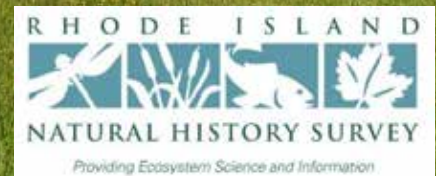
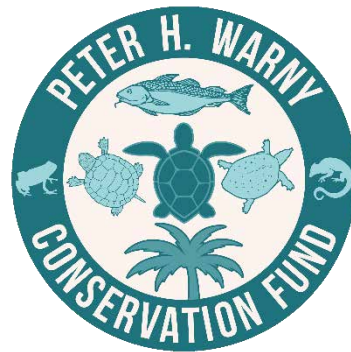
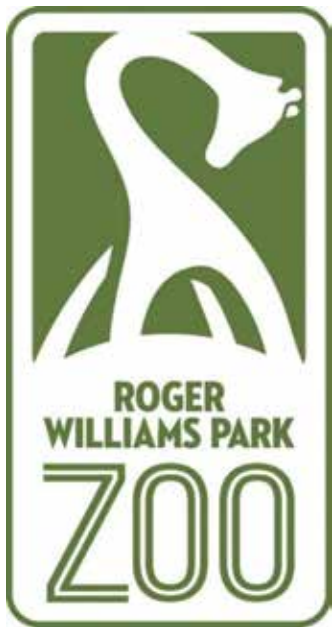


RI BIOBLITZ 2024

Norman Bird Sanctuary

June 7 & 8





THE
UNIVERSITY
OF RHODE ISLAND
COLLEGE OF
THE ENVIRONMENT
AND LIFE SCIENCES

Helen Lusi

Thank you Hosts and Sponsors



Ant Team 2022

Orientation

What is BioBlitz: What / Why

Norman Bird Sanctuary

How do we count?

Teams

Other questions

R H O D E I S L A N D



NATURAL HISTORY SURVEY

Providing Ecosystem Science and Information

24 annual events

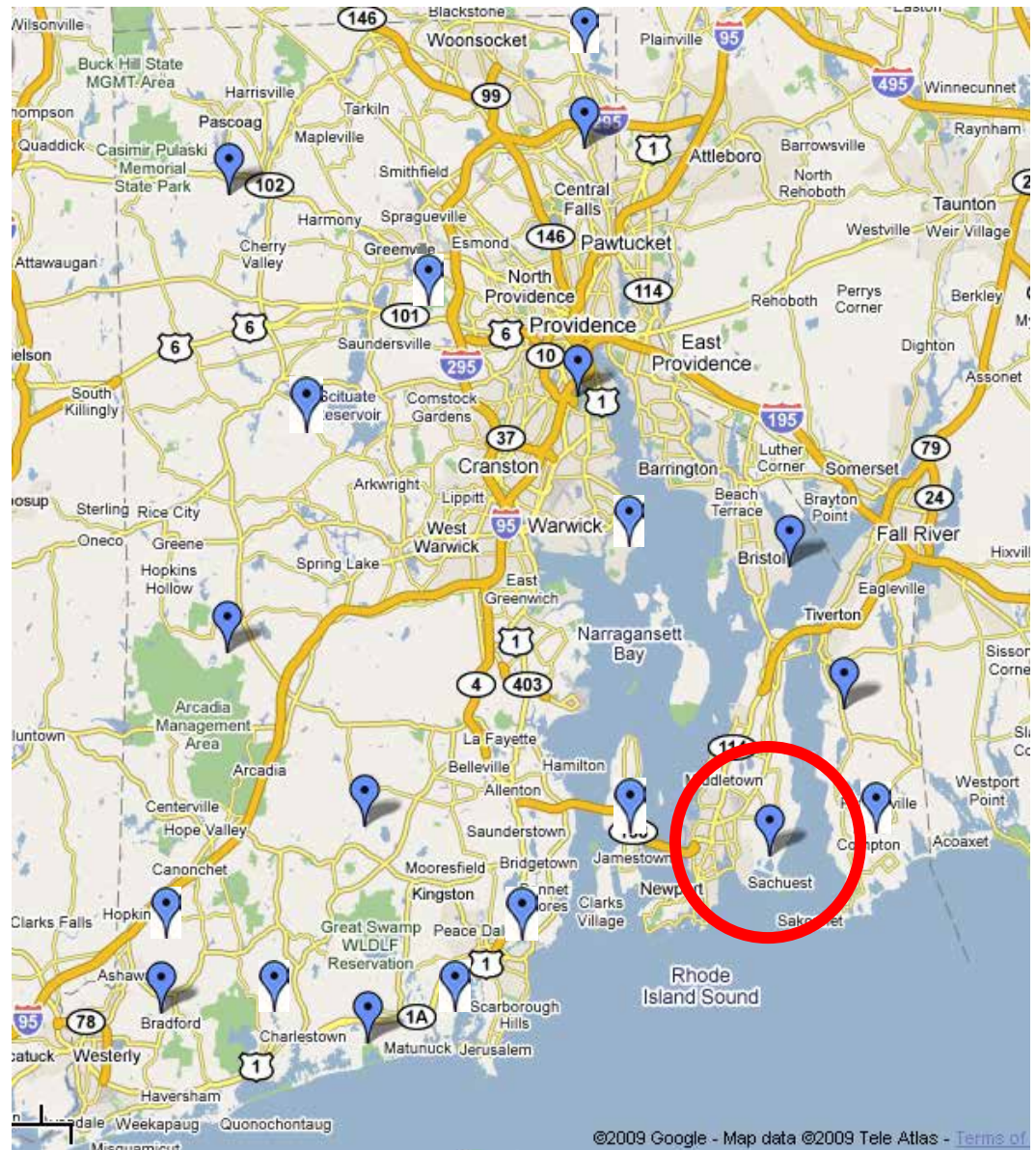
4,134 participants

13,954 acres
(= 21.8 square MILES)

24,765 species IDs



1. Providence
2. Middletown
3. Tiverton
4. Exeter
5. W. Greenwich
6. Bristol
7. Cumberland
8. S. Kingstown
9. Westerly
10. Glocester
11. Block Island
12. Scituate
13. Jamestown
14. Warwick
15. Narragansett
16. Little Compton
17. Hopkinton
18. Johnston
19. S. Kingstown
20. Providence
21. Backyards
22. Cumberland
23. East Bay Bike Path
24. Narragansett Tribe
25. Middletown



Norman Bird Sanctuary

Sept. 14-15, 2001





Norman Bird Sanctuary
Sachuest Point NWR
Oakland Forest
Nunes Farm
Raytheon's natural areas

600 acres
769 species
86 participants



2001 Bioblitz Participants

Bob Anson	Suzannah Gonzales	Numi Mitchell
Ellen Bender	Lisa Gould	Glen Mitchell
Andrea Boudrow	David Gregg	Eli Mitchell
Martin Brown	Chris Halstead	Kate Mulvaney
Valerie Cappola	Kimberly Hayes	Jim Myers
Dede Carlsten	Kendra Heinricher	Pat Nickles
Bruce Carlsten	Frances M. Holmes	Janet Novak
Paul Chapman	Linda Hufnagel	Jill Panos
Pat Chases	Michael Huguenin	Joan Pilson
Ted Clement	Marc Jaffee	Garry Plunkett
Matthew Coffin	Thomas Jones	Chris Raitchel
Lauren Conroy	Preston Kelly	Edward Rizy
Eileen Conyers	Keith Killingbeck	Arliss Ryan
Diane Conyers	Eleanor Kinney	Bill Saslow
James Cowen	Norma Kline	Lisa Shade
Patrick Critz	Mike Kotarba	Derek Sikes
Sara da Silva	Melissa Krisak	Oakes Spalding
Tara Delderfield	Matt Largess	Jackie Steinback
Betsy deLeiris	Reynold Larsen	Prentice Stout
Rick Enser	Peter Lockwood	Larry Taft
Jennifer Frevek	Mead Lockwood	Chris Thomas
Anne Garnett	Josh Lowe	Martine Villalard-Bohnsack
Michael M. Gaughan	Jerry Melaragno	Dianna Ukleja
Callie Gecewicz	Brandon Mann	Anne Wagner
Alan Gettman	Jay Manning	Sharon Ware
Eileen Gettman	Marilyn Massaro	Dennis Webster
Howard Ginsberg	Alan Massey	Emily Whitson
Maureen Brown-Ginsberg	Pat Massey	
Nancy Goodman	Veronica Masson	

RHODE ISLAND BIOBLITZ	2001
	Middle-town
subviral particles	
viruses	
archaea	
bacteria	
protozoa	50
all monos	50
algae	57
mosses	1
vascular plants	319
all plants	377
lichens	0
fungi	5
all mycota	5
Parazoa-Radiata	1
non-mollusk Lophotroch worms	6
Mollusks	13
Platyzoa	
non-arthro Ecdysozoa (inc Nematode)	
Echinoderms	2
non-arthropod inverts	22
spiders and kin	9
crustaceans and kin	10
all non-hexapod arthros	19
EPMT (ephem, plecop, megalo, tricho)	9
Odonata	8
Coleoptera	82
Diptera	15
Orthoptera	6
Hemiptera-Homoptera	10
other misc. orders	1
all "other" insect orders	131
butterflies	13
moths	40
all leps	53
ants	3
bees and wasps	5
all hymenoptera	8
all insects	192
all arthropods	211
all invertebrates	233
primitive chordates	1
reptiles	5
amphibians	4
reptiles and amphibs (herps)	9
fish	0
birds	80
mammals	14
all vertebrates	104
TOTAL species	769

2001 Bioblitz Results

BioBlitz Around the World

BioBlitz ('bīō-'blīts)

An effort by volunteer naturalists to count as many species of life as possible on a particular parcel of land, in 24 hours.



British Columbia, Canada



New Zealand



S. Africa



Australia



California

BioBlitz Around Rhode Island



Block Island



Jamestown



Glocester



Narragansett Tribal Lands

Narragansett Tribal Lands

June 9-10, 2023

380 participants
1,260 species





BioBlitz 2023



HOW do we BioBlitz?



**Taxonomic
Teams
On the
Hunt**





**Sorting,
IDing,
Counting**



Rhode Island Bioblitz Observation Reporting Form

Observer(s): _____ Taxon/Team: _____

Line #	Identification	Notes (i.e. higher taxon; coll. method; pop./life stage; location; place line # on map on back, etc.)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		

**Record
the
Findings**



**Announce
Preliminary
Results**

Why do we BioBlitz?

GOALS

General public:

Biodiversity is here, not in a distant place
Even highly impacted land has hundreds of species
People who do these things have a skill that's valuable



Naturalists and managers:

Turn general interest into active engagement
Find mentors and peers to learn from/with
Practice skills
Recognize their skills and effort

Land conservators:

Help get out the message: this land is special
Find special species and natural communities
Point out problems and directions for further work
Public attention for organizations' good work

School children:

Direct, minimally predictable contact with nature
Experience the "input side" of science
Model careers in environmental management, science, enviro non-profits
Basic understanding taxonomy and systematics (similarities and differences)



Kids outdoors



DISCOVERIES

Palaemon vulgaris
(grass shrimp)

Myzobdella lugubris
(crab leach)



Tetramorium immigrans



"Rocky" the box turtle



Gambusia holbrooki (mosquito fish)

Research Publications

2014

NORTHEASTERN NATURALIST

21(1):NENHC-13–NENHC-24

Targeted Sampling Increases Knowledge and Improves Estimates of Ant Species Richness in Rhode Island

Aaron M. Ellison^{1,*} and Elizabeth J. Farnsworth²

Abstract - Only 0.7% of 28,205 known New England ant specimens (1861–2011) were from Rhode Island. Consequently, apparent ant species richness of Rhode Island counties was lower than expected based on simple biogeographic models. Collections from two poorly sampled areas—Block Island and Tiverton—and from the 2013 Rhode Island Natural History Survey’s BioBlitz increased Rhode Island’s ant specimens by 46% and its ant species richness from 48 to 57. Both Washington and Newport counties now have ant species richness more in line with New England-wide species-environment predictions. The extrapolated number of Rhode Island ant species is 66, but the upper bound of the 95% confidence interval is 93 species and the total species accumulation curve has not reached an asymptote. Future collection efforts should continue to add ant species to the Rhode Island list, especially if collections are targeted in the state’s north and southeast regions, and its southwest pine barrens.

Introduction

The flora and fauna of the New England region—Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine—are better known than those of any other region of the United States. The combination of early European settlement, a concentration of academic institutions with taxonomic specialists and curated collections, many organizations dedicated to conservation and pres-



VIDEOS

view at
<https://youtube.com/@rinaturalhistory>

A screenshot of a Vimeo video player. The video is titled "Block Island Geology Walk" and is from Curt Milton. The video shows an older man wearing a tan cap and a plaid shirt, sitting outdoors. The player interface includes a play button, a progress bar, and a "Share" button. Below the video, there is a description and a "Follow" button for Curt Milton. To the right, there is a "More from Curt Milton" section with three video thumbnails: "Block Island Geology Walk", "Jamaal-Amari...", and "Rose Mabel".

Block Island Geology Walk
from Curt Milton 1 week ago | more

Dr. Jon Boothroyd, University of Rhode Island geology professor emeritus and Rhode Island state geologist, leads a walk during the 2010 BioBlitz to explain and explore the geology of Block Island. Dr. Boothroyd passed away in October 2015.

More from Curt Milton

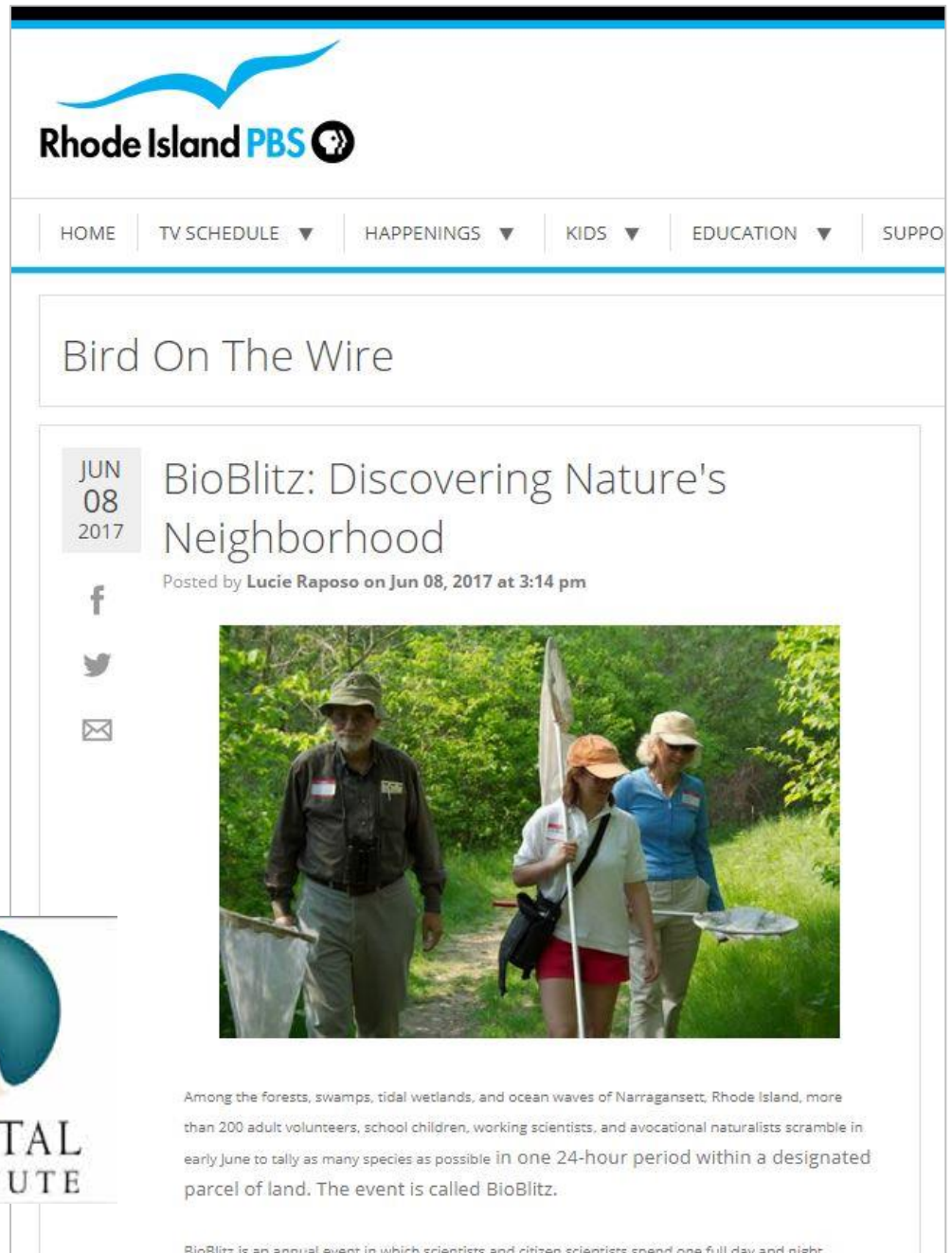
- Block Island Geology Walk
- Jamaal-Amari...
- Rose Mabel

vimeo.com/164146575

BioBlitz: The Movie

view at

<https://youtube.com/@rinaturalhistory>



The screenshot shows the Rhode Island PBS website. At the top is the logo for Rhode Island PBS, featuring a blue bird-like shape above the text "Rhode Island PBS" and a small circular icon. Below the logo is a navigation menu with links for HOME, TV SCHEDULE, HAPPENINGS, KIDS, EDUCATION, and SUPPO. The main content area has a sub-header "Bird On The Wire" and a featured article. The article is dated "JUN 08 2017" and is titled "BioBlitz: Discovering Nature's Neighborhood". It is posted by "Lucie Raposo on Jun 08, 2017 at 3:14 pm". To the left of the article are social media icons for Facebook, Twitter, and Email. Below the text is a photograph of three people in a field. One person is holding a large white net. Below the photo is a paragraph of text describing the BioBlitz event. At the bottom of the page, there is a small line of text: "BioBlitz is an annual event in which scientists and citizen scientists spend one full day and night".

Rhode Island PBS

HOME TV SCHEDULE HAPPENINGS KIDS EDUCATION SUPPO

Bird On The Wire

JUN 08 2017


BioBlitz: Discovering Nature's Neighborhood

Posted by Lucie Raposo on Jun 08, 2017 at 3:14 pm

f

🐦

✉



Among the forests, swamps, tidal wetlands, and ocean waves of Narragansett, Rhode Island, more than 200 adult volunteers, school children, working scientists, and avocational naturalists scramble in early June to tally as many species as possible in one 24-hour period within a designated parcel of land. The event is called BioBlitz.

BioBlitz is an annual event in which scientists and citizen scientists spend one full day and night



“It’s Full Contact Biology”

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Only A Game

with *Bill Littlefield*

From **npr** and 90.9wbur Boston

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BioBlitz 2008

Comment June 26, 2008



Karen Given had a chance to experience Rhode Island's 9th annual BioBlitz, where scientists race against the clock to find native species. Check out her photos from the event.

Please follow our [community rules](#) when engaging in comment discussion on this site.

Latest Show: April 30, 2016

- 3 Stories You Should Know: NFL Draft Silliness, Painkillers, #MoreThanMean
- Deflategate To The Supreme Court? Nina Totenberg Weighs In
- Olympic Shooter Kim Rhode Takes On The Critics
- The Takeaway From Laremy Tunsil's NFL Draft Night
- Tennis In Bullrings And On Ice: Rod Laver On The Pro Circuit's Early Days
- Ballparks And Organ Music — A Match Made In Chicago
- Charlie Pierce: The Week In Sports
- Onaje Woodbine's Spiritual Journey Leads Back To The Court — And Stage

Full Show Rundown »

listen at
<https://youtube.com/@rinaturalhistory>

Wildlife Monitoring and Management



Rhode Island Wildlife Action Plan

Monitoring Program or Action	Implementation Lead	Target(s)	Level of Monitoring		
			Species	Guild	Habitat
Monitoring		grassland birds, marshland			
Oceanology Program on Little Narragansett and Pawcatuck Estuaries	Pine Point School	Benthic surveys		X	X
Raytheon Employees Wildlife Habitat Committee	Raytheon, INC	Flora and fauna inventories		X	
BioBlitz Surveys	RI Natural History Survey	Faunal inventories	X		
Lobster Larval Settlement Index	RI Sea Grant, RIDEM	Lobster	X		
Narragansett Bay Rapid Assessment Survey for	RI Sea Grant, RICRMC	Marine invasive			

Mourning Dove	16
Great Crested Flycatcher	16
Eastern Kingbird	16
Blue Jay	16
American Crow	16
Black-capped Chickadee	16
Tufted Titmouse	16
Gray Catbird	16
Yellow Warbler	16
Song Sparrow	16
Northern Cardinal	16
American Goldfinch	16
Ruby-throated Hummingbird	15
Northern Flicker	15
Red-eyed Vireo	15
Tree Swallow	15
American Robin	15
Cedar Waxwing	15
American Redstart	15
Chipping Sparrow	15
Common Grackle	15
Brown-headed Cowbird	15
Chimney Swift	14
Eastern Phoebe	14
White-breasted Nuthatch	14
Carolina Wren	14
Wood Thrush	14
Ovenbird	14
Common Yellowthroat	14
Eastern Towhee	14
Red-winged Blackbird	14

most common: birds

(in descending order, out of 16 bioblitzes held during June, w/ number of instances)

Thanks to Rick Enser for this idea.

BIOBLITZ
MODELING THE
SCIENTIFIC PROCESS?

“I used
'science'
and the
answer is...”



Arguably the most
important public
intellectual in America

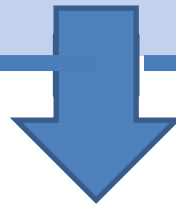
VS.

“I used
'science'
and the
answer is...”



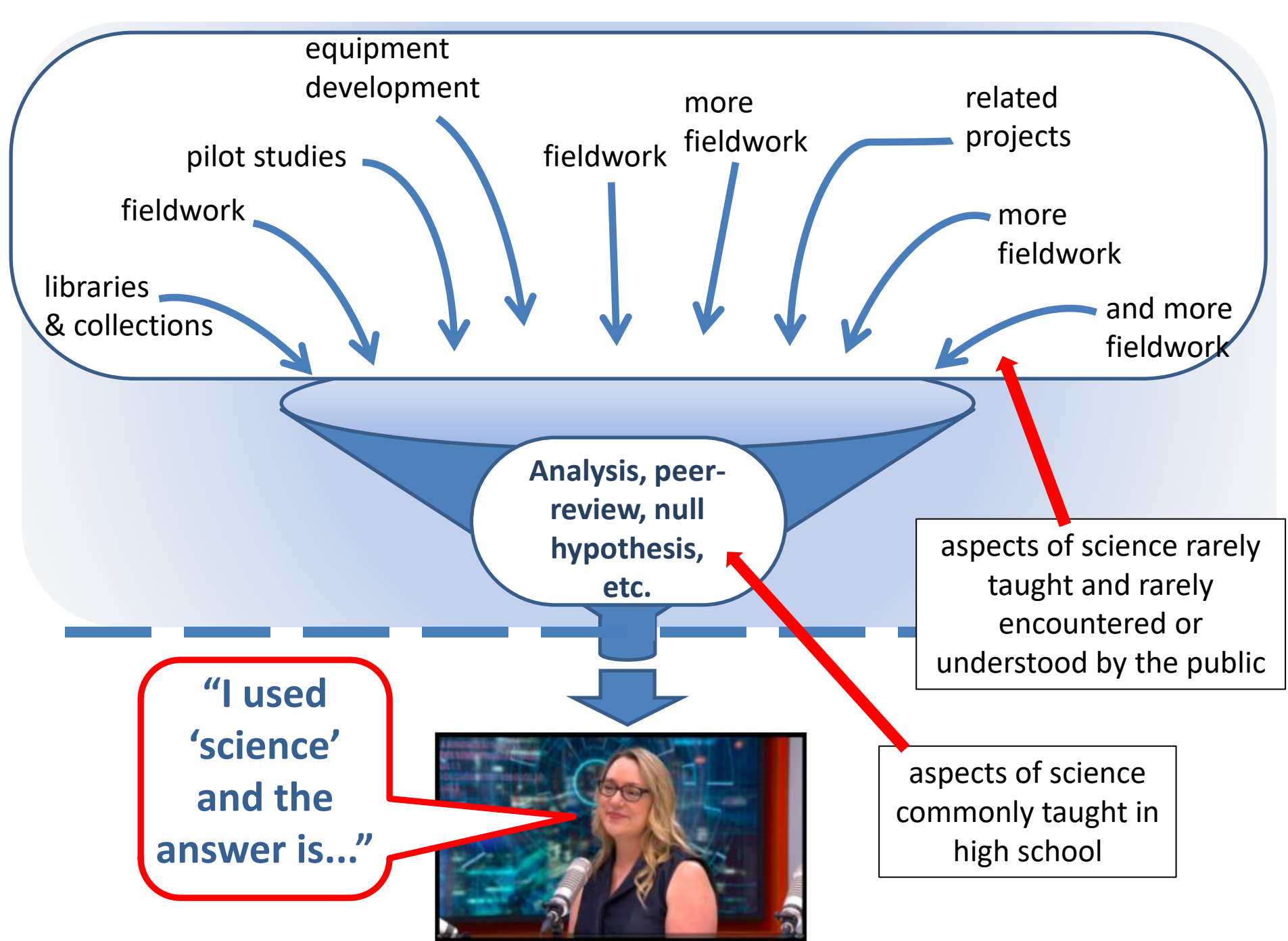
Some guy on Fox News

“SCIENCE”



“I used
'science'
and the
answer is...”





BIOBLITZ

equipment
development

related
projects

more
fieldwork

fieldwork

pilot studies

fieldwork

more
fieldwork

libraries
& collections

and more
fieldwork

Analysis, peer-
review, null
hypothesis,
etc.

“I used
'science'
and the
answer is...”



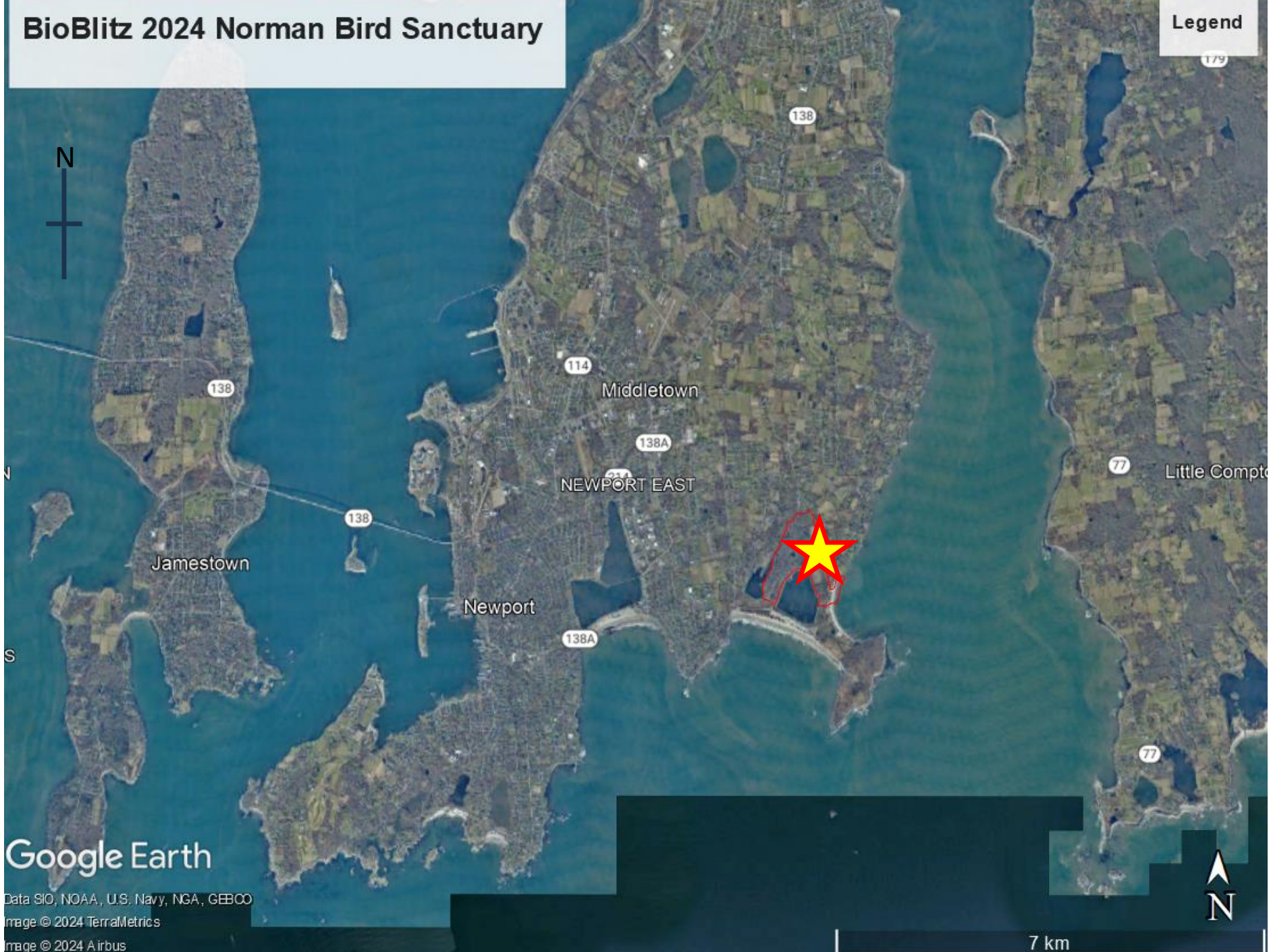
SITE & BOUNDARIES



75 years old this year!

BioBlitz 2024 Norman Bird Sanctuary

Legend



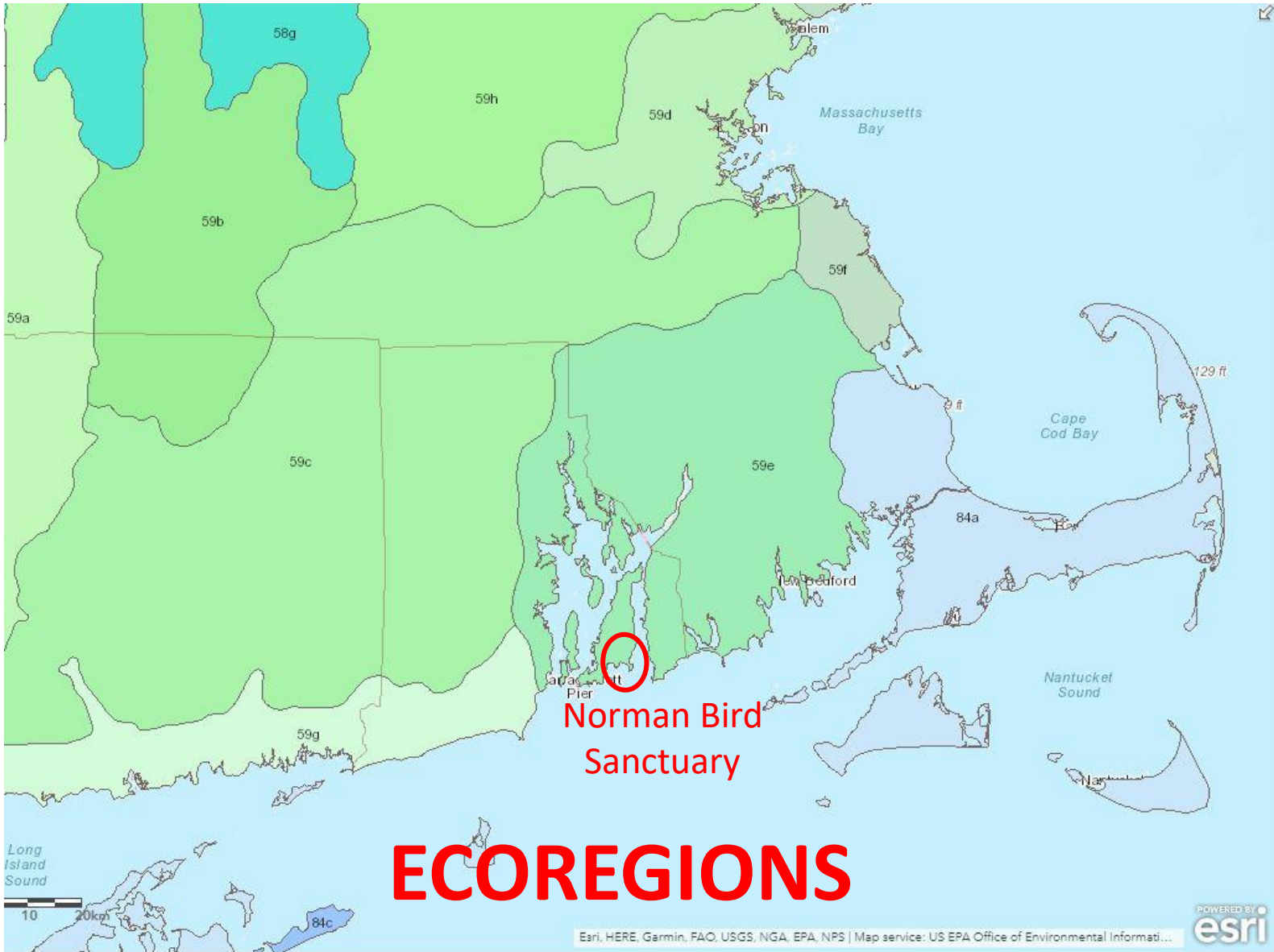
Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Image © 2024 TerraMetrics

Image © 2024 Airbus

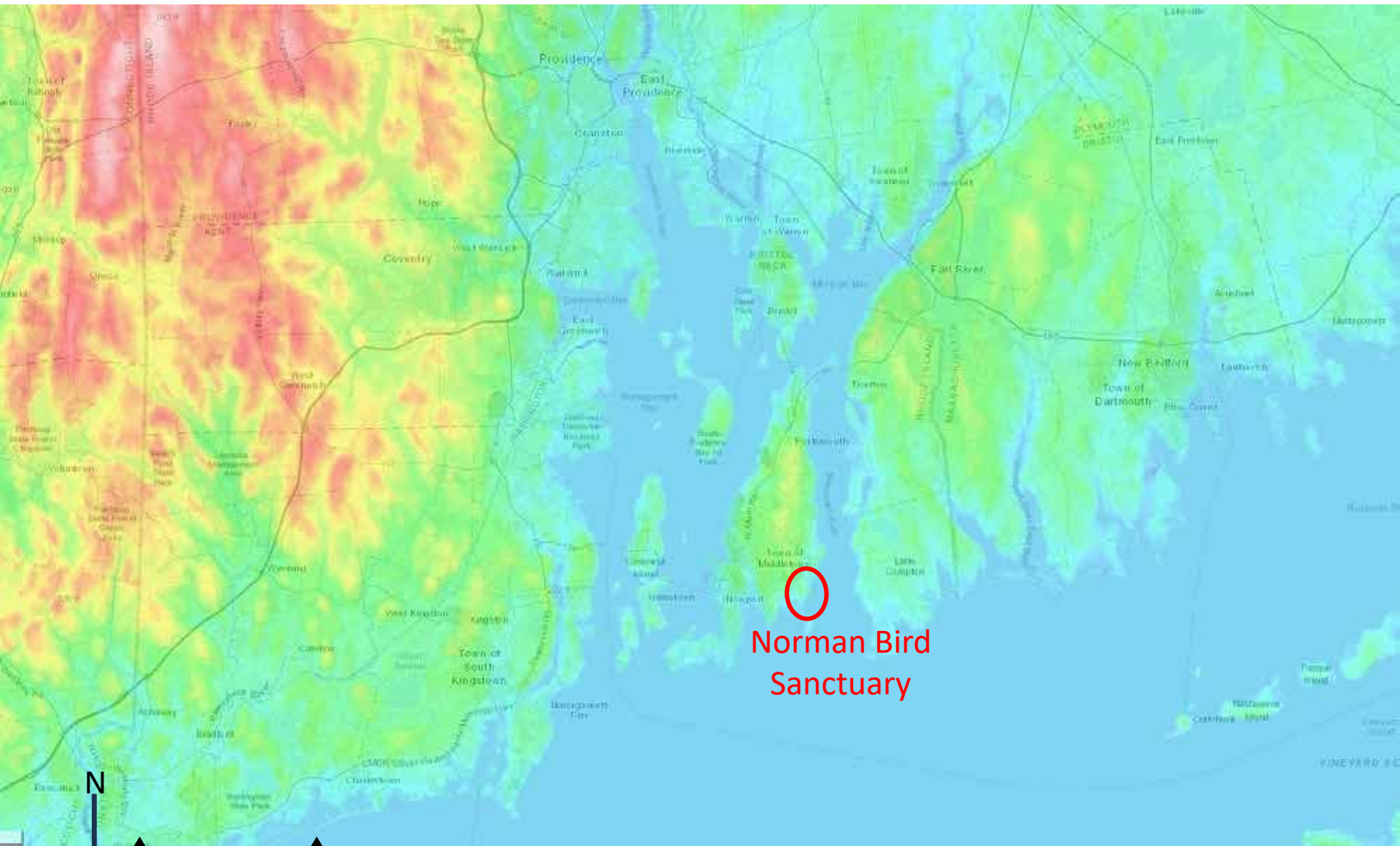




**Norman Bird
Sanctuary**

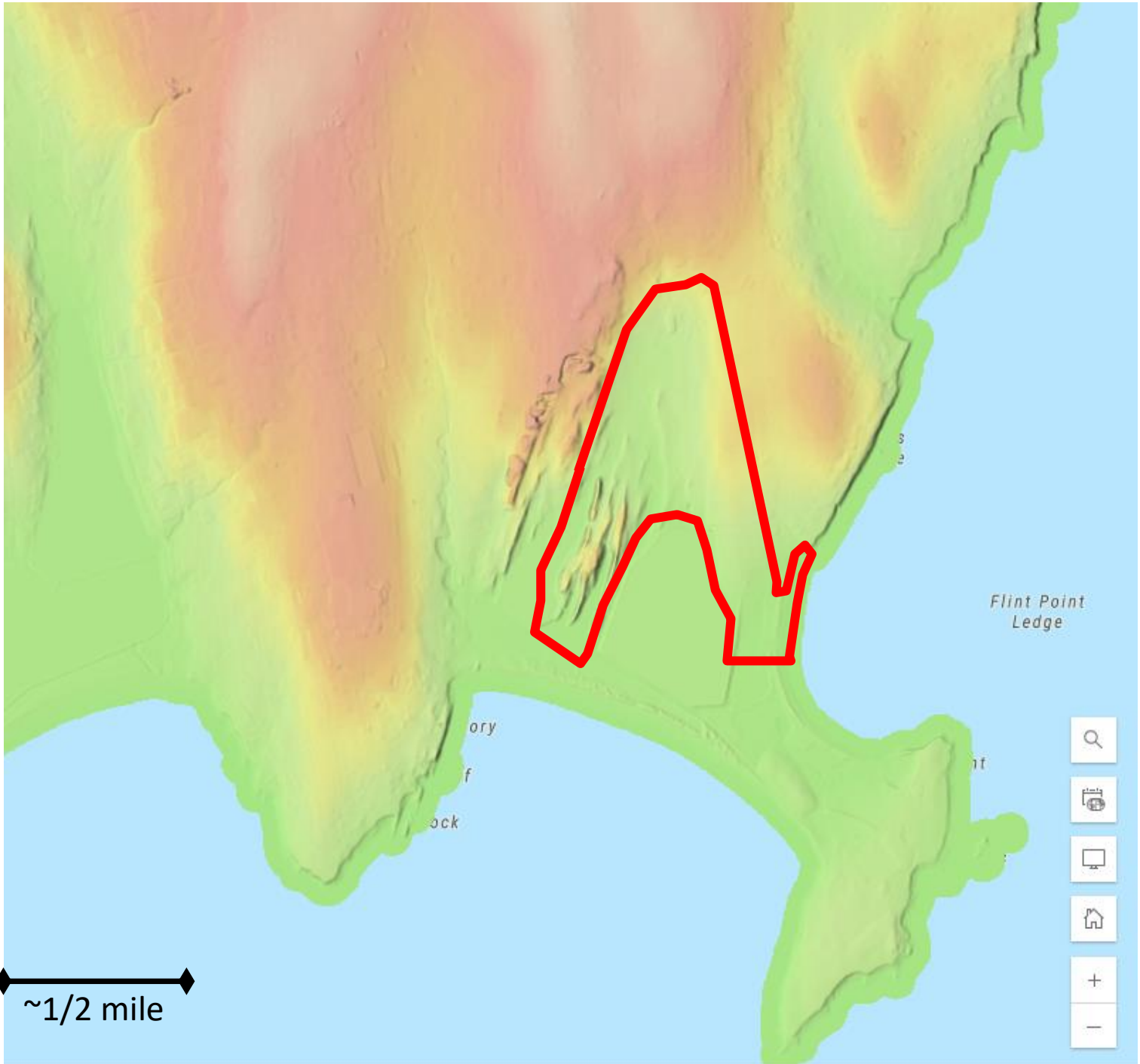
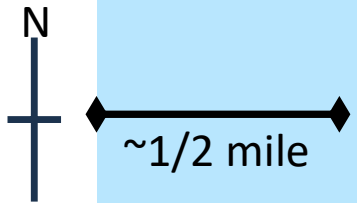
ECOREGIONS

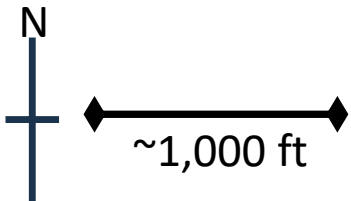





Norman Bird
Sanctuary

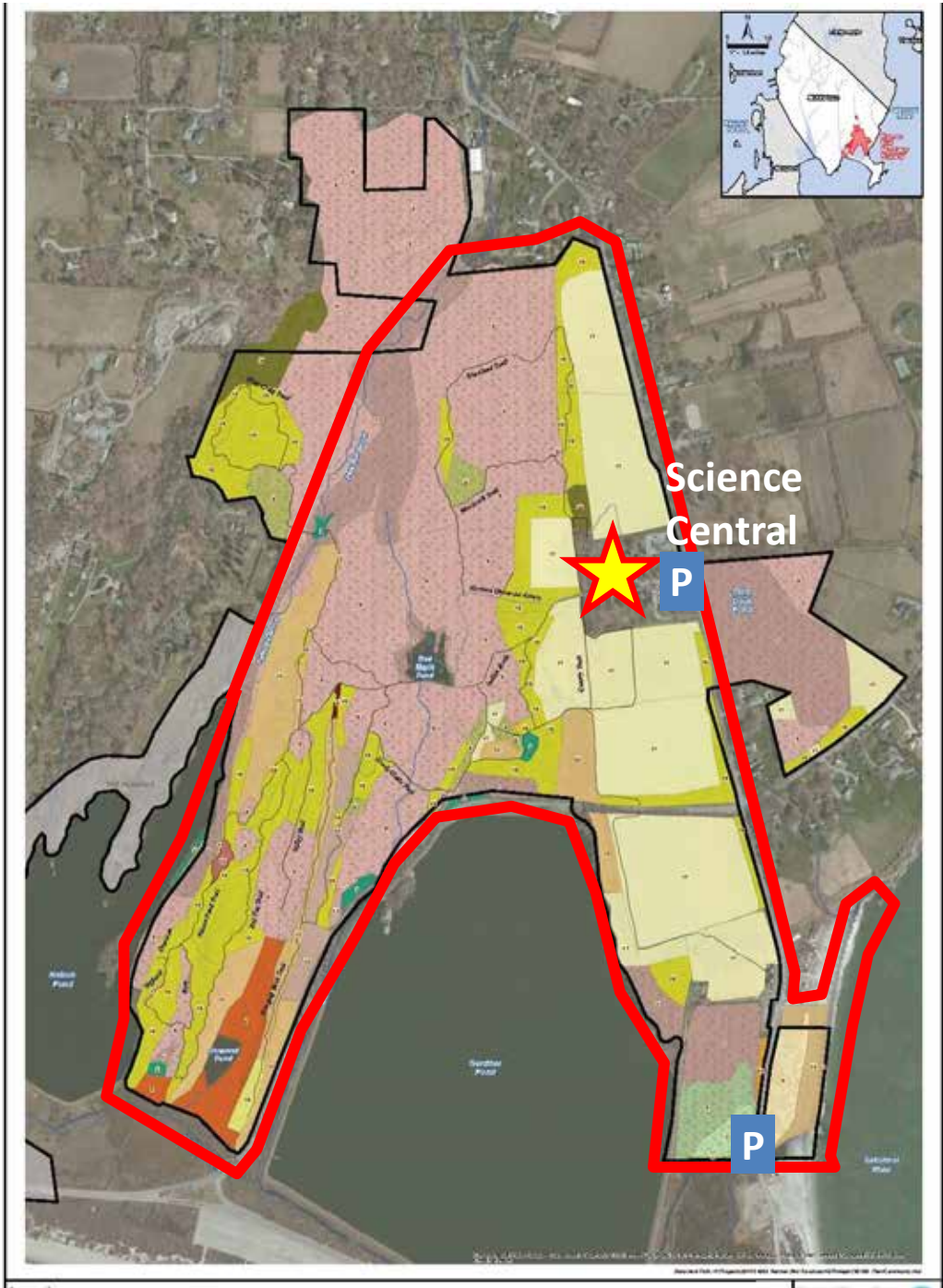
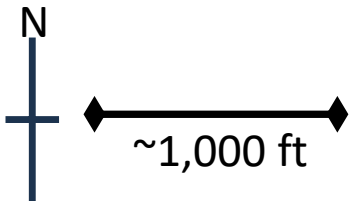










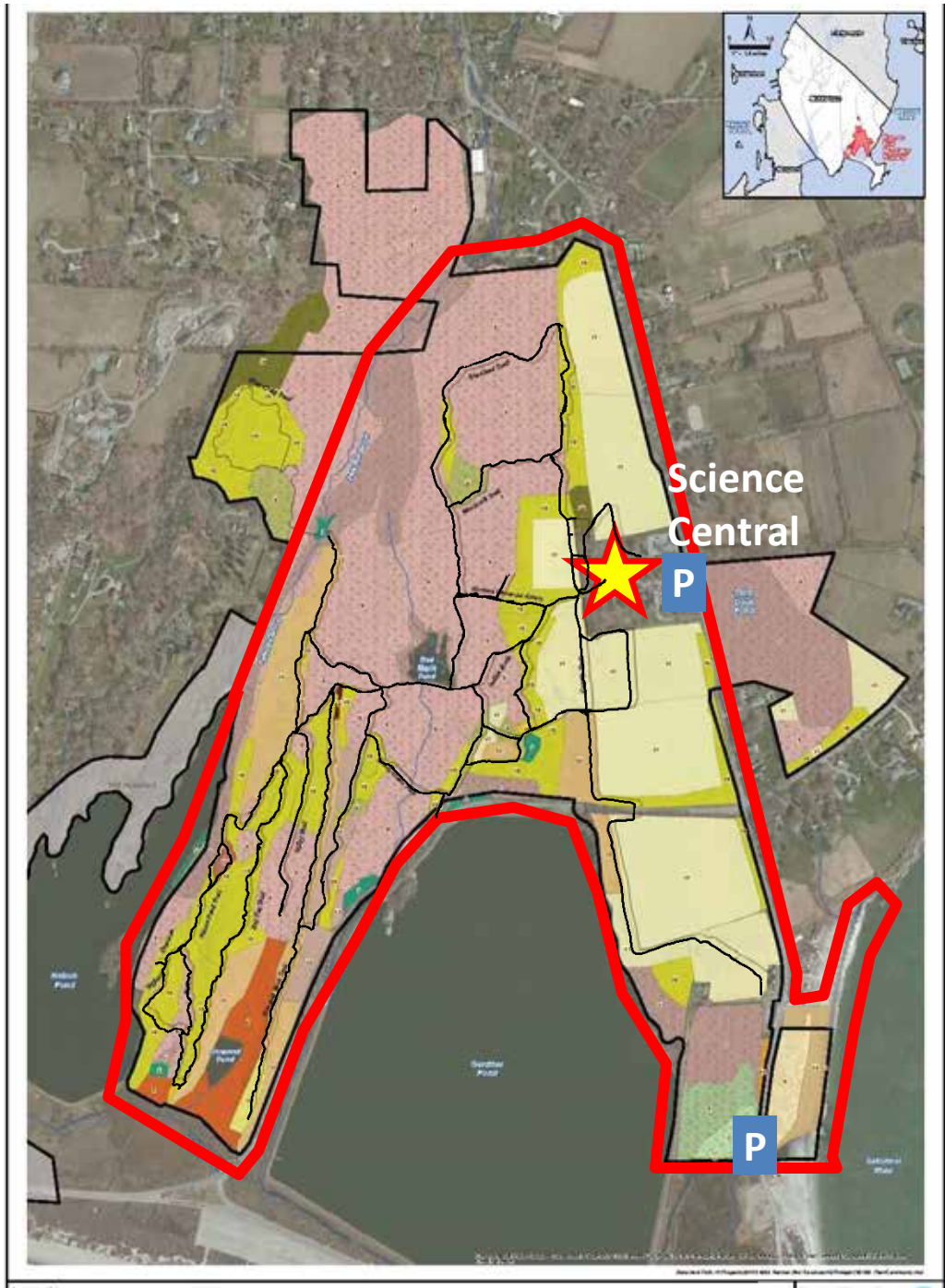
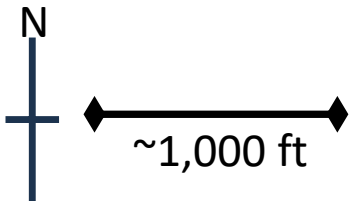
 bioblitz boundary







 bioblitz
boundary

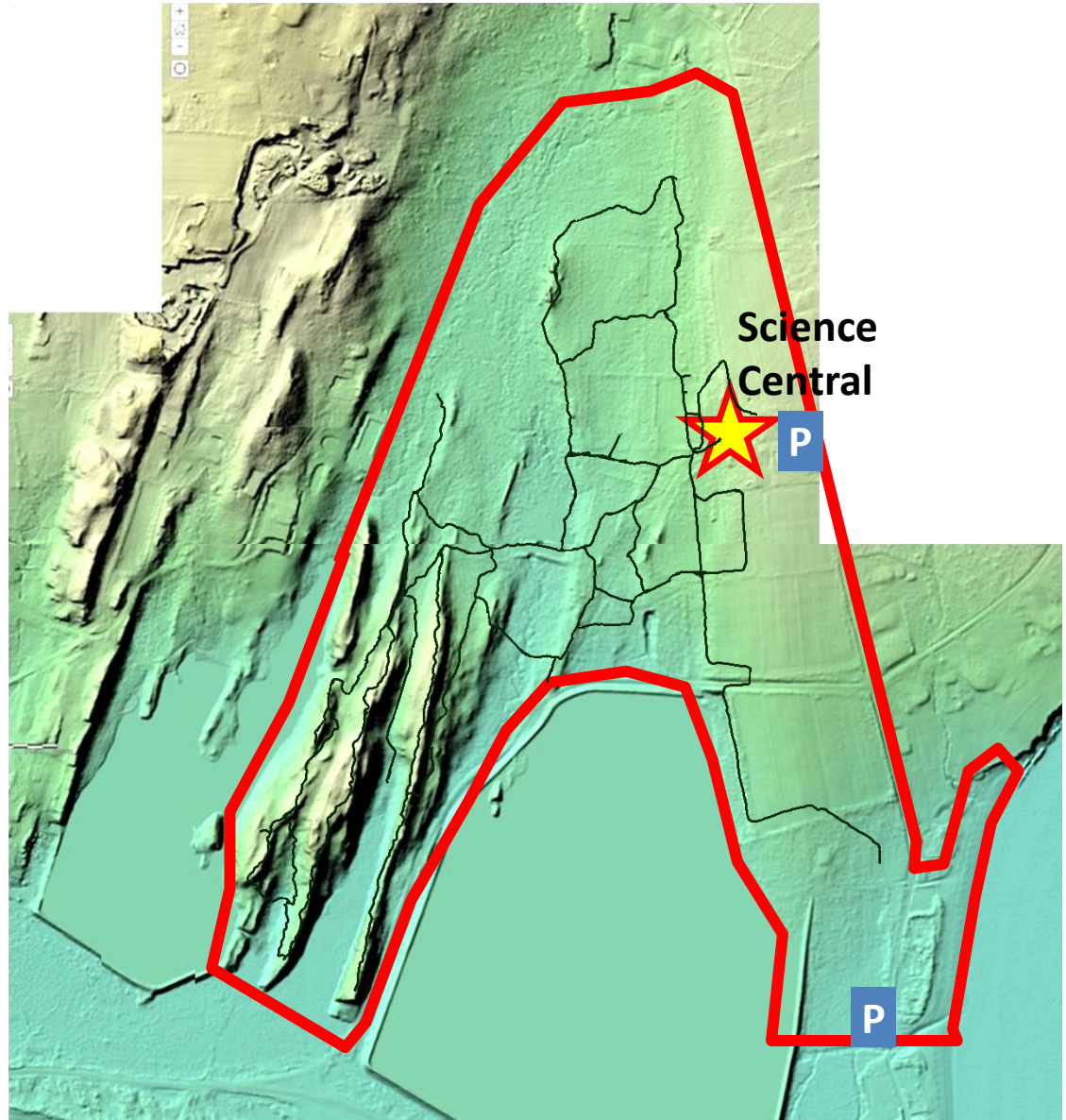
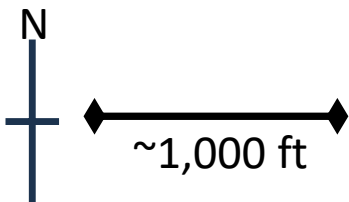
 trails








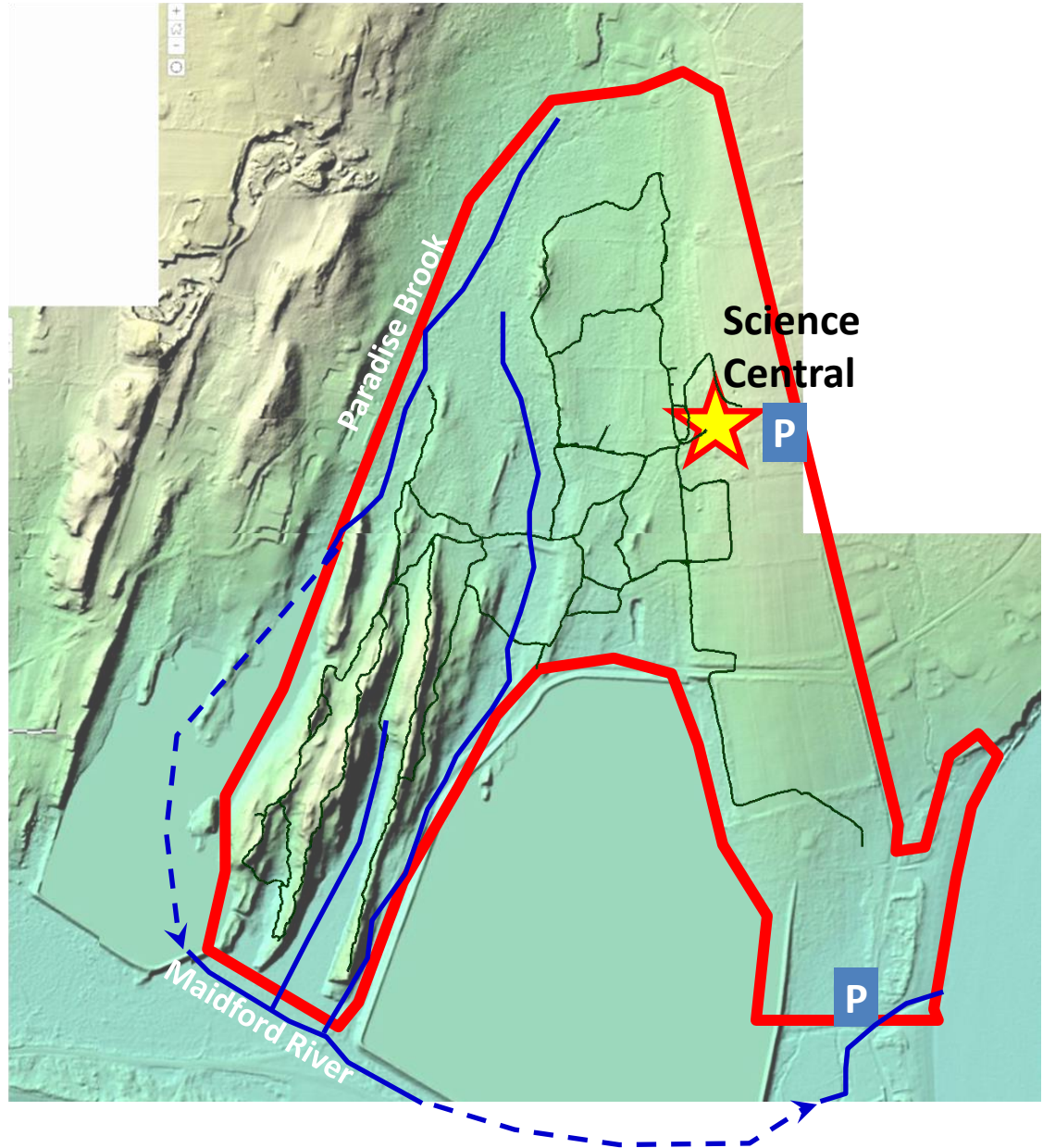
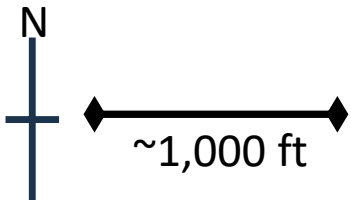
 bioblitz
boundary

 trails






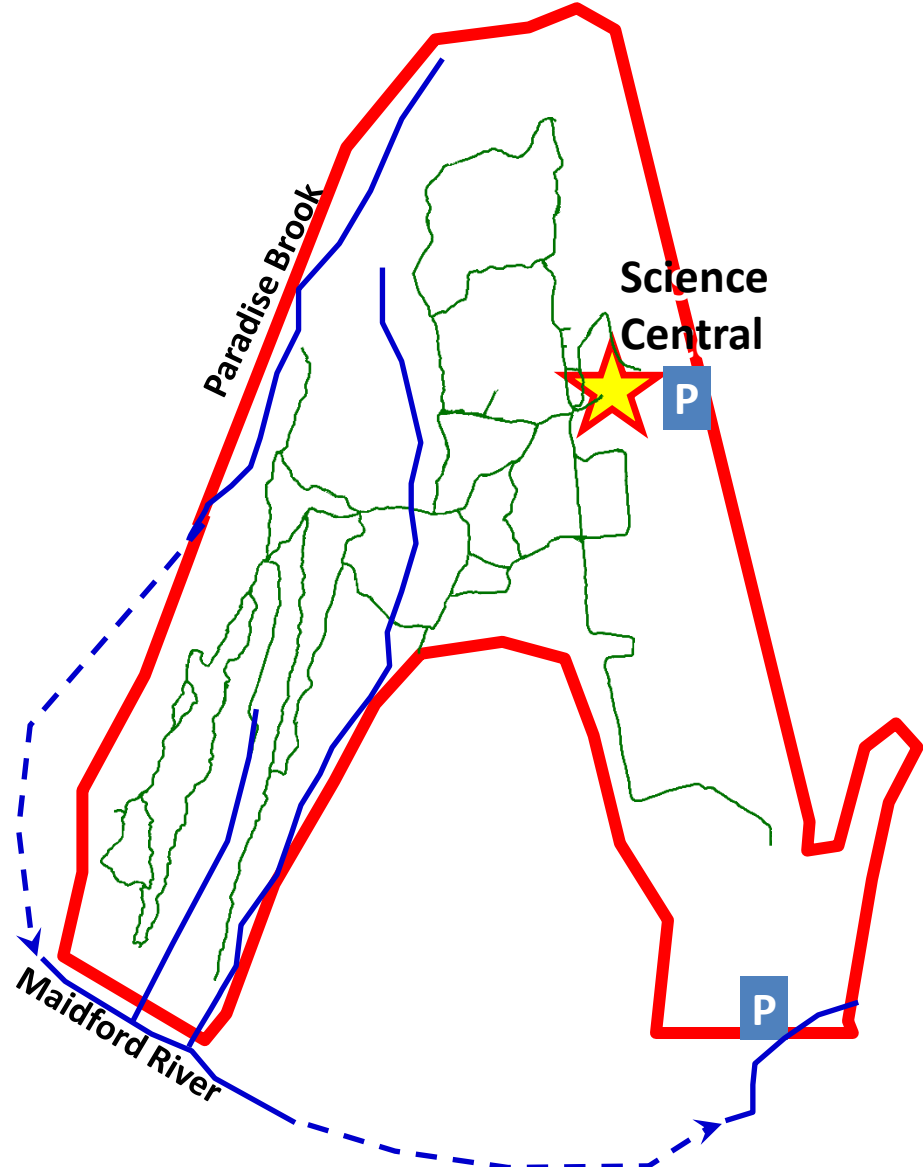
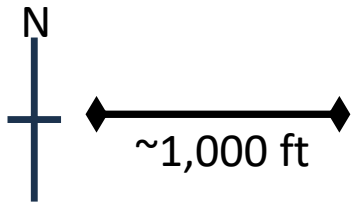


-  bioblitz boundary
-  trails
-  flowing fresh water or brackish





-  bioblitz boundary
-  trails
-  flowing fresh water or brackish





DIVERSE natural communities

red maple swamp

grasslands

open fresh pond

flowing fresh

shrubs

rocky intertidal

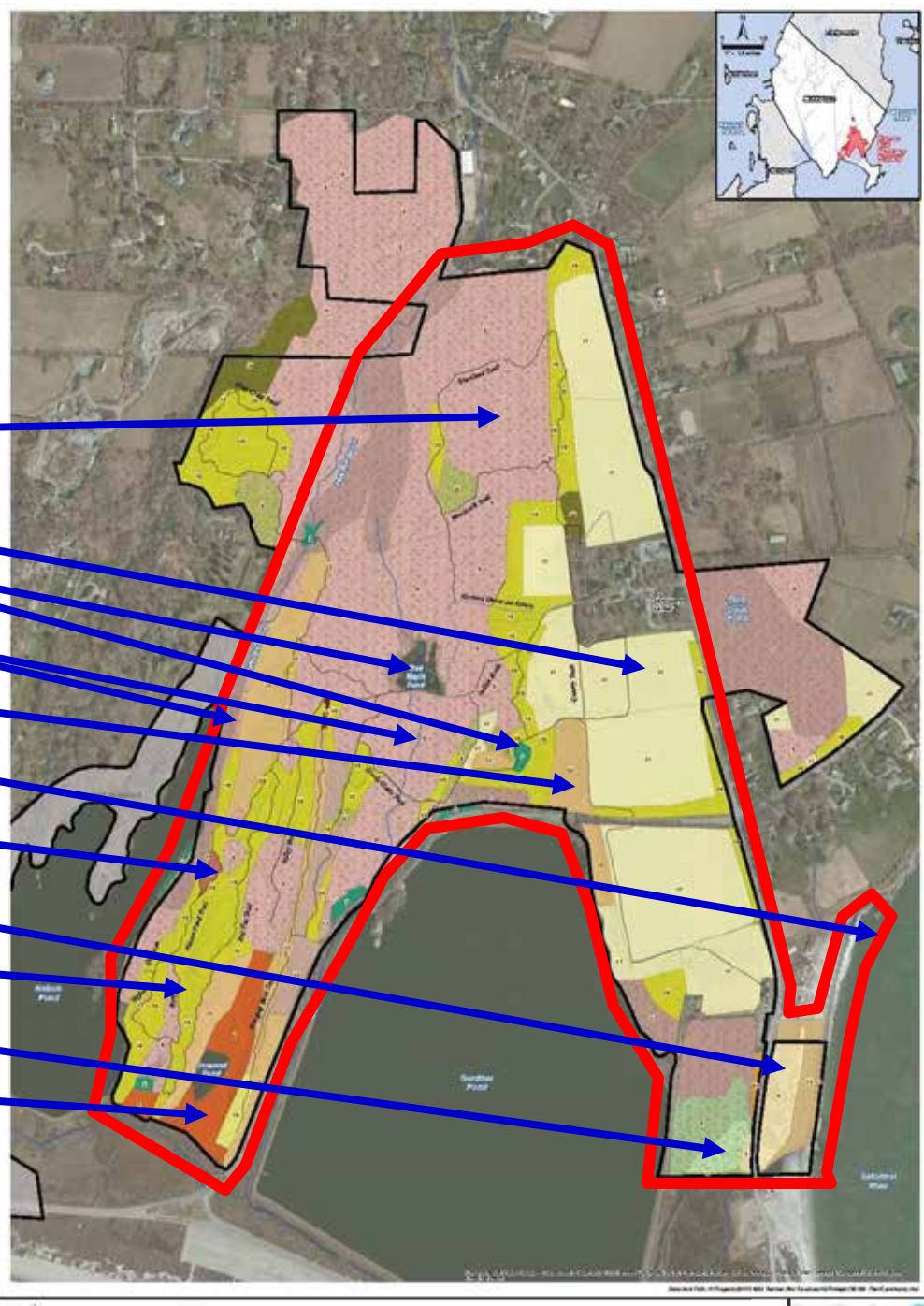
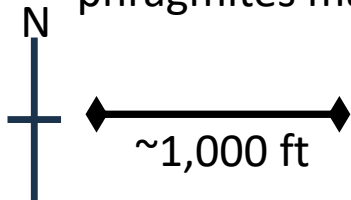
oak heath

dune and beach

forested uplands

salt marsh

phragmites marsh





grass



bedrock ledges





shrubs

upland forest





old fields
(w/ lots of invasives)

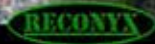
white tailed deer are a big issue



8:35:42 AM M 3/3 25°F



HC500 HYPERFIRE





open fresh water





flowing fresh
& brackish water





future site of Science Central



2024 tshirt mock-up; design by Lucy Jeanne LaMonica, 8th grade, Meadowbrook Waldorf School; adapted by Frances Topping.

So how do we play the BioBlitz game?

- You're counting species
- You have to stay in-bounds
- It's a team sport
- It's supposed to be fun



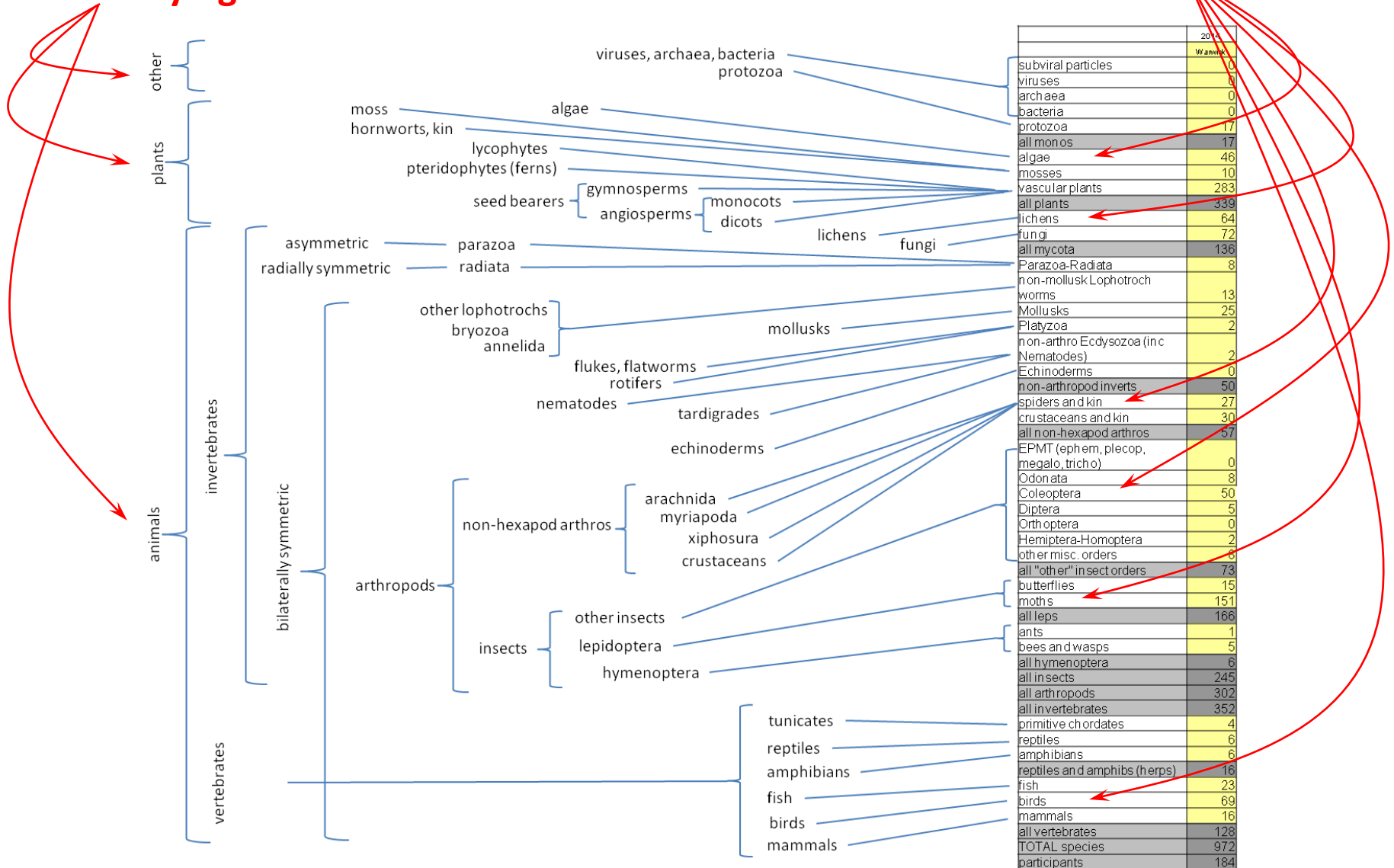
What are we looking for?

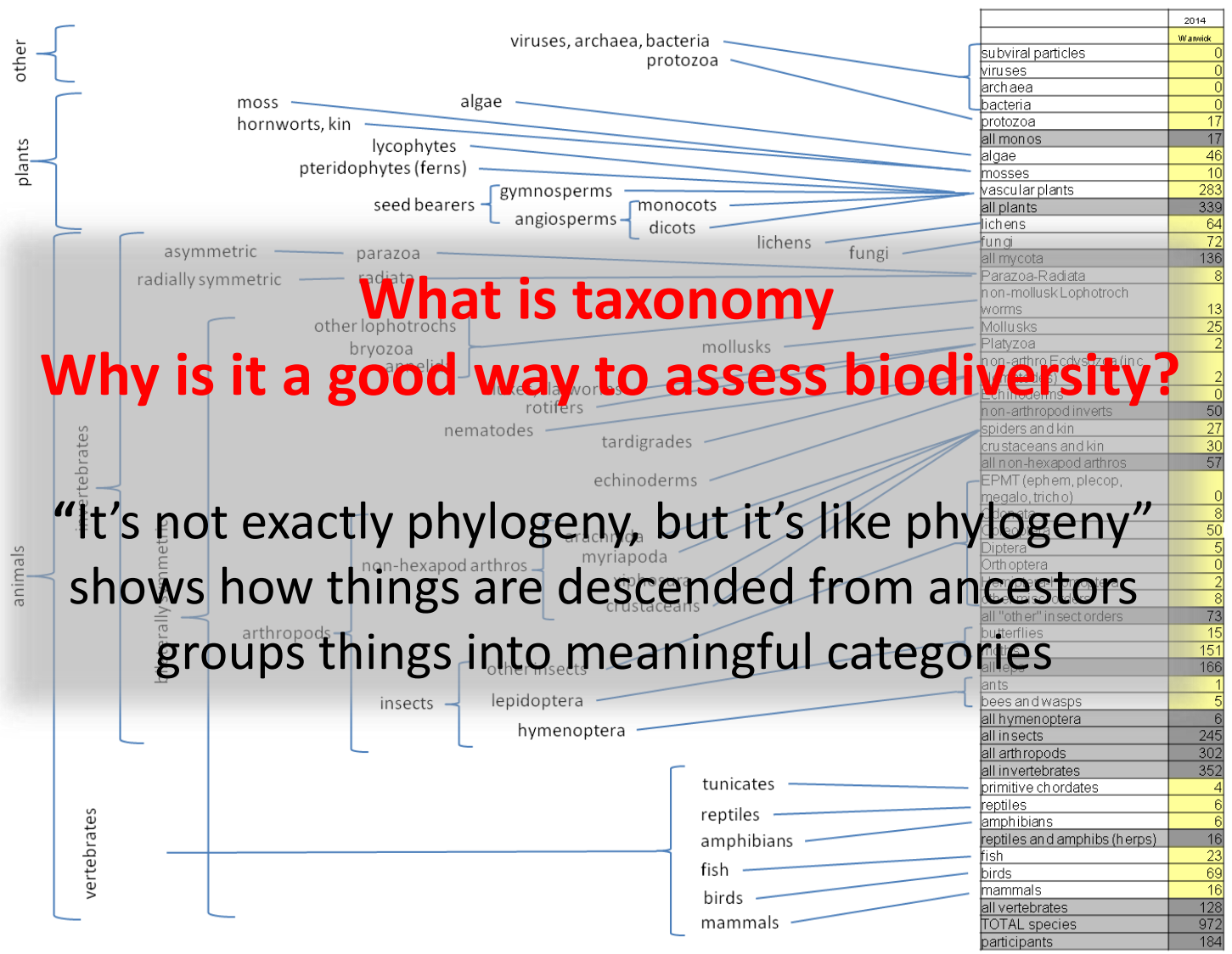
How do we count?

How do we look?

Phylogenetic "Tree of Life"

Taxonomic Teams





What is taxonomy

Why is it a good way to assess biodiversity?

“It’s not exactly phylogeny, but it’s like phylogeny”
 shows how things are descended from ancestors
 groups things into meaningful categories

Rhode Island Bioblitz Observation Reporting Form

Observer(s): _____ Taxon/Team: _____

line #	Identification	Notes (i.e. higher taxon; coll. method; pop.; life stage; location...place line # on map on back, etc.)
1		
2		
3		
4	<i>Amyntas hupbonensis</i>	annelid worm
5		
6	<i>Rhabdammina cornuta</i>	foraminifera
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
ex	<i>Fundulus heteroclitus</i>	a fish, minnow trap, at point E on map
ex	<i>Didemnum vexillum</i>	tunicate, invasive, on rocks, see point F

**Rhode Island
BioBlitz
Observation
Reporting Form
(R.I.B.O.R.F.)**

Your team
or taxon here

Your name(s) here

List of species here

Notes: location, life stage,
behavior, technique

IMPORTANT: please...
tell me where these
“things” you’ve found fit
into the taxonomic
system...

Rhode Island Bioblitz Observation Reporting Form

Observer(s): _____ Taxon/Team: _____

line #	Identification	Notes (i.e. higher taxon; coll. method; pop.; life stage; location...place line # on map on back, etc.)
1		
2		
3		
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5		
6	<i>Rhabdammina cornuta</i>	foraminifera
7		
8		
9		
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21		
22		
23		
24		
25		
ex	<i>Fundulus heteroclitus</i>	a fish, minnow trap, at point E on map
ex	<i>Didemnum vexillum</i>	tunicate, invasive, on rocks, see point F

**Rhode Island
BioBlitz
Observation
Reporting Form
(R.I.B.O.R.F.)**

Notes:

IMPORTANT: please...
tell me where these
“things” you’ve found fit
into the taxonomic
system...

Data as it is entered into the database (Fungi 2022)

E64																
Clitocybe sp. 1																
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
	Subject_ID	Family	Name_Type_ID	Scientific Bionomial	Name_Type_ID	Common Name	Name_Type_ID	Person_ID	Loc 1	Loc 2	Loc 3	Loc 4	Loc 5	Loc 6	Loc 7	Count
2	70	2150	Ceratiomyxaceae	2	Ceratiomyxa fruticulosa	4	Coral Slime	19	LM	1						1
3		2150	Lycogalaceae	2	Lycogala epidendrum	4	Wolf's Milk	19	LM	1						1
4		2152	Stemonitidaceae	2	Stemonitis sp. 1	3	Chocolate Tube Slime	19	LM	1						1
5		5140	Hypocreaceae	2	Phyllosticta minima	4	Leaf Spot	19	LM	1						1
6		5210	Chlorociboriaceae	2	Chlorociboria aeruginascens	4	Green Stain	19	LM	1						1
7		5210	Dermateaceae	2	Mollisia cinerea	4	Cup fungus	19	LM	1						1
8		5210	Dermateaceae	2	Mollisia sp.	3	Cup fungus	19	LM	1						1
9		5210	Diatrypaceae	2	Diatrype stigma	4	Common Tarcrust	19	LM	1						1
10		5210	Halosphaeriaceae	2	Cerioporus squamosus	4	Dryad's Saddle	19	LM	1						1
11		5210	Hyaloscyphaceae	2	Lachnum virgineum	4	Hairy Fairy Cup	19	LM	1						1
12		5210	Hymenochaetaceae	2	Phellinus robiniae	4	Cracked Cap Polypore	19	LM	1						1
13		5210	Hymenochaetaceae	2	Phellinus sp.	4	Polypore	19	LM	1						1
14		5210	Hypocreaceae	2	Hypocrea gelatinosa	4		19	LM	1						1
15		5210	Lachnaceae	2	Lachnellula sp.	3	Cup Fungus	19	LM	1						1
16		5210	Mycocaliciaceae	2	Phaeocalicium polyporaeum	4	Fairy Pins	19	LM	1						1
17		5210	Orbiliaceae	2	Hyalorbilia inflatula	4	Cup Fungus	19	LM	1						1
18		5210	Orbiliaceae	2	Hyalorbilia sp.	3	Cup Fungus	19	LM	1						1
19		5210	Peniophoraceae	2	Peniophora cinerea	4	Crust Fungus	19	LM	1						1
20		5210	Peniophoraceae	2	Peniophora sp.	3	Crust Fungus	19	LM	1						1
21		5210	Rhytismataceae	2	Lophodermium pinastri	4	Pine Needle Cast	19	LM	1						1
22		5210	Rhytismataceae	2	Propolis farinosa	4		19	LM	1						1
23		5210	Strophariaceae	2	Panaeolus foenisecii	4	Lawnmower's Mushroom	19	LM	1						1
24		5210	Taphrinaceae	2	Taphrina robinsoniana	4	Alder Tongue	19	LM	1						1
25		5210	Trapeliaceae	2	Sarea resiniae	4		19	LM	1						1
26		5210	Venturiaceae	2	Apiosporina morbosa	4	Black Knot of Cherry	19	LM	1						1
27		5210	Xylariaceae	2	Kretschmaria deusta	4	Carbon Cushion	19	LM	1						1
28		5210	Xylariaceae	2	Xylaria polymorpha	4	Dead Man's Fingers	19	LM	1						1
29		5220	Agaricaceae	2	Coprinus sp. 1	3	Inky Cap	19	LM	1						1
30		5220	Agaricaceae	2	Coprinus sp. 2	3	Inky Cap	19	LM	1						1
31		5220	Atheliaceae	2	Athelia sp.	3	Crust Fungus	19	LM	1						1
32		5220	Bolbitaceae	2	Coccybe filaria	4	Deadly Coccybe	19	LM	1						1

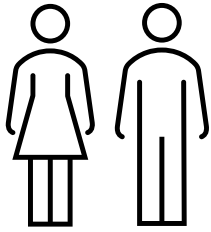
What Counts?

species (common name or scientific name if you know it)

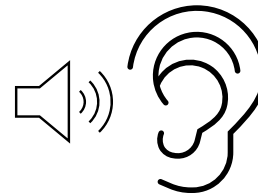
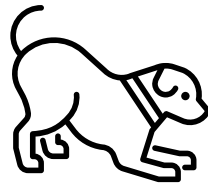
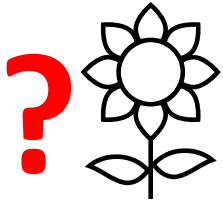
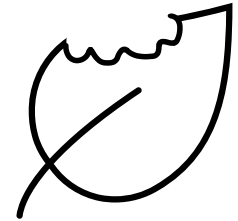
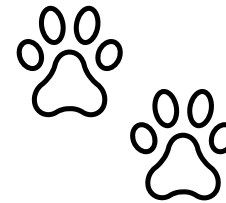
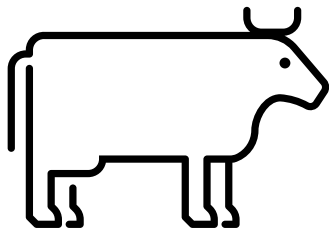
sub-species

varieties

any unique identification above the species level



What Counts?



Do we have evidence that “it’s still around here somewhere”?
Would it still be here in a year without human intervention?

Identification and Boundaries

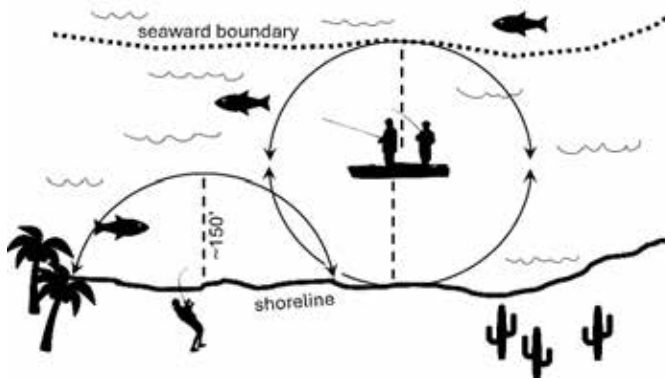
YOU MUST STAY "IN-BOUNDS" RULE

for safety and neighbor reasons
participants must physically stay in-bounds

So species must be in-bounds

SEAWARD BOUNDARY RULE

For surface and airborne species, the seaward boundary is the distance at which you can securely identify the organism (so farther out for whales and closer for terns and it varies by skill and equipment of the observer). For underwater species, the boundary is a distance from the shore equal to twice the distance YOU can cast a 5" Creek Chub Striper Strike (white with a red face) using an 8' fiberglass spinning rod and 15# test line (~100 m; ~300 ft).



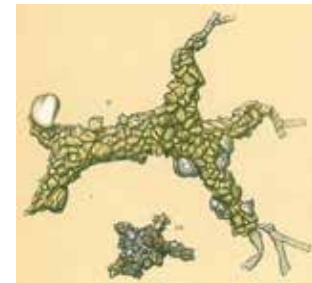
RULE OF LEAST DUPLICATION

I saw... an insect
I saw... a bee
I saw... a *Bombus* sp.
I saw... *Bombus affinis*



RULE OF HELP US OUT

Amyntas hupbonensis
("annelid worm")
Rhabdammina cornuta
("foraminifera")



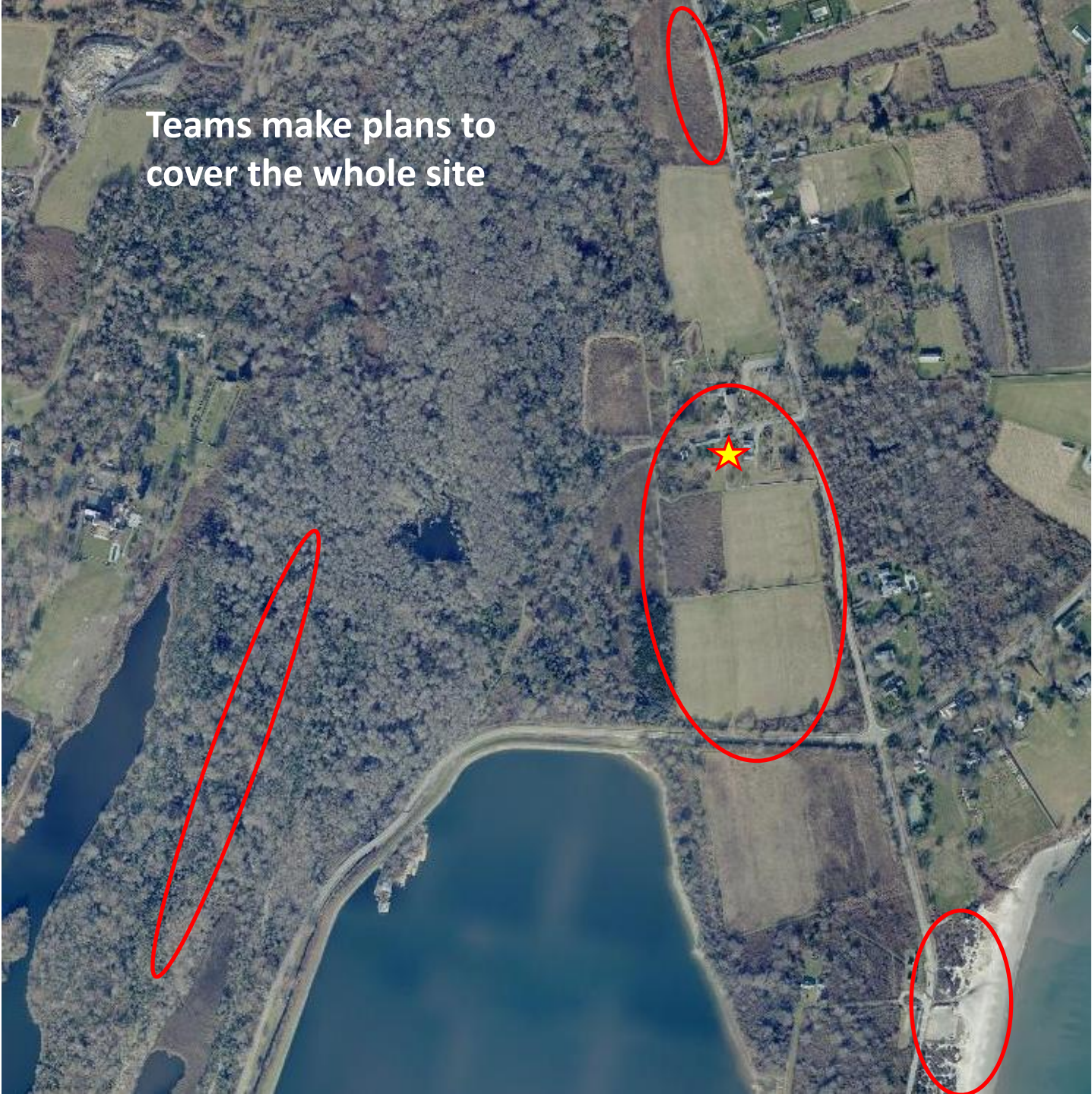
What do teams do?



Work together; make plans



Teams make plans to cover the whole site





Teams debate IDs and keep organized lists



Teams try out all the methods

Non-taxonomic Teams

THE PEOPLE TEAM





Creative Writing Team

from BioBlitz 2014:

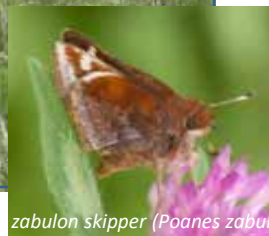
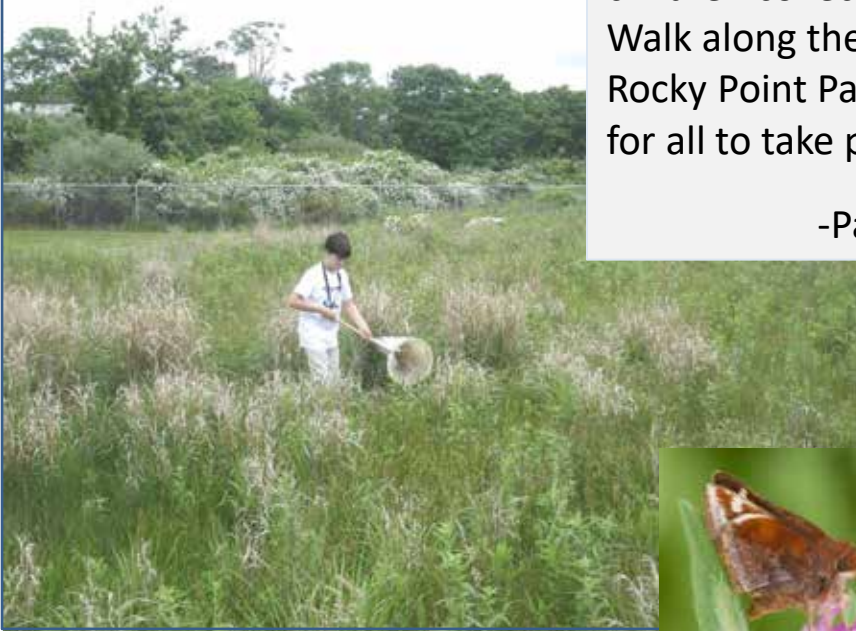
Rocky Point

Amid ruins of an amusement park nature abounds.
A house finch perched atop the derelict dining hall
sings a welcome song.

Behind a fence memories of childhood--
rollercoaster rides and family fun;
music from a carousel echoes from the past
blends with the sound of laughter;

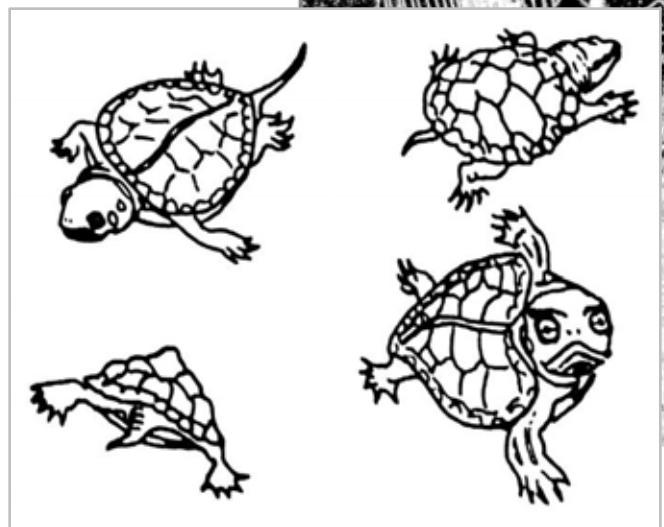
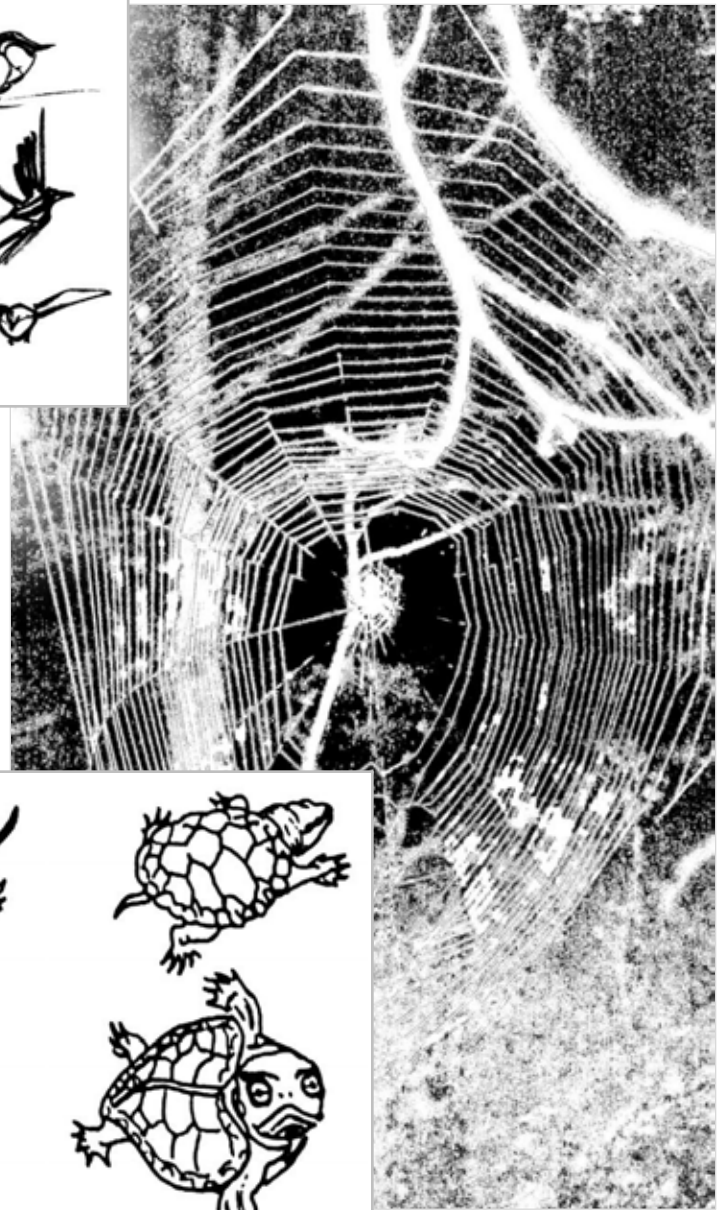
children collect shells and crabs awash in salt and sand.
Walk along the shore, new amusements to share.
Rocky Point Park thus remains a natural treasure
for all to take pleasure!

-Patti McAlpine



zabulon skipper (*Poanes zabulon*)





Art Team



Education Team



TAXONOMIC TEAMS



- Organize species reporting
- Enhance team identity
- Advanced planning
- Learning across age & levels of knowledge
- Improve:
 - areal coverage
 - habitat coverage
 - discovery techniques
- Year-to-year comparison & records
- Taxonomic Breadth
- Rare or Unusual Species

ALL TEAMS

Help Us Understand the Nature and Function of this Place

- Find a way to tell us:
 - what surprises you?
 - what did you learn that you didn't know



TEAM RECORDS

RI BioBlitz 2016—Results
Kenyon Crossroads Preserve, Hopkinton, RI, June 10-11, 2016

+herps
1

12	Higher	Genus	species	epithet	observer	notes	
	Higher amphibians						
		BUFONIDAE – Toads					
1			Bufo americanus	(American Toad)	RO		
		HYLIDAE - Treefrogs					
1			Hyla versicolor	(Gray Treefrog)	Bob K		
1			Pseudacris crucifer	crucifer (Northern Spring Peeper)	RC		
		RANIDAE - True Frogs					
1			Rana catesbeiana	(Bullfrog)	DWG		
1			R. clamitans	melanota (Green Frog)	MW		
1			R. palustris	(Pickerel Frog)	LP		
1			R. sylvatica	(Wood Frog)	LP		
		AMBYSTOMATIDAE - Mole Salamanders					
1			Ambystoma maculatum	(Spotted Salamander)	LP		
		PLETHODONTIDAE - Lungless Salamanders					
1			Eurycea bislineata	(Northern Two-lined Salamander)	JC		
1			Hemidactylium scutatum	(Four-toed Salamander)	RO		
1			Plethodon cinereus	(Northern Red-backed Salamander)	RO		
		SALAMANDRIDAE - Newts					
1			Notophthalmus v.	viridescens (Red-spotted Newt)	BIL		
12							
8		reptiles					
		COLUBRIDAE - Colubrid Snakes					
1			Coluber constrictor	constrictor (Northern Black Racer)	LP		
1			Thamnophis sauritus	sauritus (Eastern Ribbon Snake)	BD		
1			T. sirtalis	sirtalis (Eastern Garter Snake)	RC		
		CHELYDRIDAE - Snapping Turtles					
1			Chelydra s.	serpentina (Common Snapping Turtle)	EC		
		EMYDIDAE - Box and Water Turtles					
1			Chrysemys picta	picta (Eastern Painted Turtle)	MW		
1			Clemmys guttata	(Spotted Turtle)	CB		
1			Terrapene carolina	carolina (Eastern Box Turtle)	RC		
		KINOSTERNIDAE - Musk and Mud Turtles					
1			Sternotherus odoratus	(Common Musk Turtle)	LP		
8							

Which taxonomic team sets records most often? (greatest % of possible)

	2006			2007			2008		
	Cumberland			South Kingstown			Westerly		
	# of Species Found	% of average for RI BioBlitz	% of the'retical max for RI	# of Species Found	% of average for RI BioBlitz	% of the'retical max for RI	# of Species Found	% of average for RI BioBlitz	% of the'retical max for RI
all monos	0	0%	0%	0	0%	0%	4	33%	0%
algae	0	0%	0%	4	9%	0%	50	109%	5%
mosses	0	0%	0%	2	9%	1%	68	298%	19%
vascular plants	384	121%	24%	304	96%	19%	376	118%	23%
lichens	59	94%	17%	82	131%	24%	91	145%	27%
fungi	30	85%	2%	19	54%	1%	44	125%	3%
Mollusks	5	35%	5%	6	42%	6%	9	63%	9%
Echinoderms	0	0%	0%	0	0%	0%	0	0%	0%
non-arthropod inverts	5	18%	0%	13	46%	0%	14	49%	0%
spiders and kin	39	132%	8%	37	126%	7%	44	149%	9%
crustaceans and kin	4	30%	6%	4	30%	6%	16	119%	23%
Odonata	8	49%	6%	7	43%	5%	18	111%	13%
Coleoptera	34	42%	1%	99	121%	4%	69	84%	3%
Diptera	12	62%	1%	16	82%	1%	11	57%	1%
Hemiptera-Homoptera	5	42%	1%	7	59%	1%	28	237%	6%
butterflies	8	50%	7%	16	100%	15%	15	94%	14%
moths	74	67%	9%	214	195%	26%	93	85%	11%
ants	6	130%	10%	0	0%	0%	6	130%	10%
bees and wasps	13	101%	1%	15	117%	2%	17	132%	2%
all insects	166	57%	1%	389	133%	3%	278	95%	2%
all arthropods	209	62%	1%	430	128%	3%	338	101%	2%
all invertebrates	214	59%	1%	443	122%	2%	352	97%	2%
reptiles	4	73%	16%	6	110%	24%	10	183%	40%
amphibians	10	150%	53%	10	150%	53%	6	90%	32%
reptiles and amphibs (herps)	14	115%	32%	16	132%	36%	16	132%	36%
fish	0	0%	0%	10	97%	4%	19	184%	7%
birds	62	85%	19%	98	135%	30%	74	102%	23%
mammals	14	91%	16%	13	85%	15%	18	117%	21%
all vertebrates	90	81%	12%	137	123%	19%	127	114%	17%
TOTAL species	777	80%	3%	991	102%	4%	1112	114%	4%
participants	125	88%	0%	142	100%	0%	120	84%	0%

team winner by % of max:

herps

herps

herps

SAFETY

The future of BioBlitz depends on this BioBlitz being a safe one



BEING SAFE IS ITS OWN REWARD!

Tell RINHS about unsafe things you see

If you fail to follow the rules, you will be asked to leave.

SAFETY:

- **No Firearms**
- **No Alcohol**
- **No Fires**
- **No Loud Music**
- **No Drones**

Please Leave Your Drone at Home



Exercise extreme caution around:

- water
- stone walls
- animals
- vehicles

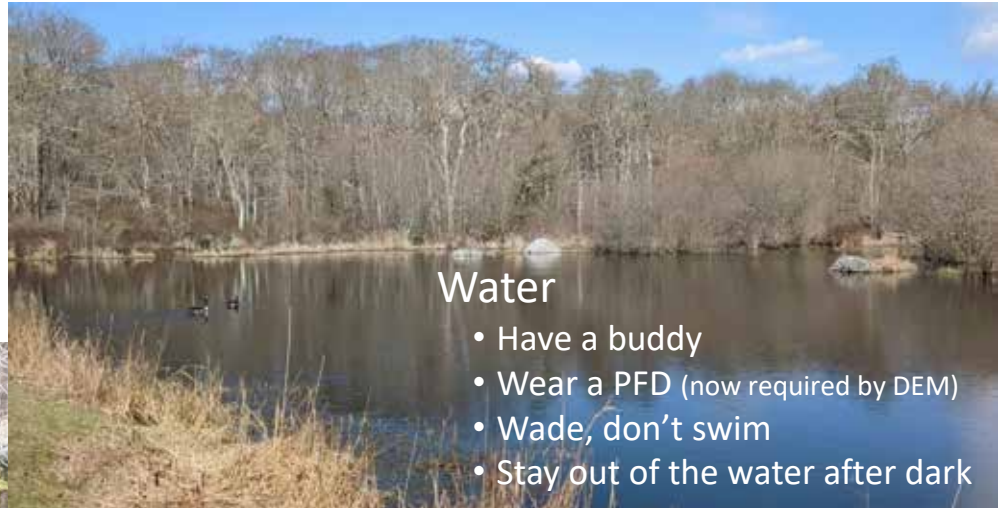


Walls

- Don't climb them
- Don't take them apart

Cliffs

- Don't climb them
- Stay off them after dark



Water

- Have a buddy
- Wear a PFD (now required by DEM)
- Wade, don't swim
- Stay out of the water after dark



Other Hazards



3rd Beach Rd. & Hanging Rock Rd.



**Be extra careful around
CLIFFS**

Other Hazards



**Don't handle
rabies vectors**

No dogs, please
except service animals

Other Hazards



**Dangerous wild animals?
We certainly hope so . . . but still, be careful**



**MOST DANGEROUS
animal
at BioBlitz!!**









Poison Ivy (*Toxicodendron radicans*)



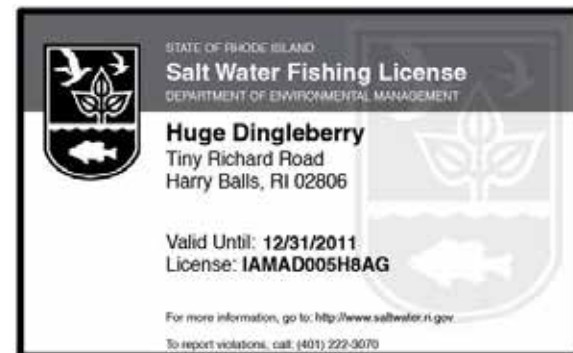
MORE RULES:

RINHS has a scientific collector's permit for general collection

BUT

YOU are responsible for having the right permits for your activity

*fishing, shellfishing, lobster trapping
SCUBA diving
mist-netting birds or bats
power boat
etc.*



License photo: stripersonline.com



ANIMALS

Treat animals humanely

Don't move organisms unless you have to for identification

If you want one to use for a demonstration, limit yourself to one

You must return organisms to the EXACT spot where they were found

Inform RINHS about specimens/samples you intend to remove from the site.

PLEASE LIMIT DIGGING to < 8"

RESPECT SPECIAL CULTURAL SITES

WAIVERS & RELEASES



BioBlitz: Notices and Instructions to Participants

Your compliance with these notices and instructions are important to your own safety and that of other participants, and to the RI Natural History Survey's (RINHS's) ability to organize BioBlitzes in the future. By participating in BioBlitz, you agree to follow the rules laid out here, participating land owners' rules, and relevant local, state, and federal laws. You will be in a wilderness area with known and unknown hazards. Neither the hazards nor your behavior are in the control of RINHS, land owners, or event sponsors. **YOU are responsible for your own safety.** If you have any questions about these rules, please ask. If you won't follow the rules, you should not participate.

GENERAL

► **Science Central** is the HQ for BioBlitz. It is located at _____ All participants must sign in at Science Central upon arrival, sign a liability waiver, and receive notices and maps of the BioBlitz boundaries and other features.

► All enquiries should be directed to Science Central. RINHS and local reps are on duty at Science Central at all times (or nearby during late overnight hours).

► Obey game laws. BioBlitz has a catch & release scientific permit from RIDDM but you are responsible for having any other required permits (e.g. fishing licenses, mist netting license, etc.). For all vertebrates and any regulated species, if you intend to do anything other than catch and release, you must report your take at Science Central. Thanks to generosity of the land owners, invertebrate animals and non-vascular plants may be collected (unless they are on the federal or state rare species lists). If you are going to keep specimens, please record your take with RINHS at Science Central.

► Do not un-necessarily disturb animals, plants, or their habitats in the course of counting. In particular, note that animals must be treated humanely at all times. Handle animals carefully and as little as necessary. Put animals back exactly where you found them.

► Please respect the privacy of abusers and stay "In Bounds." Consult the event map or ask if unsure.

► You are responsible for personal property you bring to BioBlitz. Neither RINHS nor other organizers can accept any responsibility for your personal property. Do not leave out microscopes, books, cameras, phones, or anything else valuable that you're not prepared to lose.

SAFETY

► If you have an emergency and require help, call for emergency services by dialing 911. Tell the operator you are participating in an event _____ in _____ town _____, and if possible give your approximate location so help can be staged from the best access point. Then contact Science Central.

Phone numbers:
Emergency 911
RINHS Science Central _____
or
Town Representative _____

► In case of emergency, phones and first aid kits are located at Science Central. Organizers' representatives are on duty at Science Central at all times (except late overnight hours, when they will be nearby). In addition, an RINHS-designated "Safety Ranger" is on duty and available to go to a location, direct emergency services, or otherwise assist you.

► Hazards: While this is not a remote expedition, the landscape of the site and the activities of BioBlitz are likely to have inherent dangers that are beyond the powers of the organizers to warn you about or to control. Therefore, a safe BioBlitz is YOUR responsibility. Be careful in what you do, and if you see someone doing something unsafe, say something to them and/or bring it to organizers' attention.

• Be careful around water and mud. People wishing to enter the water, even just wading, should be with a partner or in a group. Be alert for deep mud. Probe ahead with a stick. Have a partner. Participants must observe all applicable boating laws. If you are on the water, you must be in possession of a personal flotation device and have any other state-mandated safety gear.

RHODE ISLAND NATURAL HISTORY SURVEY

RI BIOBLITZ 2019 PHOTOGRAPHY AGREEMENT

I am a voluntary participant in a science, education, and public outreach event called Rhode Island BioBlitz (the "Event"), organized by the Rhode Island Natural History Survey (Survey).

I understand that the Survey or its designees, the Event's sponsoring organizations, and other Event participants may be photographing and making visual and audio recordings on various media during the Event.

The purposes of these photographs and recordings include documenting the Event and its findings; promoting the Event and future similar Events; communicating to various audiences about the works of the Survey for promotion and fundraising; and other lawful uses related to the Survey's mission and operations.

I understand that these photographs and recordings may include me, my likeness, voice, or biographical details.

I agree that these making otherwise lawful photographs or recordings during the Event shall own all right, title, and interest in the photographs and recordings for use in any lawful manner or media now or hereafter throughout the world and may use, edit, modify, or credit them in any lawful way at their sole discretion.

I have the right to enter into this Agreement and my doing so will not conflict with any other commitment(s) I have made.

Participant's Name: _____

Participant's Signature: _____
(or parent or guardian if the participant is a minor)

Date: _____

Expectations

TO PARTICIPATE, YOU MUST:

- Pre-register
- Be assigned to a team
- Follow the rules
- Sign a liability waiver and photo release
- Be accompanied by a parent/guardian at all times if a minor

**Wear lifejackets if you're on the water
and be careful of motor vehicle traffic**

Share your knowledge, ask for help

“cause everybody knows something and nobody knows everything”

Use safety precautions

“See something, say something”

Respect private property

Follow the rules

in the program you'll receive during check-in

FUN! FUN! FUN!

**Thank you, Norman Bird Sanctuary
and all our sponsors, esp. the Zoo**

