

# Adult Butterfly, Damselfly, and Dragonfly Survey

D. Miller Feb 2001

- Did not include any species in the report that he could not positively identify
- No. of butterflies found on refuge; n=30 No. of odonates found on refuge; n=44; 74 total
- Focused on wetland sites
- Miller felt as though some species of odonates were perhaps omitted from final list due to their lower catchability; he also felt there were a number of species in the area that should be expected in the area that were absent
- Miller felt as though the Monarch, the Aphrodite, or the Great Spangled Fritillary should be present
- In the Nulhegan Basin; Lowland mixed woodlands and Fen/Bogs had the highest biodiversity of butterflies and swamps and beaver meadows had the highest biodiversity of odonates.
- Miller believed there was a lack of butterfly species for the area and suspected it is due to the lack of mature forests (esp. oaks) w/ open glades and clearings
- Sites w/ highest combined numbers of butterflies were Peanut Dam Road, Upper Yellow Branch complex, Mollie Beattie Bog, North Notch swamp, and Eagle's Nest Road
- Peanut Dam Road and Mollie Beattie Bog had the highest species richness
- The rare corduliids (emeralds) were found only in the Basin

## **I. Threatened/Endangered/State concern species**

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### **-No federal or state listed species found on refuge**

Rare species found in northwestern VT may possibly be found here:

Cobblestone Tiger Beetle (*Cicindela marginipennis*)

-Not a whole lot is known about its habitat requirements

-the state requires a permit to collect any tiger beetles even though some are quite common/ or widespread

Rare butterfly: *Oeneis jutta*

Some species of insect at these latitudes in VT only appear biennially or at longer time intervals as adults making them hard to inventory

State uncommon: tiger beetle (*C. purpurea*)

-found at the Peanut Dam Road

## II. Methods

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- Researcher walked slowly along more or less straight belt transects along dirt Roads or RR tracks or conducted random searches directly in the wetland complexes.

## III. Macro-moth and Beetle species recorded on the refuge

<b>Macro-moths found using blacklighting</b>	
Hemlock looper ( <i>Lambdina fiscellaria</i> )	Common
False Hemlock looper ( <i>Nepytia canosaria</i> )	Common
Pointed sallow ( <i>Epiglea apiata</i> )	Common
Bailey's pinion ( <i>Lithophane baileyi</i> )	Common
Pitcher-plant borer ( <i>Papaipema appassionatta</i> )	Common
<b>Cicindelidae; tiger beetle</b>	
<i>C.purpurea</i>	State uncommon (SU)
<i>C.duodecimguttata</i>	Common
<i>C.lingbalis</i>	Common
<i>C.sexguttata</i>	Common
<i>C.tranquebarica</i>	Common

## IV. Management Recommendations

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- a. Regard areas of highest biodiversity w/ great attention (Peanut Dam Road, Mollie Beattie Bog, Upper Yellow Branch Wetland complex, Upper Logger and Black Branches of the Nulhegan)
- b. Place areas of ecological importance off limits to ORV's at all times
- c. Eliminate vehicular traffic along Peanut Dam Road and other lesser used Roads from May through July; Roads act as hotspots for beetles, butterflies and odonates for puddling, basking, maturing, feeding, and reproductive activities.
- d. Continue to monitor key invertebrate taxa: *Lepidoptera*, *Coleoptera* and *Odonata*
- e. Do not focus management plans strictly on non-game and plant species but include insects in any plan
- f. Initiate and interpretive and educational program on the refuge about these species
- g. Mollie Beattie Bog is a hot spot for insects and deserves long-term monitoring

- h. Miller feels that Lewis Pond deserves much attention
- i. Promote all species that may use the area to breed
- j. *Oeneis jutta* and *Euphyes bimacula* need more survey efforts and were the most important butterfly species