

Monarch Monitoring At Stoney Ridge Farm

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Stoney Ridge Farm is located in West Central Minnesota at the border between the prairie and hardwood transition biomes. The location monitored is a one-half acre parcel of a four hundred acre wildlife restoration area. Stoney Ridge Farm has recently been designated as a "land trust" for preservation as a natural area. In addition, Stoney Ridge is the home of the MN Waterfowl Association "Prairie Pothole Day" wildlife fair which is attended by up to 4,000 people each year. This site has been monitored by a group of volunteer students ranging from grades three to seven. These students have monitored this site for the past two years on a weekly basis from early June through late August.

Question:

How does the population of monarchs at Stoney Ridge Farm compare between the years of 2004 and 2005?

Hypothesis 1: The year 2005 will be more productive than the year 2004.

Hypothesis 2: The year 2004 will be more productive than the year 2005.

Null Hypothesis: There will be no significant difference between the monarch population in both years.

Weekly Monitoring Data % Plants with Monarchs	2004	2005
June week 1	101.4%	32.8%
June week 2	21.3%	13.1%
June week 3	12.1%	7.6%
July week 1	9.1%	2.2%
July week 2	2.9%	0.0%
July week 3	1.6%	25.0%
July week 4	0.7%	0.9%
August week 1	14.5%	10.5%
August week 2	10.0%	6.7%
August week 3	6.4%	no data
Total	14.8%	9.7%

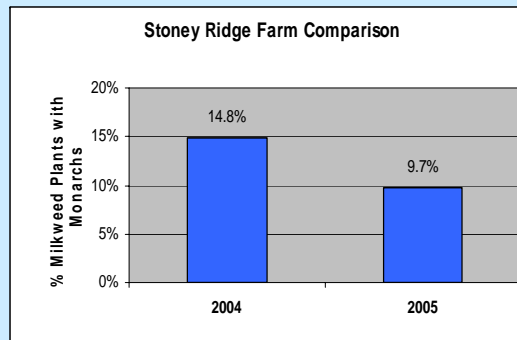
"I think that monitoring in the field was fun. I not only enjoyed the wildlife, but I knew the data was actually being used by scientists to help conserve monarchs. I am very happy to have monitored and I'll continue to monitor in the future."
"Roger Strand had a sign made for our MLMP Site so people would know about our project."



Methods

1. Each week we monitored one hundred milkweed plants looking for monarch eggs and larvae.

- If the plant has an egg or larvae we examined the plant for herbivory disease and if it is senescing (yellowed or dying).
- We also recorded the plant height, buds, flowers, seed pods and presence of other insects.
- We recorded our findings on a data sheet. The data were entered into the MLMP research website.



Results:

In 2004 we looked at a total of 1357 common milkweed plants and found 201 monarchs. 14% of the milkweed plants had monarchs. In 2005 we checked a total of 740 plants and discovered 72 monarchs. 9.7% of the milkweed plants had monarchs. We found that Hypothesis 2 was supported by the data collected.

Conclusions: Stoney Ridge Farm has good habitat for monarchs. There may have been more monarchs at Stoney Ridge Farm in 2004 then 2005 for two reasons. In 2004 we monitored more plants, and a strip was accidentally plowed through our monitoring site. At first we thought the plowing was a disaster, but actually it caused new milkweed growth. We would like to study that more so in the future we plan on mowing part of our site so that we can compare data about monarch preference and the quality of milkweed.

References:

MLMP website and monitoring guidelines.

Assistance for the project was provided by:

Laura Molenaar, Monitoring supervisor
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