Mt. Mansfield Amphibian Monitoring

Update

2013 and 2014

(Covering 1993-2014)

May 6, 2015

For the Vermont Monitoring Cooperative

James S. Andrews and Erin Talmage

. ,

1 3-2014

After an initial amphibian survey and establishment of monitoring protocols, populations of amphibian species have been monitored almost annually on Mount Mansfield since 1993. The goals of the monitoring are to (1) establish a baseline data set of abundance indices for the amphibian species caught in the fences, (2) monitor year-to-year changes in their abundance indices, (3) monitor changes in the number and type of obvious external abnormalities, (4) gather inventory data for the Vermont Herp Atlas, and (5) gather basic natural history

early spring. In 2013 and 2014

American Toad

Only 1.7 per trapping American Toads were caught in 2011, and a large increase to 3.4 per trapping was seen in 2012, increasing to all time high in 2013 to 5.4 then our index dramatically fell back to 1.7 in 2014. In a previous

Spotted Salamander

The Spotted Salamander has a virtually flat trend line, with some annual variation (Figure 6). In 2010, 2.0 animals were captured per trapping. The second time this many animals have been found since the study began. The numbers continue to show a small annual variation with 1.5 per trapping found in 2012, 1.9 in 2013, and 1.7 in 2014. This is a long-lived species with a life span of over 20 years. As a result, adult numbers are not expected to vary as much annually as a shorter-lived species such as a Spring Peeper or Wood Frog. At this site it breeds in the same pools as the Wood Frog. Table 5 shows that Spotted Salamander breeding in these pools was fairly successful in 2013 and 2014 as 25% and 33% were young of the year. One might assume that Wood Frog recruitment should follow similar trends as the Spotted Salamander, but Table 4 shows that recruitment of Wood Frogs has been low since a high in 2003 when 59% of those caught were young of the year, with the lowest number found in 2012 (4%), and 38% and 17% were detected in 2013 and 2014. One difference is that Spotted Salamanders are more resistant than Wood Frogs to a variety of potentially threatening conditions such as

Northern Two-lined Salamander

In the past, we have also caught very few Northern Two-lined Salamanders. In 2005 we saw an increase to 1.1 per trapping, followed in 2006 by a drop back to 0.2, then a slow increase until the population peaked again in 2010 with 1.1 per trapping found. Since then, the index has decreased to 0.8 and 0.4 in 2013 and 2014 respectively (Figure 7 and Table 3). However, the fences are not located in appropriate locations/habitat to monitor for this species. They prefer saturated soils and increased saturation of soils as a result of heavy rains would be expected to increase numbers of this species at the fences. However, the

Abnormalities

Common name	Scientific name	# of all ages	# of young of the year [1]	% young of the year	date of first metamorph [2]	largest adult (total length in mm)	# per trapping[3]	% of group	% of total catch	# abnormal/ total [5]
Caudates (Salamanders)										
Spotted Salamander	*Ambystoma maculatum*									

Common Name