April 2014

Protocol
for
Incidental Take Permit and Authorization

Robertson's Planthopper (*Fitchiella robertsoni)*

Note

If carrying out a given protocol is not feasible, or multiple listed species in a given management area pose conflicts, contact the Bureau of Natural Heritage Conservation (NHC) at 608-264-6057. Staff in NHC will work with Science Services staff, species experts and managers to establish an acceptable protocol for a given site that will allow for incidental take without further legal consultation or public notice

I. Species Background Information

A. Status

State Status: Threatened.

Number of Known Sites in Wisconsin: 4 sites total in the counties of Burnett, Crawford, Grant, and Vernon.

Global Range: Originally, *F. robertsoni* was likely found through the tallgrass prairie region of central North America and eastward into prairie likely glades/barrens and other dry grassland habitats. It has been collected from 29 locations in total from Ontario (1), Arkansas (1), Florida (4), Illinois (4), Indiana (4), Iowa (1), Kansas (1), Kentucky (1), Maryland (1), Minnesota (3), Mississippi (1), Ohio (1), Oklahoma (1), Texas (1), and Wisconsin (4).

B. Habitat

Host plant: The primary food plant(s) of *F. robertsoni* is not well documented. K.G.A. Hamilton, working in Ontario, associated the species with *Aristida* (3-awned grasses). R. Panzer and J. Bess working in Illinois and Indiana, associated it with a legume (*Orbexilum*).

General Habitat Description: Based on the known extant sites, *F. robertsoni* appears to be restricted to intact, high quality remnants of native dry to dry-mesic

grassland ecosystems. Collection sites include sand dunes, sand oak barrens, sand prairie, dolomite bedrock or gravel bluff (hill) prairies and oak barrens/savannas.

C. Life History

Number of generations per year: Univoltine (one generation per year).

Over-wintering stage: Unknown. Likely as egg or a first instar. However, in southern Indiana, adults are known to over winter as well.

Over-wintering location: Unknown (likely in the litter, duff, or soil surface, or in plant tissue of host plants).

Adults active: In Wisconsin, late July through September.

Single season dispersal ability: This species appears to have very limited mobility. It is wingless and rather sedentary, typically moving carefully among plants, oftentimes crawling through vegetation (Bess 2005).

Immatures active: Most likely May to mid-July.

II. Management Protocol For Authorized Incidental Take

If the management activity is for the purpose of recovering, maintaining, or improving the grassland, prairie, or savanna ecosystem that includes habitat for *F. robertsoni*, then incidental take is allowed if these conditions are followed:

A. Burning

1. If no monitoring of *F. robertsoni* is occurring, and

   a. If burning in early spring (*see definition)*,

      Then you may burn up to 1/2 of the site's total area of dry to dry-mesic prairie/barrens in any given spring, **as long as**, at least 1/4 of the dry to dry-mesic prairie/barrens habitat remains unburned for at least two consecutive springs.

   b. If burning at other times of the year,

      Then you may burn up to 1/4 of the site's total area of dry to dry-mesic prairie/barrens in any given 12 month period, **as long as**, at least 2/3 of the dry to dry-mesic prairie/barrens habitat remains unburned for at least two consecutive

growing seasons.

2. If monitoring of *F. robertsoni* is occurring[1],

Then other burn regimes may be employed under consultation with the DNR Bureaus of Natural Heritage Conservation and Science Services.

[1] *At least 2 years of baseline monitoring must occur before burning begins, and the monitoring must follow protocol acceptable to the DNR Bureaus of Natural Heritage Conservation and Science Services.*

B. Mowing/Haying

1. If no monitoring of *F. robertsoni* is occurring, and

a. If mowing/haying once between May 11th and Sept. 30th, and

1) If allowing at least 2 years before re-cutting more than 1/2 of the previously cut portion of the site's dry to dry-mesic prairie/barrens habitat,

- Then you may cut up to 3/4 of the site's total dry to dry-mesic prairie/barrens habitat at a minimum cut height of 6" above the ground.

2) If allowing at least 3 years before re-cutting more than 1/2 of the previously cut portion of the site's dry to dry-mesic prairie/barrens habitat,

- Then you may cut up to 7/8 of the site's total dry to dry-mesic prairie/barrens habitat at a minimum cut height of 6" above the ground.

b. If mowing/haying between Oct. 1st and May 10th,

- Then there are no restraints on the activity.

2. If monitoring of *F. robertsoni* is occurring[1],

Then other cutting regimes may be employed under consultation with the DNR Bureaus of Natural Heritage Conservation and Science Services.

[1] *At least 2 years of baseline monitoring must occur before cutting/mowing begins, and the monitoring must follow protocol acceptable to the DNR Bureaus of Natural Heritage Conservation and Science Services.*

C. Selective Tree/Brush Cutting

As long as heavy equipment is not used and the host plants are not buried under cut materials, there are no restraints on this activity.

D. Grazing

Allowed only under consultation with the DNR Bureaus of Natural Heritage Conservation and Science Services.

E. Use of Herbicide

As long as native prairie/barren grasses and forbs are not being affected, there are no restraints on the use of herbicide.

Presence/Absence Survey Protocol

Personnel conducting the surveys must be adequately trained in the use of sampling techniques and identification of the planthopper genus *Fitchiella*. The training must include field experience.

Sampling period: July 25 to Sept. 25.

Weather conditions:
Air temp: 75 to 90 F
Wind speed: depends on sampling method used (see below)
Sky: clear to partly cloudy
Foliage must be dry.

Time of day: 10 am to sunset.

Number of visits per site: Make a minimum of 3 visits in a season, with not less than 4 days between visits.

Sampling effort per site visit: Sample a minimum of 10 locations, for every 20 acres of dry to dry-mesic prairie/barrens habitat. If the same site is to be resampled for multiple years, make note as to where the species is found, and be sure to resample those same spots in the future.

Sampling method:

Sweep netting: Wind speed must be below 10 mph. Use 15 to 18 inch diameter sweep nets with 3 to 5 foot long handles. Planthoppers are sensitive to vibrations and movement, and quickly drop down into the duff when disturbed. Therefore, the target area must be approached quickly, but quietly. Make just one fast sweep tight across the plant's surface as you quickly step (lunge) towards the plants with the net well out in front of you. If you are in a large patch of target plants, additional sweeps may be made with each long forward step through the patch. Approach target plants with the sun in front of you (i.e., your shadow behind you). Technique is important.

or

Vacuum sampling (modified leaf blower): Wind speed may vary from 0 to 20 mph. Vacuum the surface and down into the duff of the target vegetation. Under ideal weather conditions, the vacuum method is only slightly more effective than the sweep net at finding plantfhoppers. However, under windy conditions (even just an occasional gust above 10 mph) and during temperatures either above or below 75 to 90 F, the vacuum is much more effective than the sweep net. Planthoppers tend to retreat down into the duff when conditions are too cool, too desiccating (hot and sunny), or too windy.

Definitions

Site: Any contiguous patch of prairie vegetation **or** clusters of patches of prairie vegetation not separated from one another by more than 300 ft. of open (non-brush/tree) cover or by more than 20 ft. of dense brush/tree cover. (Note: roads and trails do not constitute barriers to dispersal.) If the area straddles a property line, the different ownerships must be considered different sites, unless net-veined leafhopper survey/management agreements exist between the owners.

Early Spring: Any time prior to the 7th day after the first opening of pasque flowers (*Anemone patens*) on the site. If no pasque flowers are on site, the closest population with a slope aspect similar to the site in question may be used.