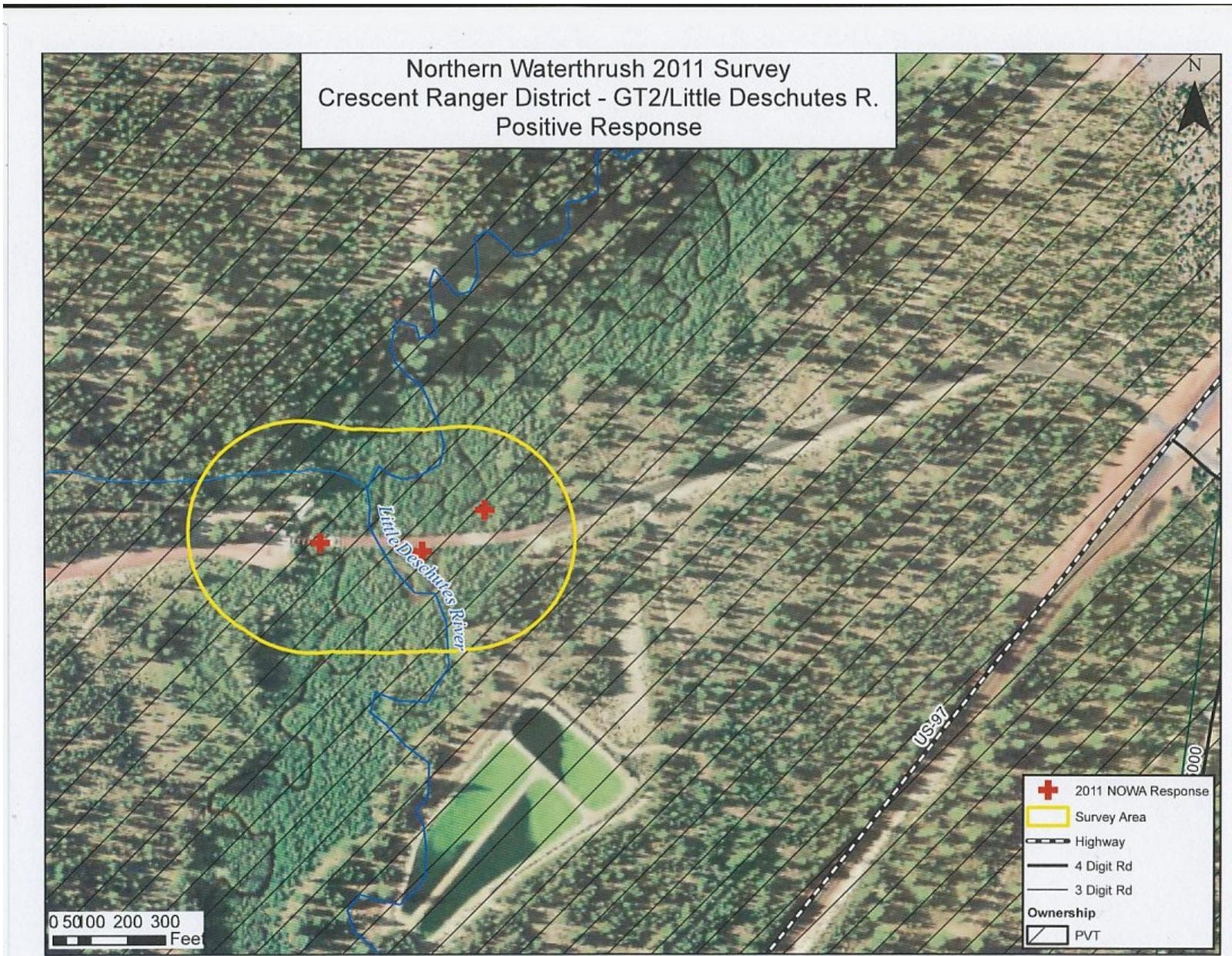


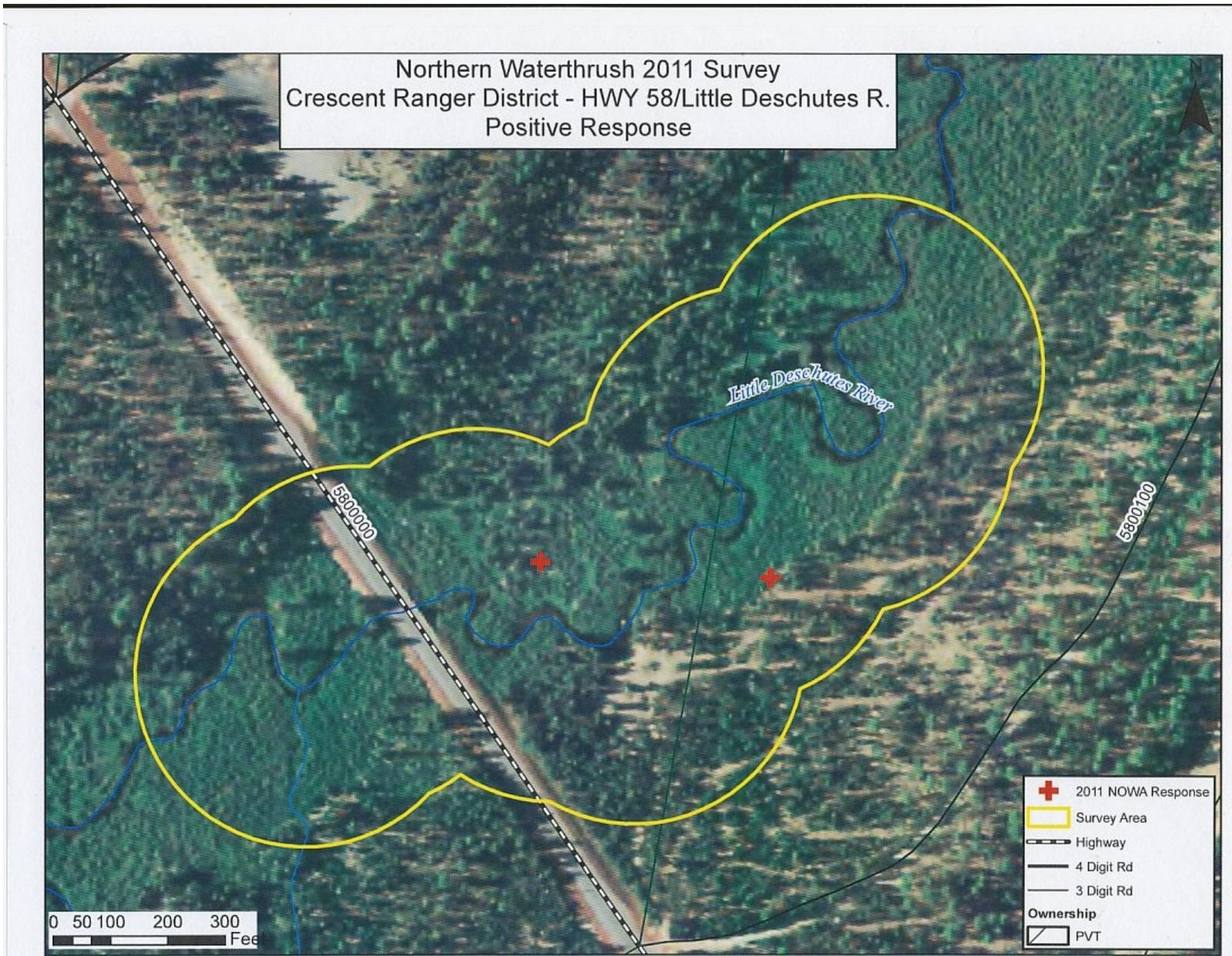


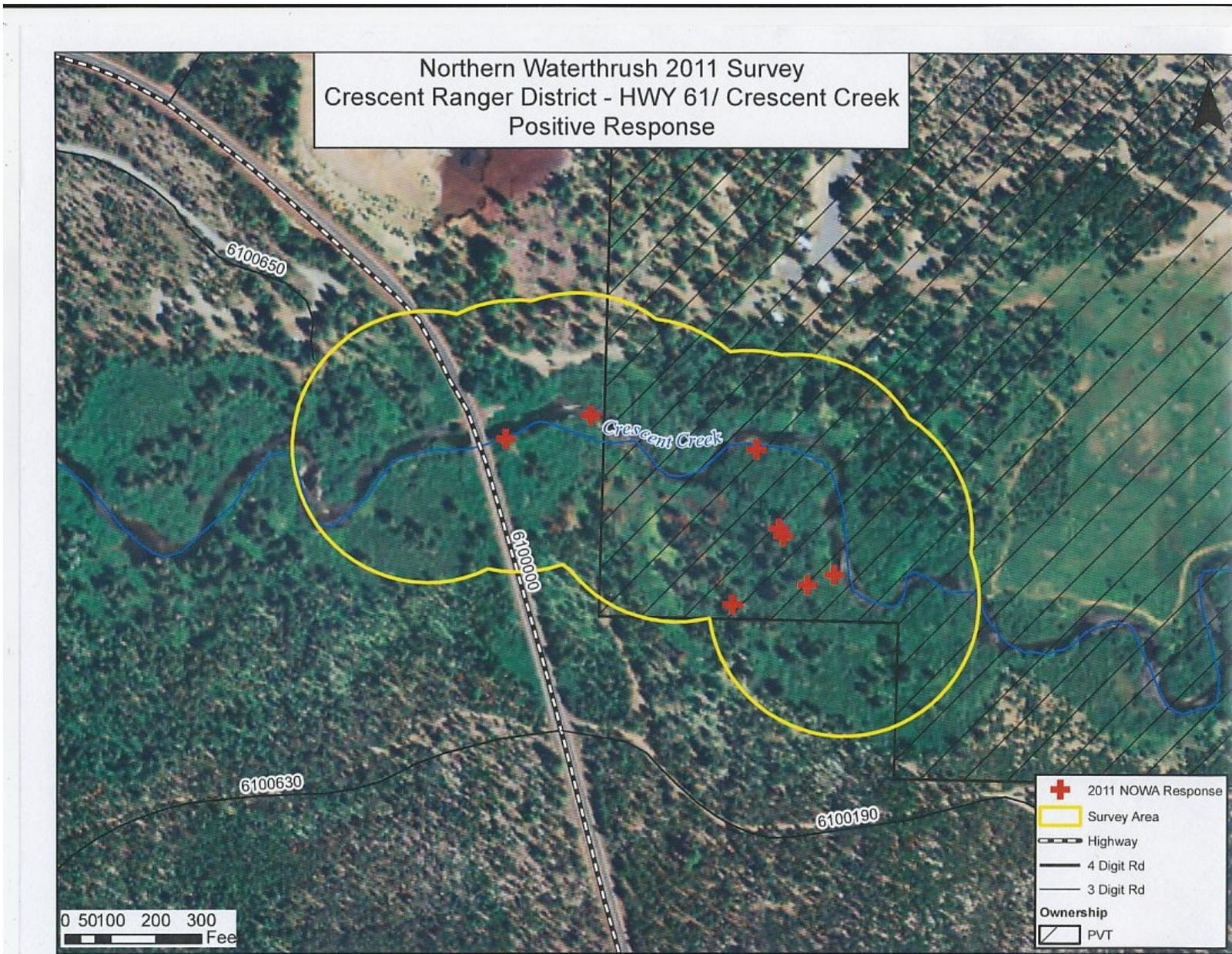












**APPENDIX C**  
**Willamette NF Northern Waterthrush 2011 Survey Site Maps**

