

**Evidence of small
mammal activity in
stiltgrass (*Microstegium
vimineum*) invaded areas**

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Introduction

What is an invasive species?

- Non-native organism
- Lack of natural predators
- 'Steals' nutrients

What is stiltgrass (*Microstegium vimineum*)?

- Invasive species
- Came from Asia in 1919 in porcelain packing material (NPS)



<https://www.nature.org/cs/groups/webcontent/@web/@indiana/documents/media/japanese-stiltgrass-64>

Intro Continued



https://upload.wikimedia.org/wikipedia/commons/6/60/Bank_vole.jpg



http://img03.deviantart.net/6ab0/i/2012/330/4/c/wild_mouse_by_stephiphotography-d5htd3.jpg

What small mammals are in Teatown?

- Mice, voles, shrews, etc.
 - Meadow Vole (*Microtus pennsylvanicus*)
 - White-footed Mouse (*Peromyscus leucopus*)
 - Short-tailed Shrew (*Blarina brevicauda*)

Mammal lifestyles

- Live in burrows
- Eat 15-20 times a day
- Live mainly in meadows and fields



http://animalia-life.club/data_images/shrew/shrew8.jpg

Hypothesis/Purpose

Hypothesis: There will be more small mammal activity in areas without stiltgrass than in areas with stiltgrass

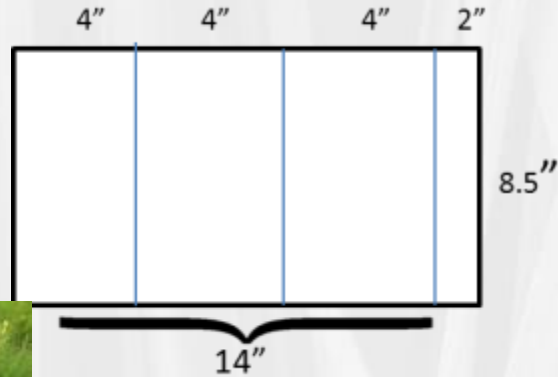
What is the purpose?

- To discover if stiltgrass lowers the amount of small mammal activity
- Since small mammals are at the base of the food chain, this would then come to affect the biodiversity and populations of larger mammals

Materials

Materials:

- Track plate (cardboard & duct tape)
- Paper
- Bait (peanut butter & sunflower seeds)
- Flags
- Densimeter
- Quadrats
- Measuring tape
- Graphite powder
- Garden staples
- Scissors



Study Sites

Cliffdale: two transects with stiltgrass, two without stiltgrass

- Without stiltgrass: lots of dry grasses
- With stiltgrass: lots of stiltgrass, poison ivy, Japanese barberry and Virginia creeper

Hidden Valley Trail: two with stiltgrass, two without stiltgrass

- Without stiltgrass: lots of Japanese barberry and wild grasses
- With stiltgrass: mainly stiltgrass with other grasses

TEATOWN LAKE RESERVATION TRAIL MAP



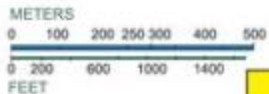
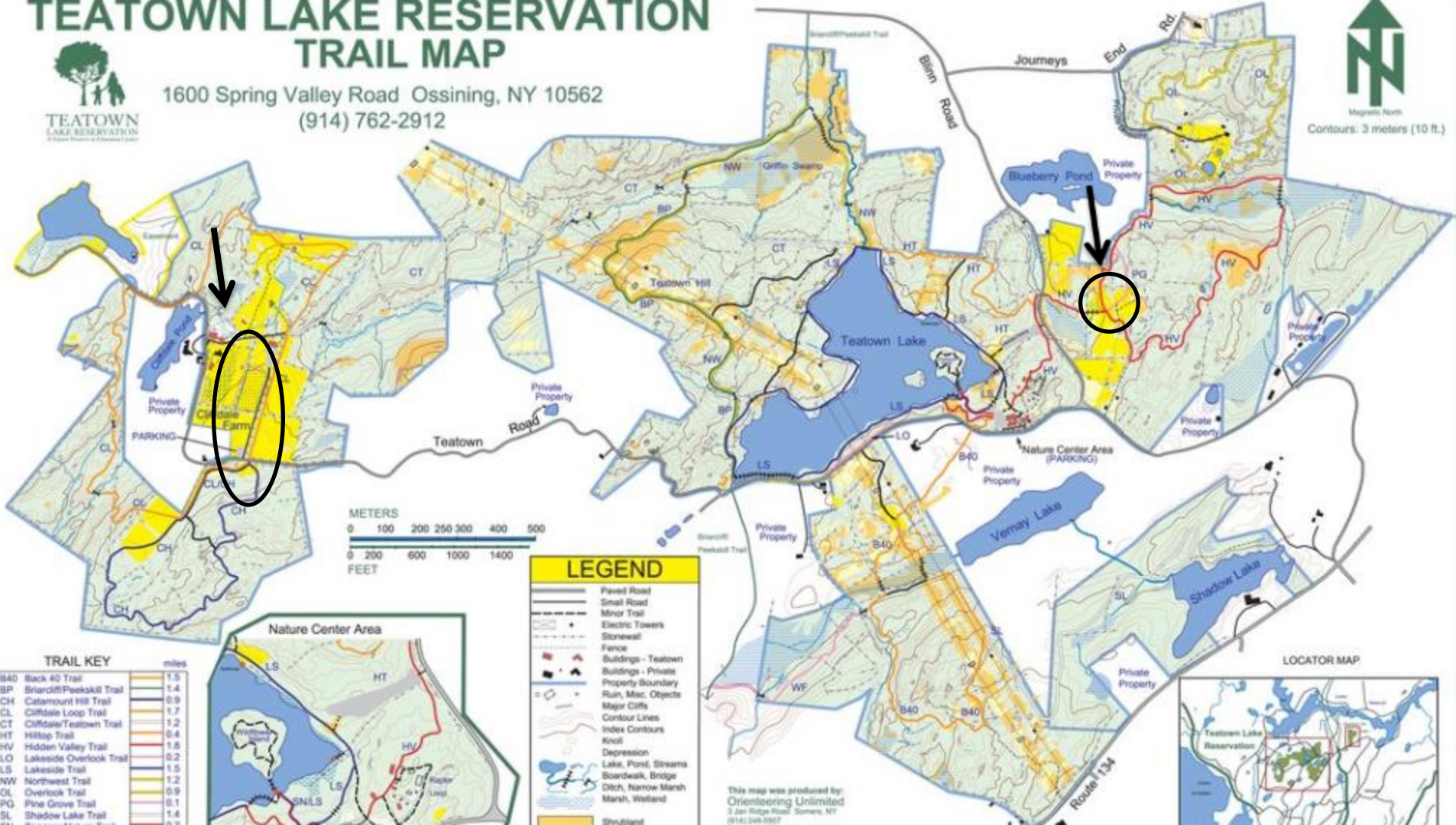
TEATOWN
LAKE RESERVATION
A State Park and Recreation Site

1600 Spring Valley Road Ossining, NY 10562
(914) 762-2912



Magnetic North

Contours: 3 meters (10 ft.)



LEGEND

- Paved Road
- Small Road
- Minor Trail
- Electric Towers
- Stonewall
- Fence
- Buildings - Teatown
- Buildings - Private Property
- Boundary
- Run, Misc. Objects
- Major Cliffs
- Contour Lines
- Index Contours
- Knoll
- Depression
- Lakes, Ponds, Streams
- Boardwalk, Bridge
- Ditch, Narrow Marsh
- Marsh, Wetland
- Shrubland

TRAIL KEY

Trail Name	Miles
B40 Back 40 Trail	1.5
BP Briardiff/Peekskill Trail	1.4
CH Calamont Hill Trail	0.9
CL Cliffdale Loop Trail	1.7
CT Cliffdale/Teatown Trail	1.2
HT Hilltop Trail	0.4
HV Hidden Valley Trail	1.8
LO Lakeside Overlook Trail	0.2
LS Lakeside Trail	1.5
NW Northwest Trail	1.2
OL Overlook Trail	0.9
PG Pine Grove Trail	0.1
SL Shadow Lake Trail	1.4



LOCATOR MAP



This map was produced by
Orientierung Unlimited
3 Jan Ridge Road Somers, NY
(914) 269-5907

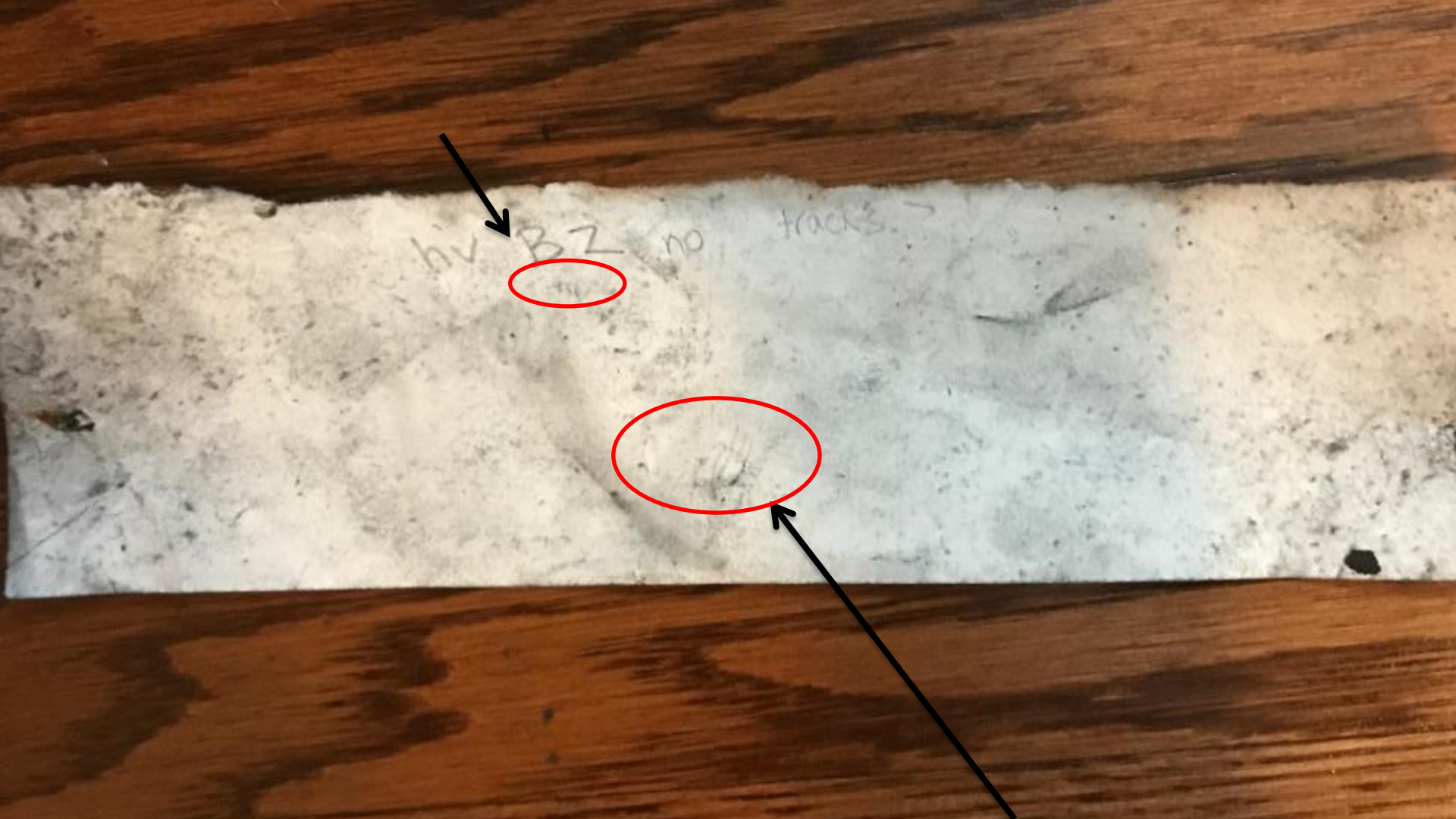
Procedure

- Cut paper to fit track plate
- Staple down w/ garden staples
- Place bait in middle
- Sprinkle graphite power on both entrance points



Results

- More bait was taken in transects without stiltgrass than in transects with stiltgrass
- Although the bait was taken, not a lot of traces of the small mammals, such as footprints, tail drags or anything else, were left behind.
- I also did tick drags at each site, and only got one tick in total
- But, I did find a lot of slugs in each track plate



hv

BZ

no

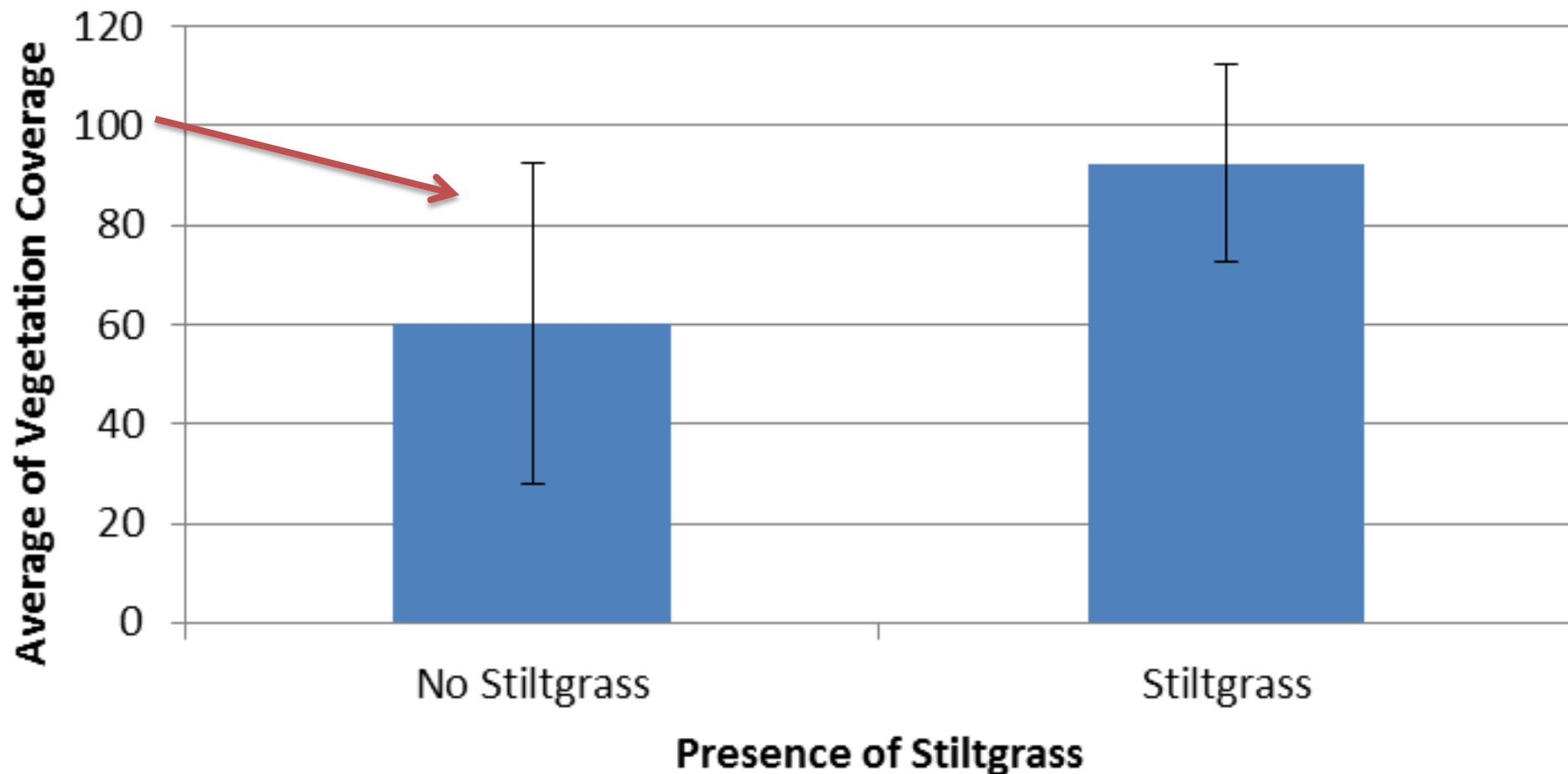
tracks.

11

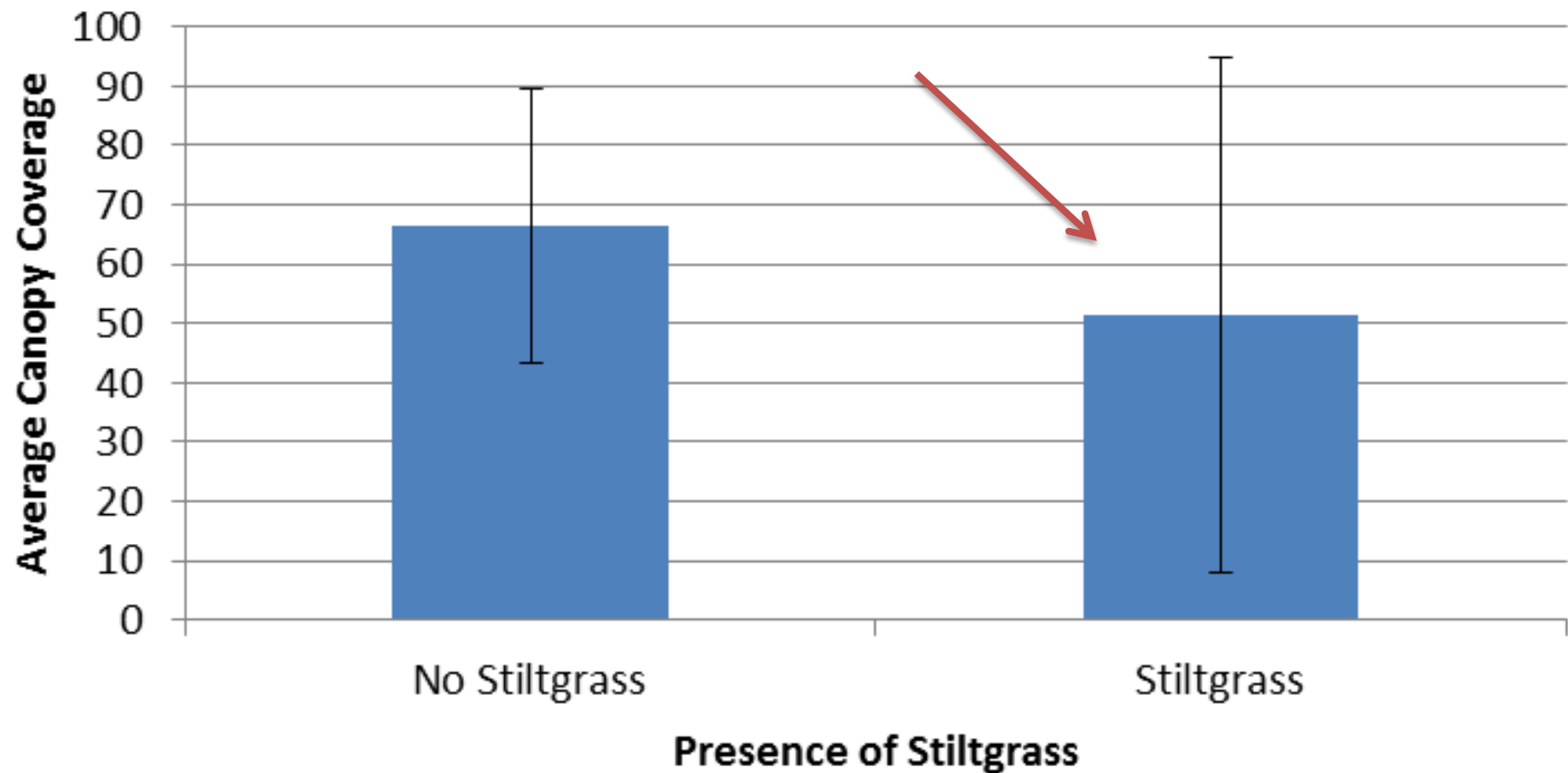
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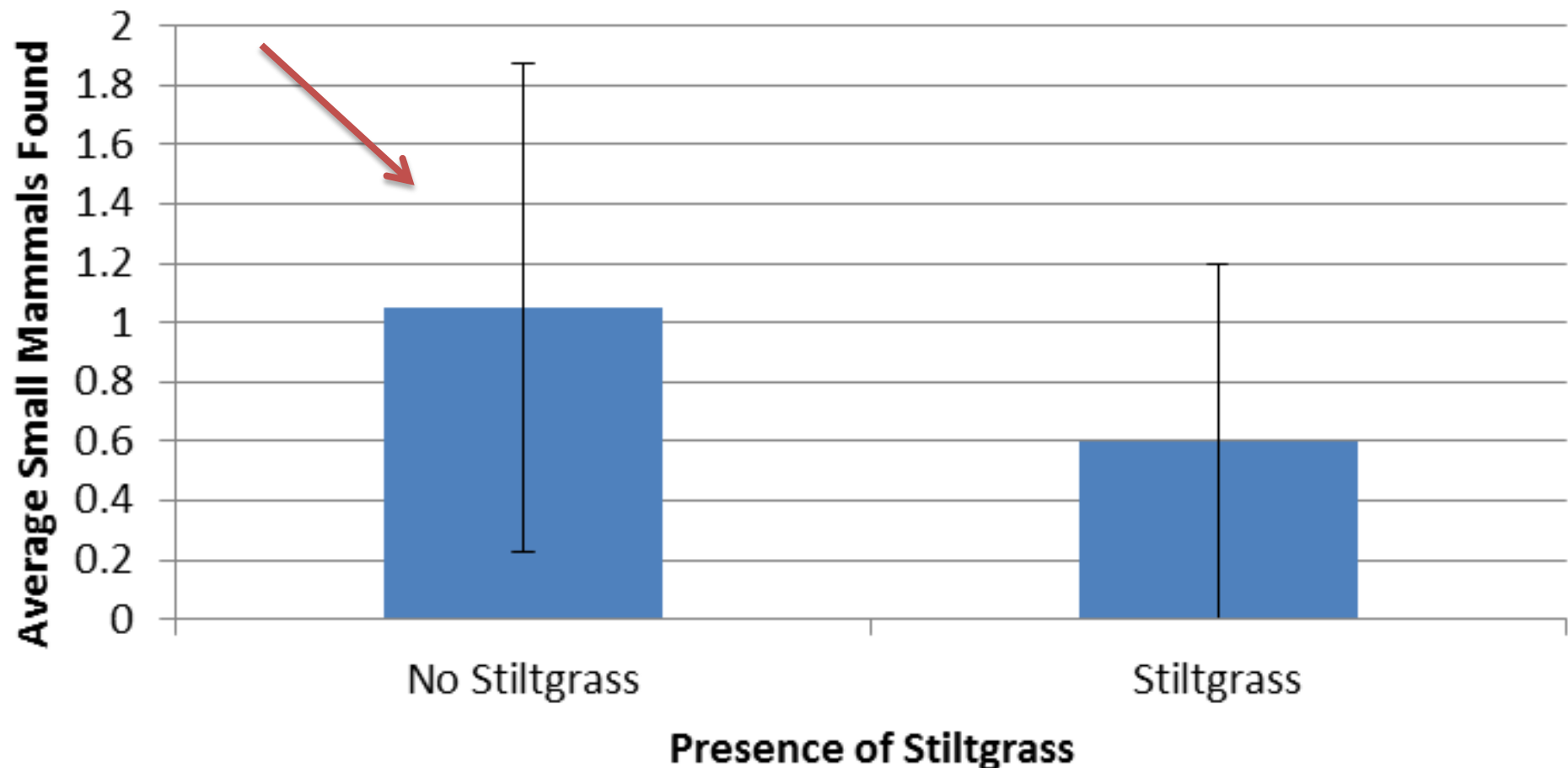
Vegetation % Cover



% Canopy Cover



Small Mammals and Stiltgrass



Conclusion



- There was more small mammal activity in areas without stiltgrass: possibly because stiltgrass is unknown to mice, and in areas of stiltgrass there aren't other food sources for mice, like grasses, nuts, etc.
- There is a higher average vegetation cover in areas with stiltgrass and higher canopy cover in areas without.
- This is important because it shows that small mammals are more active and more present in areas without stiltgrass

<http://npic.orst.edu/images/micebnr.jpg>



Discussion

Problems:

- Lack of time
- Bait
- Slugs and other insects

Future Research:

- Presence of small mammal food sources in areas with stiltgrass

Yeah, that's all me



Works Cited

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