

ENVIRONMENTAL C • E • N • T • E • R

ESSEX COUNTY
PARK SYSTEM

125th
ANNIVERSARY



ESSEX COUNTY
Department of Parks, Recreation, and Cultural Affairs



"The Bio-Blitz is a 24-hour initiative to catalog the flora, fauna and other natural features that make Essex County South Mountain Reservation such a special and unique place. We have dozens of volunteer scientists who will document this data, and many public exhibits and programs that can inspire naturalists of all ages. Come and find out what all the excitement is about and how you can get involved."

Joseph N. DiVincenzo, Jr.



24 Hours of Species Identification

From 3:00pm Saturday to 3:00pm Sunday scientists and experts will be collecting data throughout the 2,110 acres of South Mountain Reservation, with an emphasis on birds, reptiles, amphibians, mammals, fish, insects, plants, and fungi. Data will be analyzed to establish a baseline of SMR's biodiversity and used to inform responsible habitat management strategies and conservation decision-making in South Mountain Reservation.

SPONSORS:



Come and learn...
Free programs for
naturalists of all
ages at
Summit Field and
elsewhere!

Visit our website for
directions, schedule and
to learn about the games,
music, demonstrations,
and nature programs.

www.somocon.org/bio-blitz

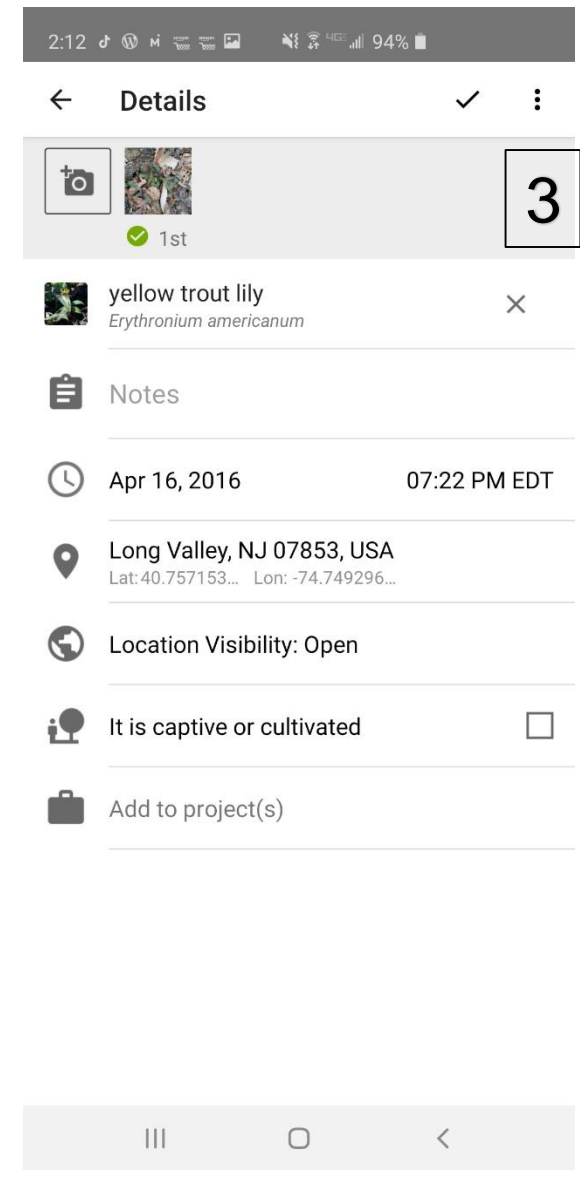
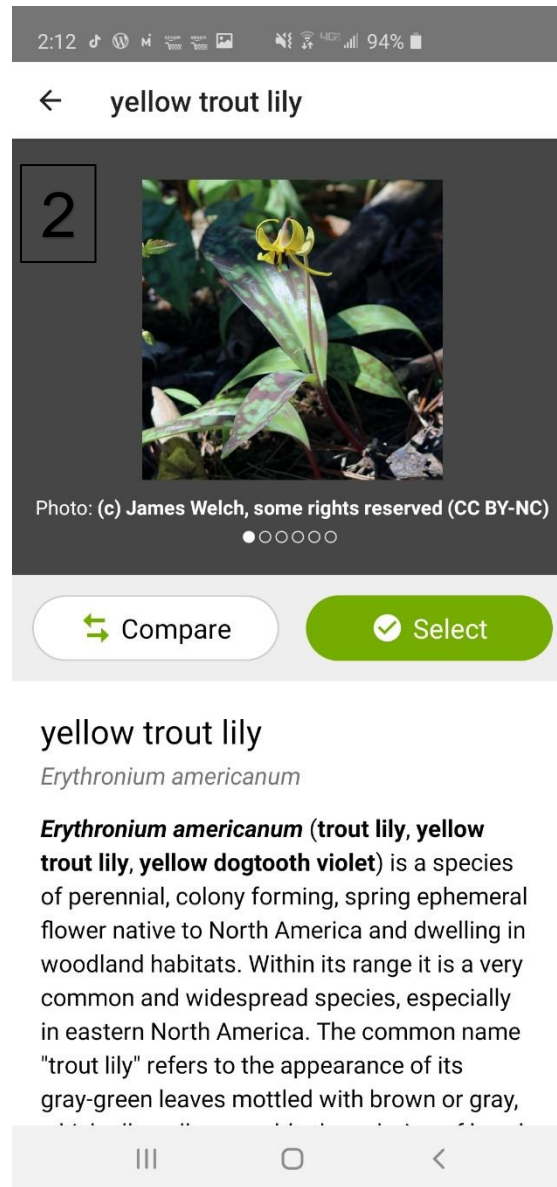
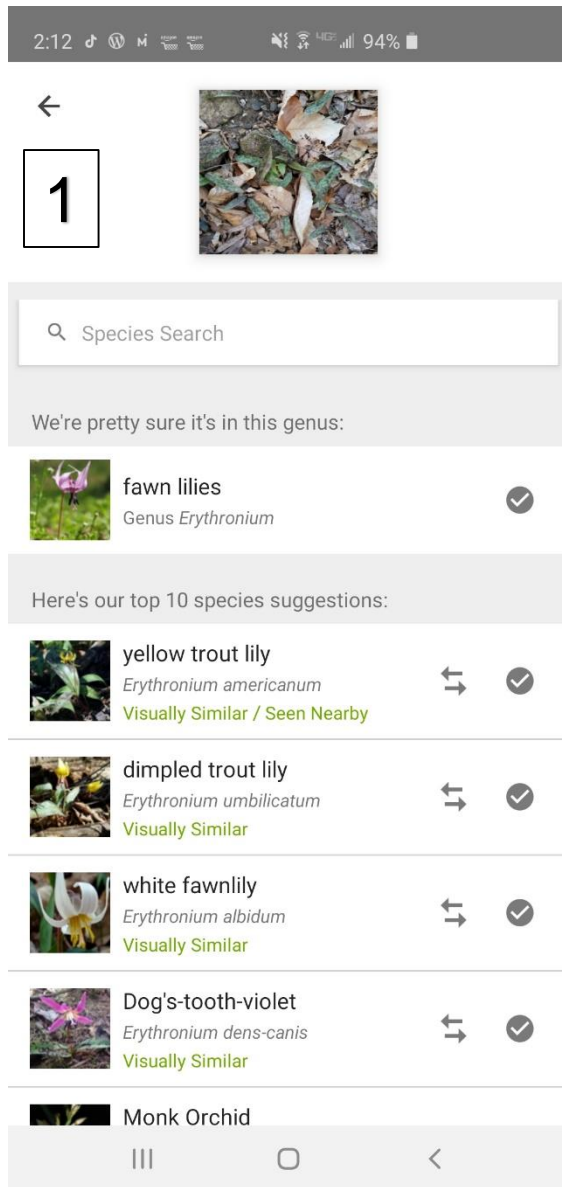
SMC Annual Public Meeting iNaturalist Presentation

Wed, Mar 04 · 7:00 PM

iNaturalist is a citizen science project and online social network of naturalists, citizen scientists, and biologists built on the concept of mapping and sharing observations of biodiversity across the globe. David Alexander, Essex County Senior Naturalist, will share his successes with the application as part of our BioBlitz nature study that examined the biodiversity within South Mountain Reservation.



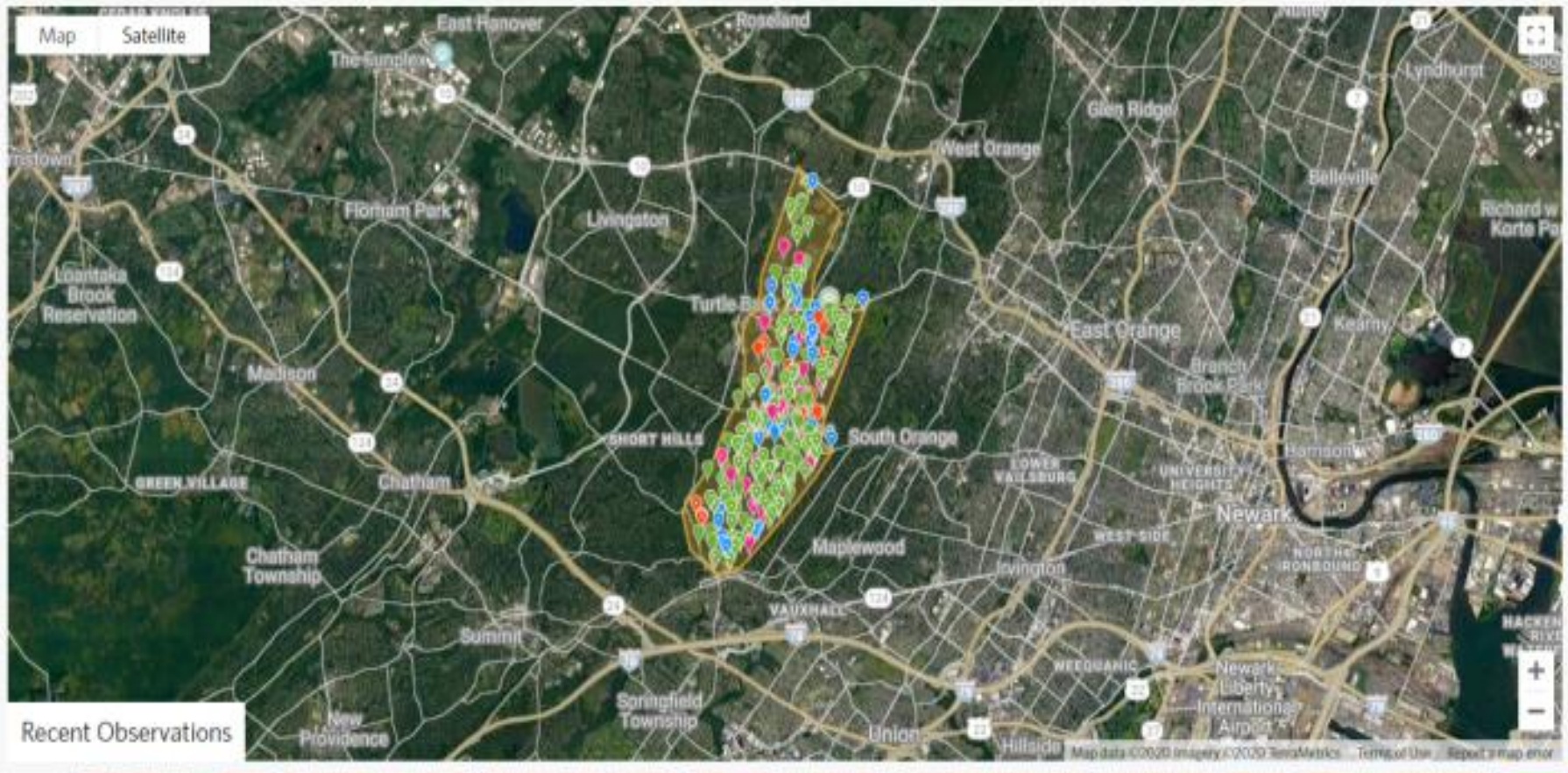
How to Submit on the App



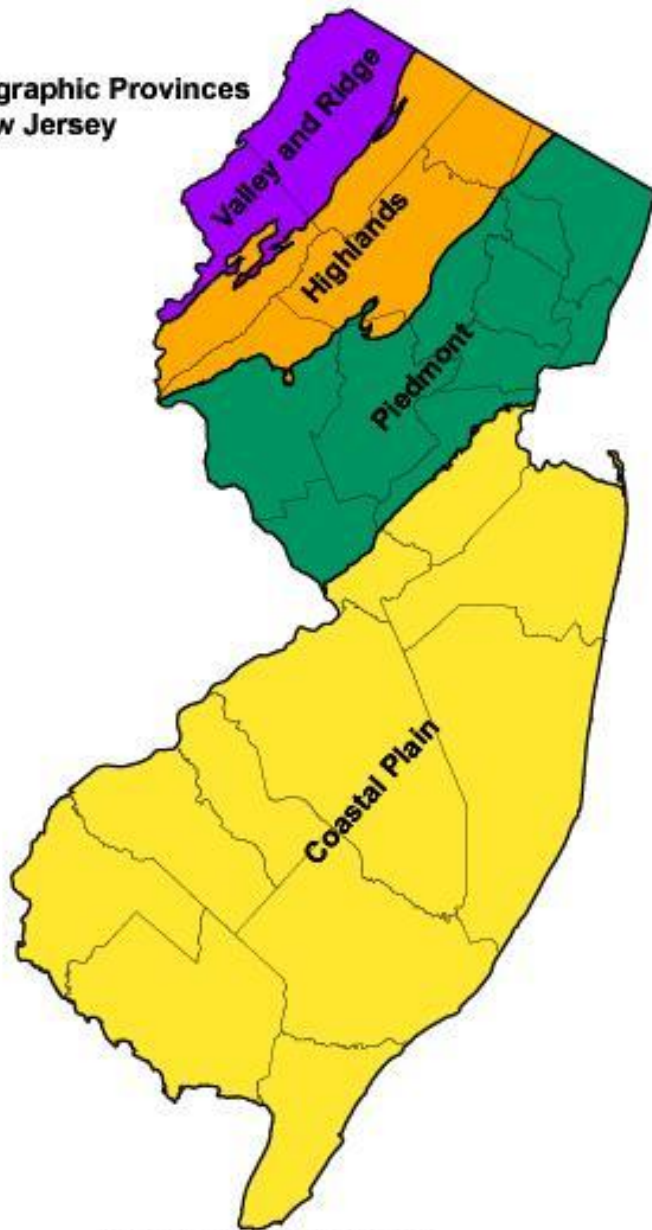
South Mountain Reservation iNaturalist BioBlitz Project

Map of Observations within 2,112 Acres

Map of Observations



Physiographic Provinces
Of New Jersey



County boundaries for reference only.

WHY SOUTH MOUNTAIN RESERVATION

- The reservation is within a few miles of a foremost metropolis, NYC.
- It's location and protected land act as a biodiversity hot spot within the Piedmont physiographic region of New Jersey that sits 300-400 feet above sea level at the foot of the highlands.
- New Jersey itself has around 319 bird species, 90 mammal species, 33 reptile species, 39 amphibian species, 2,100 vascular plants and so that is a phenomenal amount of biodiversity for the most human populated state in the nation (9 million people) and 5th smallest state (although we also have 1 out of every 4 acres as preserved land!).



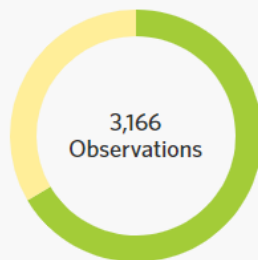
Someone who wants to study biodiversity might think to travel to central America but they would be skipping over fascinating flying mammals, mole-like salamanders, wood nymph moths that mimic bird droppings, birds as odd as the timberdoodle, trees that reach almost 200 feet or 12 floors high, flowers that look like a ladies shoe or smell like skunk and many more interesting species between the Valley and Ridge to the north and the Coastal Plain to the south.



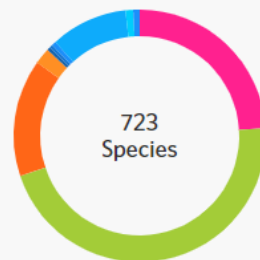
Our HIGHLIGHTS as of February 2020

- Over 3,000 recorded observations!
- 723 different species observed!
- 71 bird species, 175 fungi, 330 plants, 108 insects and more!
- More than half of the 3,000 observations are research grade!

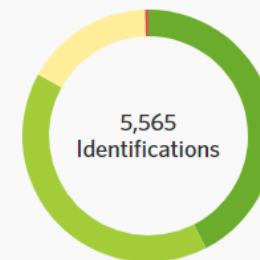
Stats



● Research Grade
● Needs ID
● Casual



● Unknown
● Protozoans
● Fungi
● Plants
● Chromista
● Mollusks
● Inverte
● Arachnids
● Ray-Finned F...
● Amphibians
● Reptiles
● Birds
● Mammals
● Other Animals



● Improving
● Supporting
● Leading
● Maverick

Observers

Rank	User	Observations ▾	Species ▾
1	 kitmonster	1,162	143
2	 srall	314	147
3	 inat7	251	158
4	 tpollard	180	89
5	 syvwch	162	76
6	 awarren1	129	69
7	 kathawk	51	38

Kitmonster with 1,162 observations
of 143 species!

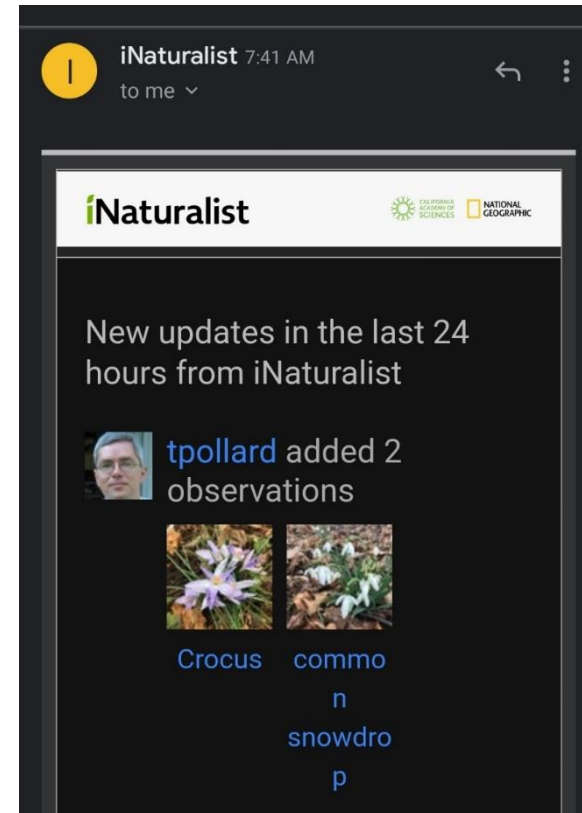
Identifiers

Rank	User	Identifications
1	 tsn	809
2	 sadawolk	805
3	 srall	250
4	 apgarm	171
5	 schoenitz	167
6	 allisonbf	150
7	 johnplischke	73
8	 tpollard	53
9	 wsimmons	42
10	 vilskog	39

TSN with 809 Identifications!

SMR iNaturalist BioBlitz

Even though our bioblitz event is over, iNaturalist data is still being added daily and helping us to better understand the biodiversity within the reservation.

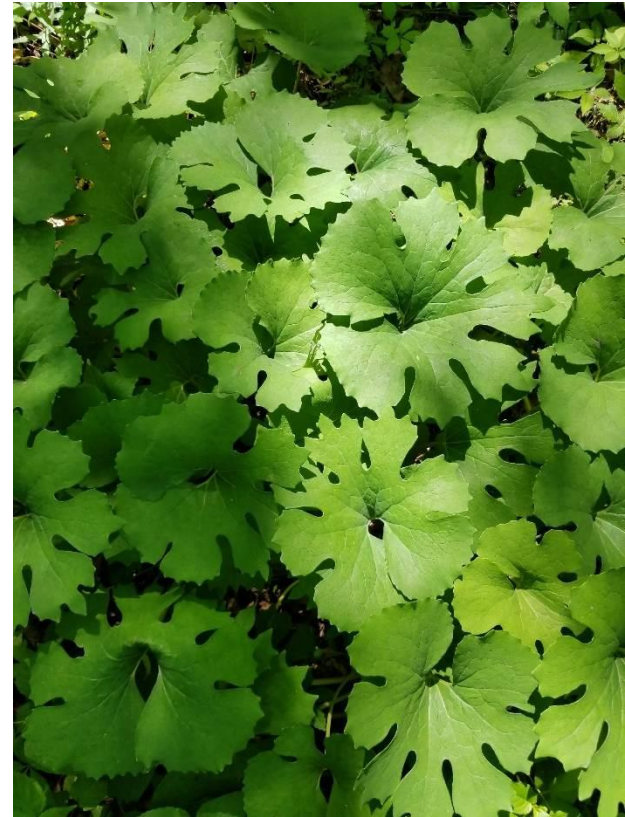


We can now use the data in many ways!

- Monitor populations of sensitive native plants and source native local ecotype seed for propagation.



- Recognize the loss of historically present plants and add them to our stewardship restoration efforts (milkweed, Solomon's seal, bloodroot, wild leeks, wild columbine, wild ginger, doll's-eyes, etc...).





- Identify and report locations of invasive species for removal by the SMR Forest Regeneration Corps volunteers to tackle (Japanese knotweed, Oriental bittersweet, tree of heaven, devils walking stick, etc...) and target highly threatening new encroachment from species like Oriental Photina, Japanese Aralia, Siebold's Viburnum and Linden Viburnum while populations are minimal.
- (Or schedule a potluck and Eat it to Beat it!)



- Early identification and detection of invasive pests like the Spotted Lantern Fly. This documentation of early warning of colonization by invasive non-natives could help us get funding to control them.

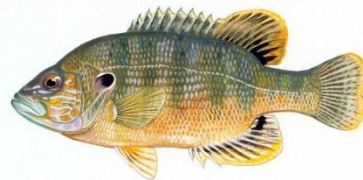
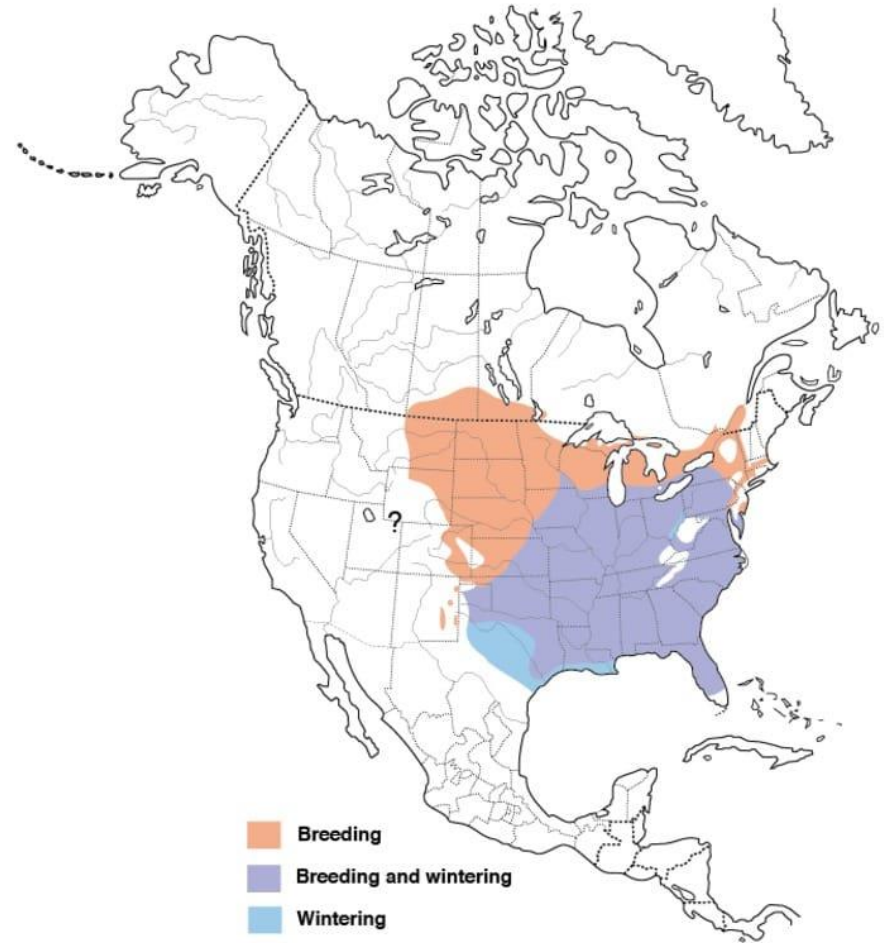


- Recognize areas of high and low biodiversity within the reservation to manage forest health (locating areas for native plant enclosures, diverting trails away from sensitive species with the SMR Trailkeepers Crew, targeting areas for invasive species removal.



- Improve and update range maps of species distribution across the mid-Atlantic region.

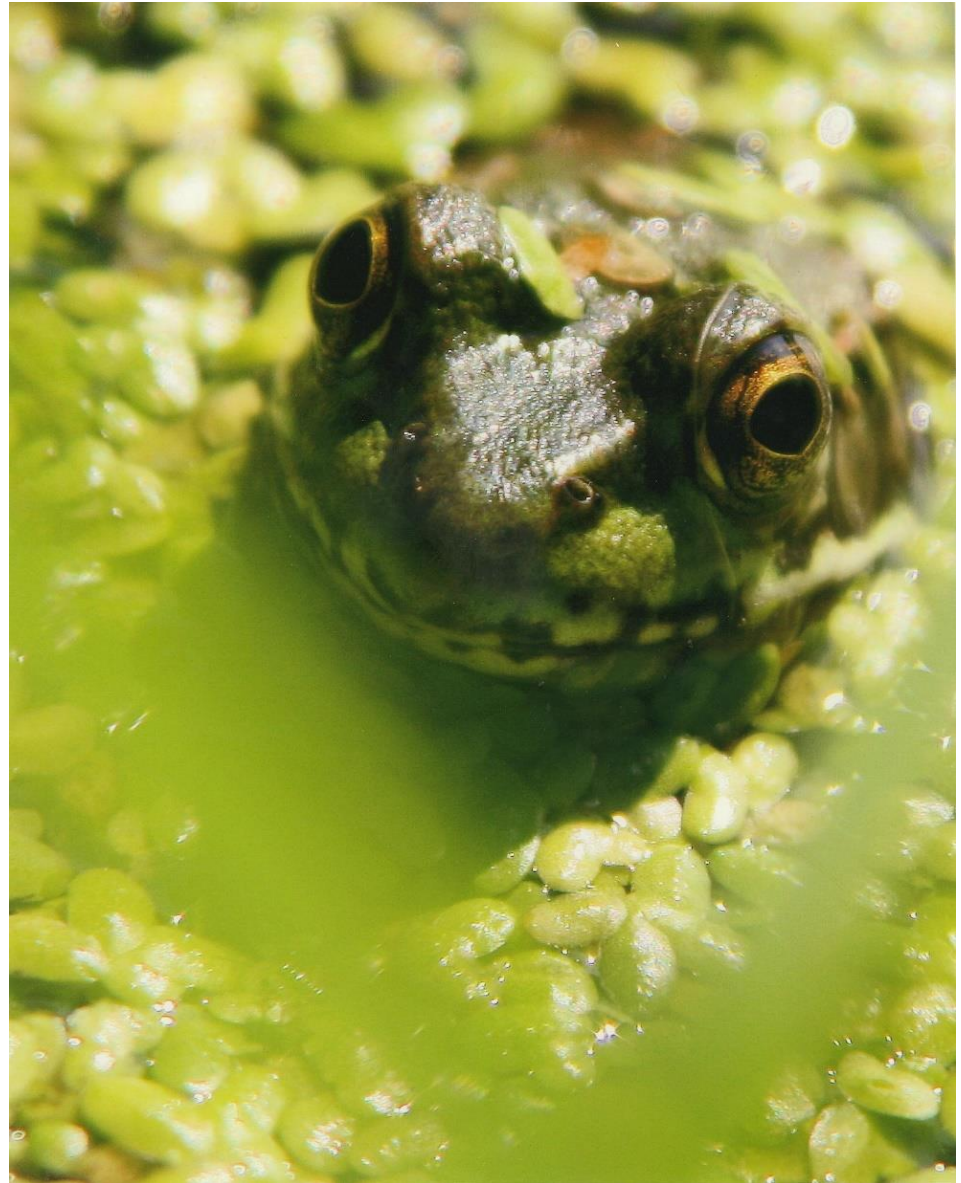
- Note: Fish team was surprised not to find the non-native green sunfish that has spread due to accidental stocking.



- Recognize success of dam removal on West Branch of Rahway river. We found the American Eel below Orange Reservoir. The species is catadromous meaning the adults spawn in the ocean; the young migrate to freshwater habitats. The American Eel was previously listed as endangered but U.S. Fish and Wildlife reviewed the status in 2015 and deemed it not warranted.



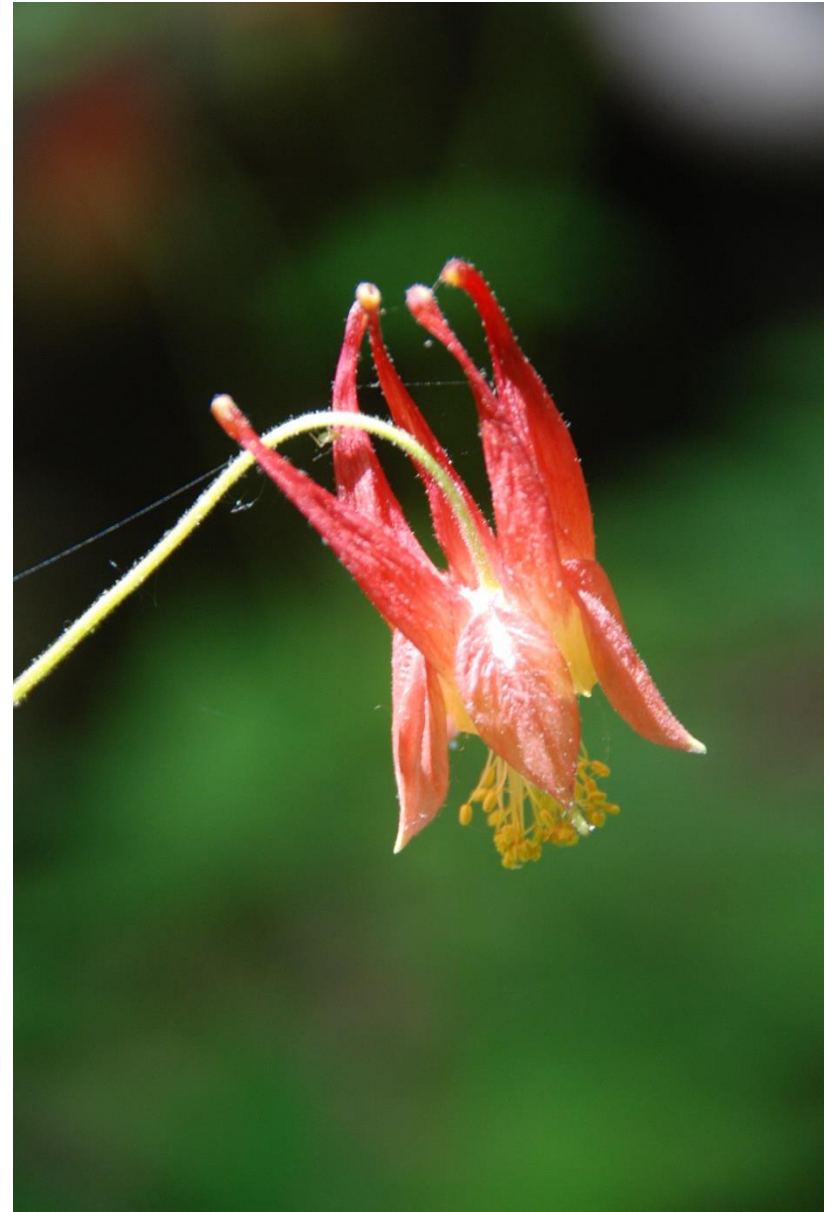
- Record phenological observations of both plants and animals and study their relationship to climate change (first appearance of migratory critters, first breeding behavior, first bloom record, changing migratory patterns).
- Ex. Red and White Wing Crossbills and Boreal Chickadees appearing from the north and Carolina Wren and Red-Bellied Woodpecker more abundant but once found further south.
- Use observations to better schedule SMR walks & talks for maximum chance of species observation.



- Recognize, recommend and target areas dense with invasive species and accumulated woody debris for the NJ Forest Service (free for government land) prescription fire!
- This is a popular management practice for wildfire hazard reduction but has large secondary benefits for ecological health of the habitat. There have been proven partnership success in surrounding park systems like Morris County, at NJ Audubon Properties and Schiff Nature Preserve.



- Avoid Plant Blindness, “the inability to see or notice the plants in one’s own environment”
- Within the Endangered Species Act, listed species are protected everywhere if they are animals, but only on federal lands for plants, except to the extent that there may be additional legal protection at the State level.



Encourage Tech & Nature Together



Fight the False Dichotomy

- Observe, identify, study and expose ourselves to natural history for the love of it.
- Promote nature exploration that leads to physical activity and health while avoiding nature-deficit disorder!
- and so much more..



Questions?

David Alexander, Senior Naturalist

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