


CANAAN VALLEY NWR
U. S. FISH AND WILDLIFE SERVICE
MEMORANDUM

DATE: 7/17/2008

TO: FILE

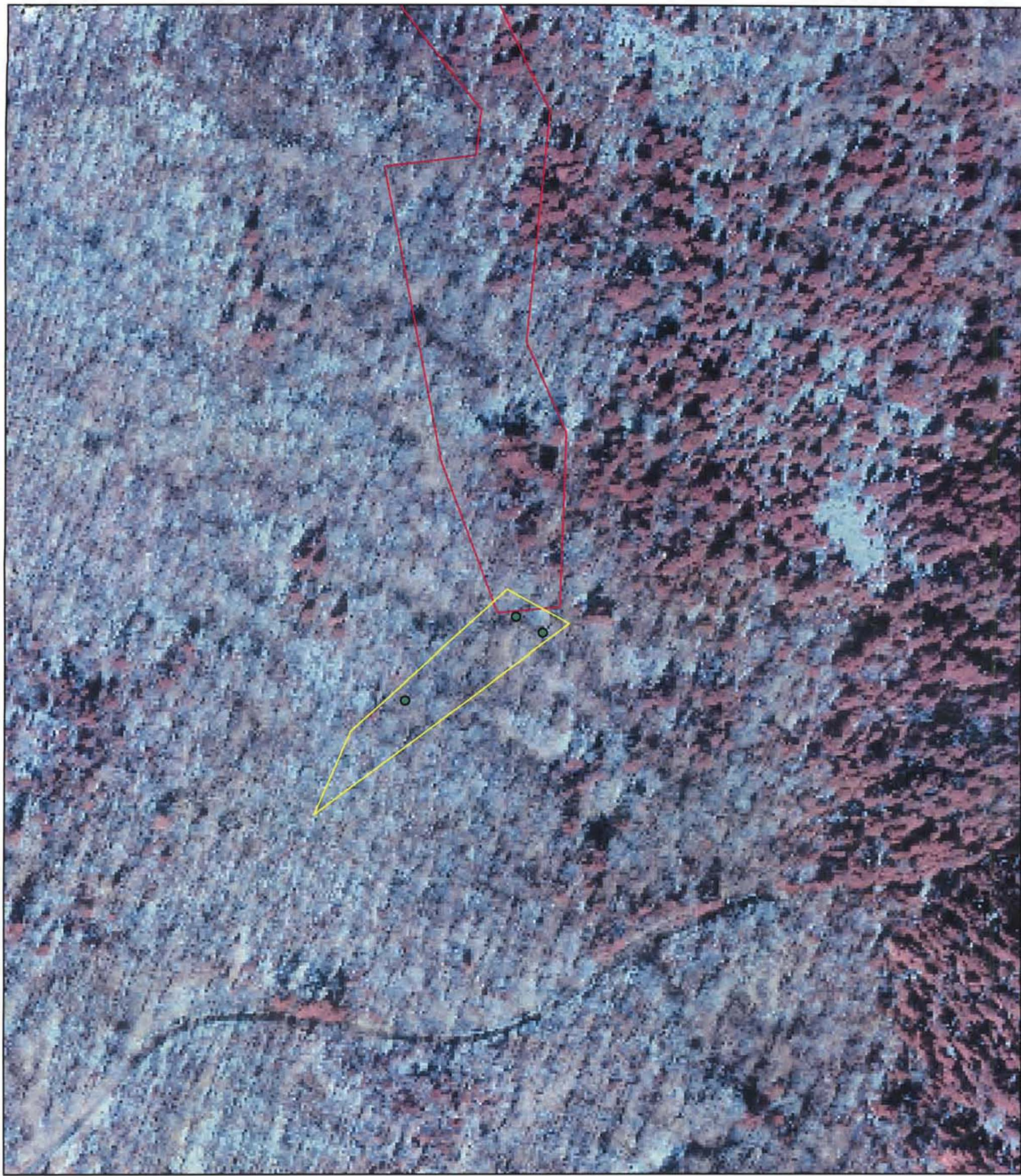
FROM: Marquette Crockett 

SUBJECT: Night search for Cheat Mountain salamander (*Plethodon nettingi*)
on July 15, 2008

On July 15, 2008 Refuge biologists Marquette Crockett and Leah Ceperley, along with volunteers Kristina Carter and Stephanie Hern, Refuge bio-tech Kaysie Cox, and STEP student Emily Jones conducted a night time search for *P. nettingi* on the slopes below Herz Knob. Each person searched a 2 x100 M transect perpendicular around the slope from a known *P. nettingi* population (see attached map) for a total search area of 1200 M². The search began at 9:50 pm with a start temperature of 61.5°F and ended at 11:15pm.

Three individual *P. nettingi* were found during the search, including one juvenile salamander that was found in hardwood forest approximately 65 meters away from the “known” location. Locations of each specimen, along with weight in grams and snout-vent lengths in millimeters are listed below.

| <u>Snout-Vent</u> | <u>Length</u> | <u>Weight</u> | <u>Sex</u> | <u>Location (UTM NAD 83)</u> |
|-------------------|---------------|---------------|------------|------------------------------|
| P. nettingi - | 46 mm | 1.8g | U | 639025/4320833 |
| P. nettingi - | 35 mm | 0.8g | U | 639015/4320839 |
| P. nettingi - | 21 mm | 0.2g | U | 638974/4320808 |



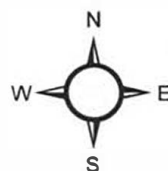
LEGEND

Green Dots = Location of Individual *P. nettingi*

Red Outline = Known population

Yellow Outline = Search area 7/15/2008

0 30 60 120 Meters



Locations of *Plethodon nettingi*
Night Search 7/15/2008
Between FR 80 and Herz Knob
UTM NAD 83 - M Crockett

UNITED STATES GOVERNMENT
U.S. FISH AND WILDLIFE SERVICE
MEMORANDUM

DATE: August 15, 2008

TO: Files; Cheat Mountain Salamander

FROM: Ken Sturn; Wildlife Biologist

SUBJECT: Night Area Search for Cheat Mountain Salamanders

On August 14, 2008 a night area search was conducted for presence of Cheat Mountain salamanders (*Plethodon nettingi*) on the Kelly Elkins Tract of the Refuge. The area surveyed was along the down hill edge of Three-Mile Trail beginning close to the junction of the Three-Mile and Powderline trails. Five 200 meter transects were established running parallel to Three-Mile Trail spaced 2meters apart for an effective search area of 2000 m² or about 0.5 acres. Five people conducted the survey, each following a transect and surveying one meter on either side of the line.

The survey began at 8:55pm and ended at 11:45 pm. Starting surface temperatures were 15°C (59°F); ending temperature was 13°C (55°F). The forest floor was damp with light rain occurring earlier in the day and moderate rain the previous day (August 13).

A total of 107 salamanders were found during the survey: 52 *Desmognathus ochrophaeus*, 50 *Plethodon cinereus*, 1 *Gyrinophilus porphyriticus*, and 1 *Plethodon nettingi* and 3 unknown (escapes – not *P. nettingi*). Salamander activity remained fairly constant with approximately the same capture rate (~23 per 30 min) during the survey period.

The *P. nettingi* was found on the lower transect at UTM NAD 83 637361 4318914 at approximately 3,860 feet. Habitat was typical of the area searched with overstory composed of a mixture of red spruce, yellow birch, eastern hemlock and red maple. It was found within 10 meters of the end of the transect at approximately 11:20 pm. This *P. nettingi* was an adult measuring 43mm snout-vent and weighing 1.3 grams.

This is the first *P. nettingi* documented below Three-Mile Trail; however, no extensive surveys have been conducted in this area previously. The location is within 13 meters of Three-Mile Trail and within 72 meters of two other *P. nettingi* detections in the small wedge of forest between Powderline and Three-Mile Trails and within 142 meters of a larger population above Three-Mile and Powderline Trails. Because this species is thought to be highly sensitive to changes in temperatures, humidity and not likely to cross trails it is likely that these three locations represent a fragmented population of this threatened species. Future searches should focus on this new detection and evaluate the extent of the occupied habitat down slope of Three-Mile Trail.

*CANAAN VALLEY NWR
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DATE: 2 September 2008

TO: File

FROM: Kaysie Cox



SUBJECT: Cheat Mountain Salamander Survey on 26 August 2008

This survey was to continue searching for Cheat Mountain salamanders on Cabin Mountain. The search started at UTM 637378 4319135, which is where the last Cheat Mountain salamander was found on the night survey on 14 August 2008.


The survey area is between Three Mile trail and Heartland trail on the White Grass cross country ski area. The area is a north-east facing slope, which is fairly steep, with abundant coarse woody debris, consisting almost entirely of birch limbs and rocks. It is fairly mossy. The survey area ends at an abandoned cross-country ski trail that connects Three Mile trail and Heartland trail.

The survey started at 9:03 am. The start temperature was 58.7°F. It was slightly windy, and the leaf litter was very dry to the touch. It had not rained in well over a week. The survey ended at 10:58 am. The end temperature was 62.2°F. There were two individuals of the genus *Desmognathus* and one *Plethodon cinereus* found. There were no Cheat Mountain Salamanders found.

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DATE: 4 September 2008

TO: File

FROM: Kaysie Cox 

SUBJECT: Cheat Mountain Salamander Survey on 29 August 2008

This survey was to continue searching for Cheat Mountain salamanders on Cabin Mountain. The search started at UTM 637378 4319135, which is where the last Cheat Mountain salamander was found on the night survey on 14 August 2008. This survey was also a continuation of the survey 3 days earlier, continued due to the recent rains.

The survey area is between Three Mile trail and Heartland trail on the White Grass cross country ski area. The area is a north-east facing slope, which is fairly steep, with abundant coarse woody debris, consisting almost entirely of birch limbs and rocks. It is fairly mossy. The survey area ends at an abandoned cross-country ski trail that connects Three Mile trail and Heartland trail.

The survey started at 8:44 am. The start temperature was 63.7°F. It was drizzly to rainy, with significant precipitation (~2 inches) in the previous 2 days (the remnants of Hurricane Fay). The leaf-litter was moist on the surface, but was somewhat dry in the deep layers. It was cloudy/foggy until 9:30 am, when the sun came out. The survey ended at approximately 1:30 pm, and no end temperature was taken.

A Werhle's salamander (*Plethodon werhlei*) was found approximately 10 meters uphill of the last marked Cheat Mountain salamander location. It was identified in the office based on number of costal grooves. Four individuals of the genus *Desmognathus* were also found. There were no Cheat Mountain salamanders found.

CANAAN VALLEY NWR
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DATE: 12 September 2008

TO: File

FROM: Kaysie Cox

Kaysie Cox

SUBJECT: Cheat Mountain salamander survey on 11 September 2008

This survey was conducted to continue searching for Cheat Mountain salamanders on Cabin Mountain. The survey was conducted on 11 September 2008, in an area which lies between Powderline trail and Wilderness trail in the Whitegrass cross country ski area. The slope faces approximately north. To the south, near Wilderness trail, the area is fairly flat. As you travel north toward Powderline, there is a small ridge with a fairly steep drop off. The slope remains through to Powderline trail, and is less steep to the east.

The overstory of this area consists mainly of spruce, with some scattered yellow birch. The midstory is fairly shrubby, while the understory consists of mostly medium to dense patches of ferns. There is little coarse woody debris, which consists mostly of birch remnants. There are very few rocks. Small patches of more open understory do exist, and they were mostly the focus of this survey.


The survey started at 11:04 am. The start temperature was 65.4°F. The soil here is fairly damp. It had rained earlier in the week, and this area appears to have a fair amount of runoff streams. The weather was mostly clear, with partial sunshine for the duration. The survey ended at 1:15 pm, and no end temperature was taken.

Three redback salamanders (*Plethodon cinereus*), one spring salamander (*Gyrinophilus porphyriticus*), and two dusky salamanders (*Desmognathus* spp.) were found. Additional species of note were a sighting of a possible Fisher, an abnormally colored wood frog (bright orange), two separate bear tracks, a large hawk, and a ruffed grouse. No Cheat Mountain salamanders were found.

CANAAN VALLEY NWR
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DATE: 22 September 2008

TO: File

FROM: Kaysie Cox 

SUBJECT: Cheat Mountain salamander survey

This survey was conducted to continue searching for Cheat Mountain salamanders on Cabin Mountain. The survey was conducted on 18 September 2008, in an area which lies between Powderline trail and Wilderness trail in the Whitegrass cross country ski area. To the south, near Wilderness trail, the area is fairly flat. As you travel north toward Powderline, there is a small ridge with a fairly steep drop off. The slope remains through to Powderline trail, and is less steep to the east.

The overstory of this area consists mainly of spruce, with some scattered yellow birch. The midstory is fairly shrubby (*Ilex* spp.), while the understory consists of mostly medium to dense patches of ferns. There is little coarse woody debris, which consists mostly of birch remnants. There are very few rocks. Small patches of more open and rocky understory do exist, and they were mostly the focus of this survey.

One area of interest exists surrounding an existing drinking spring on Powderline trail. The area around this is fairly rocky, but a little damp. The majority of this part of the survey focused on this area, and the majority of the salamanders (4 of 7) were found in this area.

The survey started at 10:16am. The start temperature was 60.9°F. The soil here is fairly damp. This area appears to have a fair amount of runoff streams. The weather was mostly clear, with partial sunshine for the duration. The survey ended at 1:21pm, and the end temperature was 64.5°F.

Three redback salamanders (*Plethodon cinereus*) and four dusky salamanders (*Desmognathus* spp.) were found. No Cheat Mountain salamanders were found.