

**Uniting To Save  
Nature: how we can  
conserve wildlife  
AND provide for  
human health and  
well-being**

Don Moore

Delaware 2025



# A Quick Outline:



## Introduction

What: Biodiversity in Delaware, BUT Habitat Change etc Causes Decline of Nature

Why Save Nature: Humans NEED Nature!

How: Personal and Policy techniques

Hope: Redefining our Human relationship with Nature, Uniting for Wildlife Infrastructure

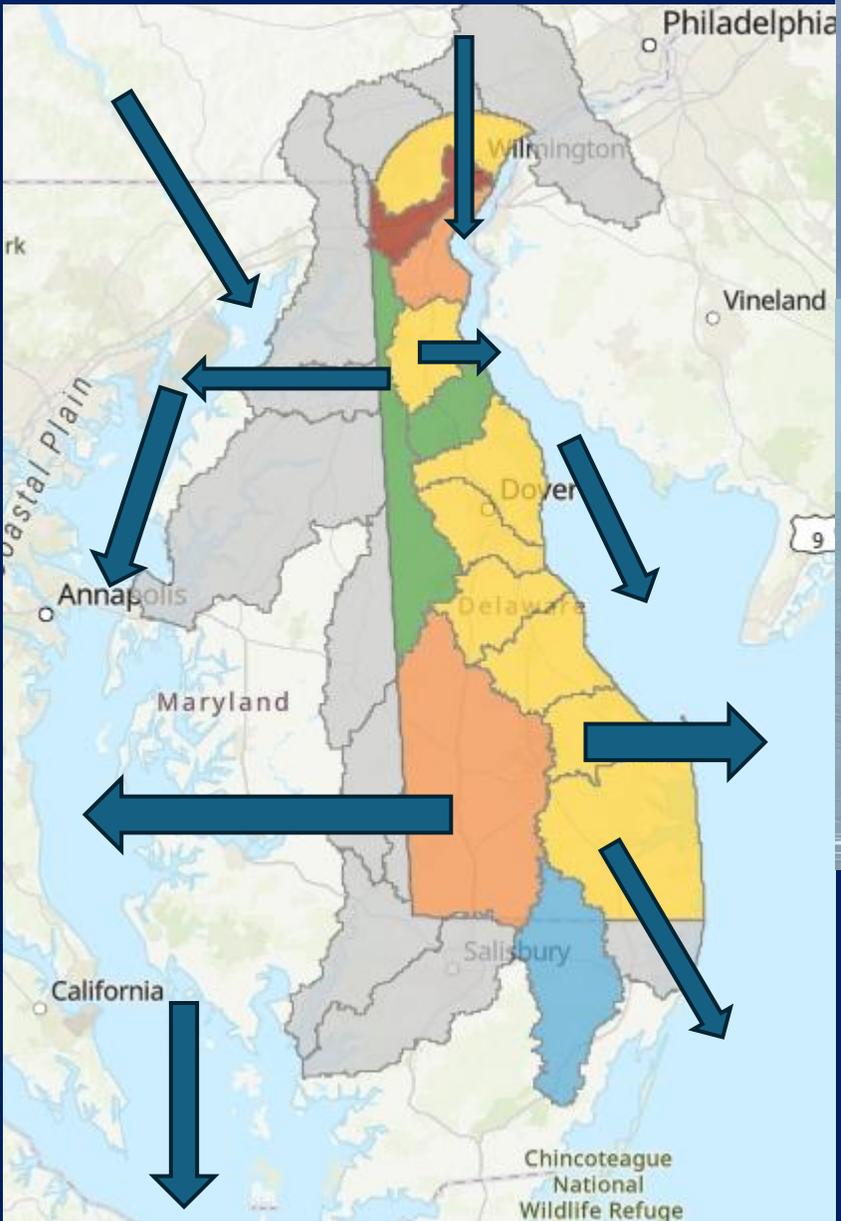


# Reality: Wildlife Need Wild PLACES!



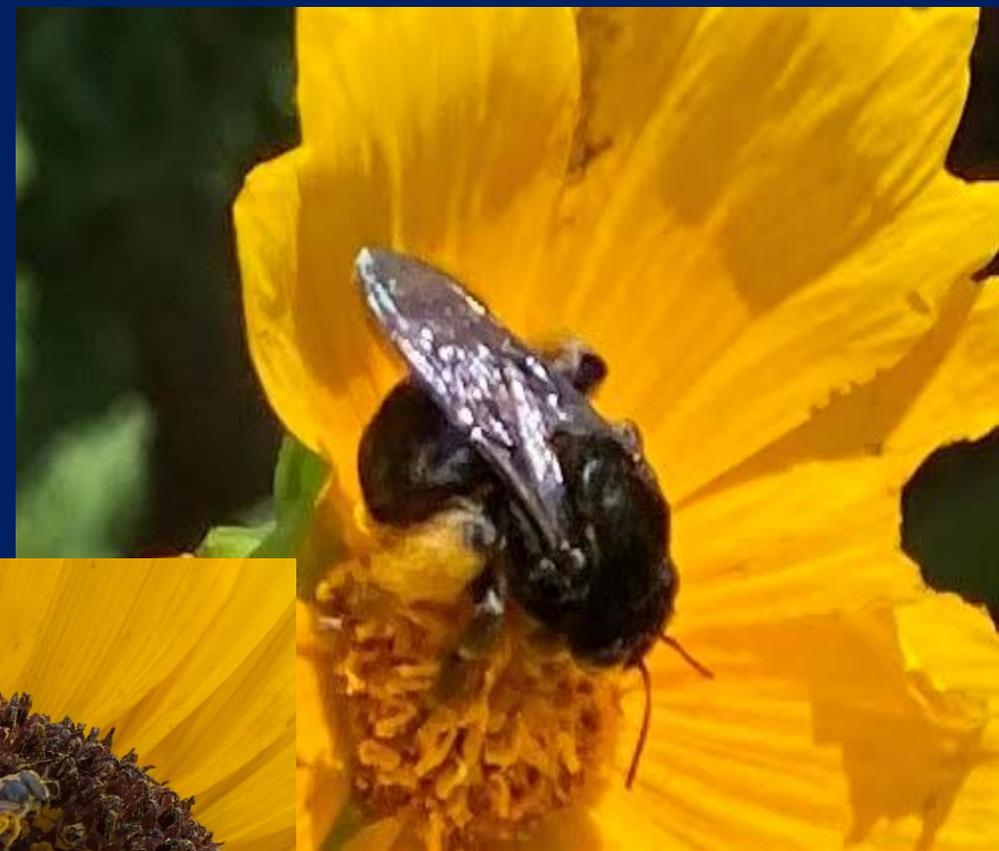
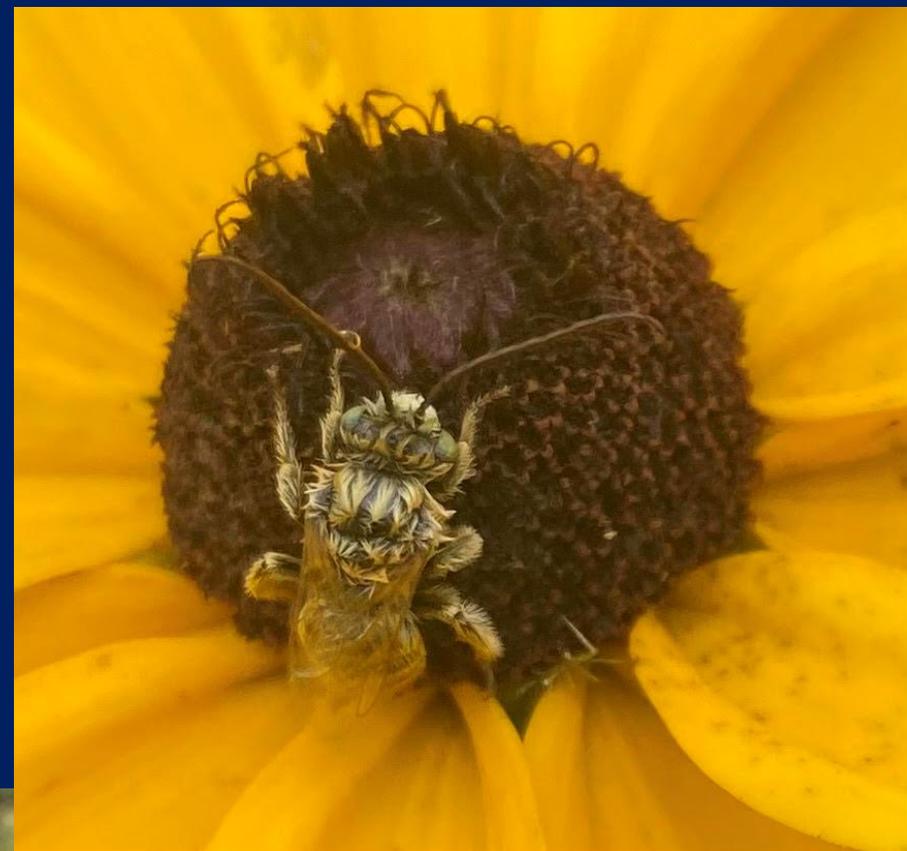
# Why “Water” focus?

EVERYTHING...  
FROM  
EVERYWHERE  
...  
EVERYTHING...  
DRAINS TO  
OUR OCEANS



# BEEES

200 Native  
POLLINATORS



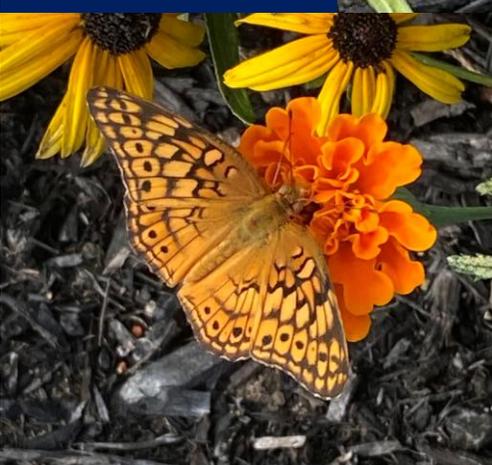
# BEEETLES

Over 200 species (including non-native)  
POLLINATORS AND DECOMPOSERS etc



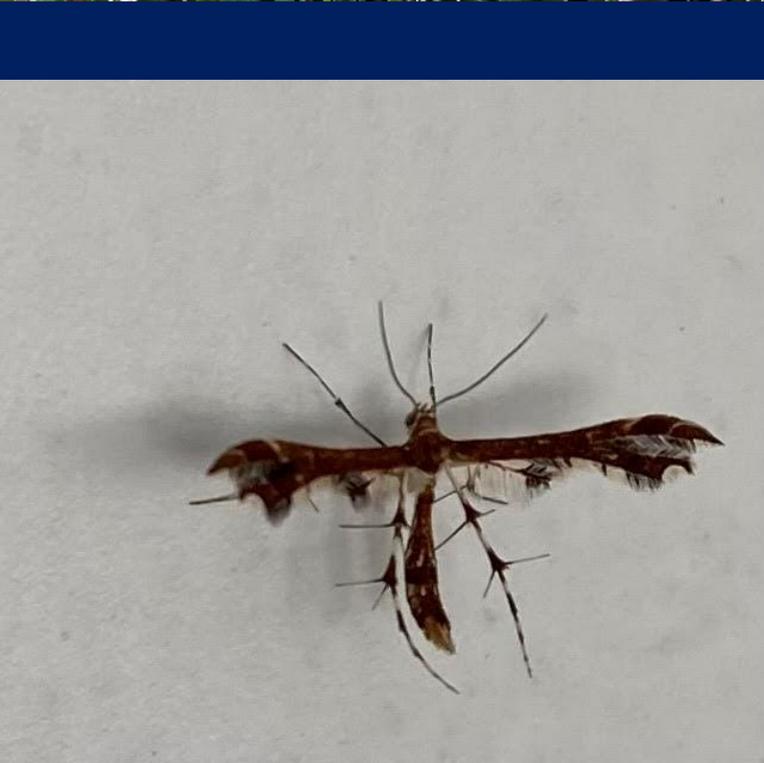
# BUTTERFLIES -

60-120 SPP  
POLLINATORS &  
BIRD FOOD!





**MOTHS**  
c 500 spp  
POLLINATORS  
&  
BIRD FOOD!



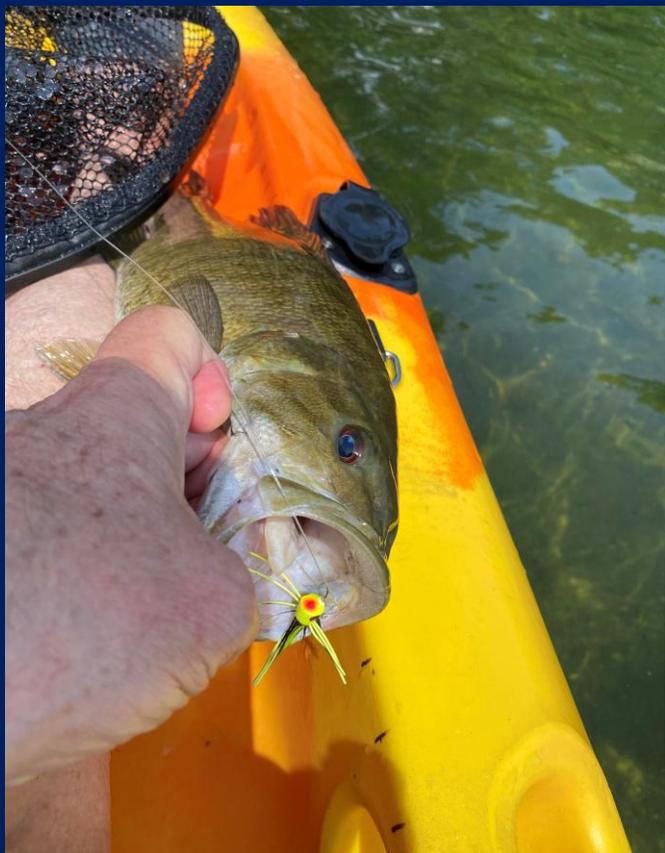
# Other "land" invertebrates

c 1,000 spp more! \* 329 DE SGCNs



# FISHES – 170 spp

c 100 DE SGCNs



**NUTRIENT CYCLING  
& ENVIRONMENTAL  
HEALTH  
INDICATORS**



**WE CONTROL  
MOSQUITOES!**



**FROGS n  
TOADS  
22 spp**



**15 spp**

**OVER 95% OF AMPHIBIAN SPECIES HAVE LESS THAN 10% OF POTENTIAL**

# REPTILES

15 species  
37 HERPTILE  
DE SGCNs



SNAKES CONTROL RODENTS & PESTS!!!

# NATIVE PLANTS

1,600 species (115 trees)

326 DE SGCNs



# BIRDS

429 species  
165 DE SGCNs



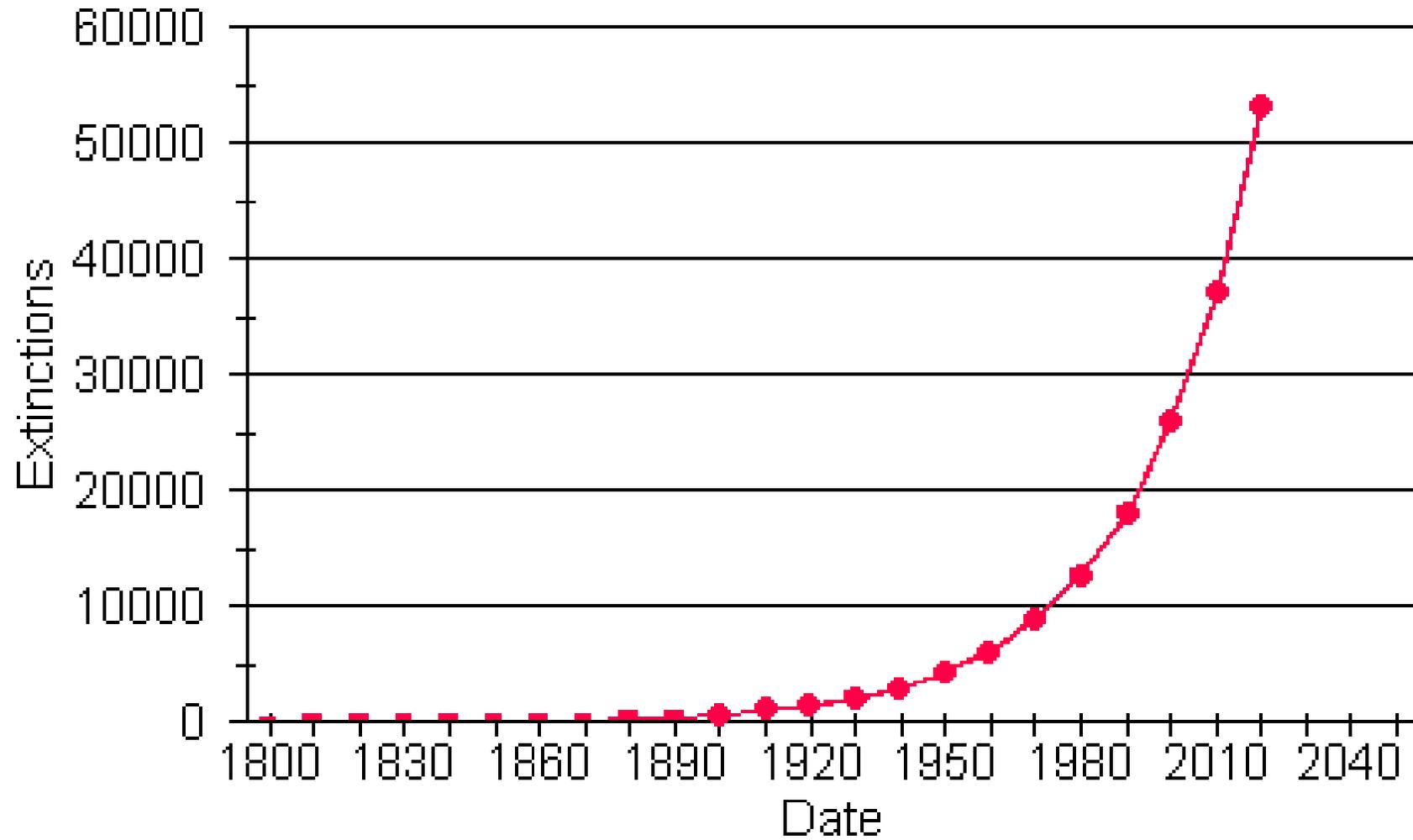
# MAMMALS

49 species  
26 DE SGCNs



# Rate of species extinction

## Species Extinctions Since 1800



# TOP THREATS TO WILDLIFE & OUR NEED TO MOVE FROM DOMINANCE TO STEWARDSHIP

19<sup>th</sup>-20<sup>th</sup> Century

Historically:

Over-exploitation

Habitat Conversion for human use

(1970s Environmental Laws were supposed to conserve:  
Water Quality Act, Clean Air Act, Endangered Species Act)



Today (per DEWAP\*):

Development (10,000 Americans retire EVERY Day!)

Pollution

Invasive species and Disease

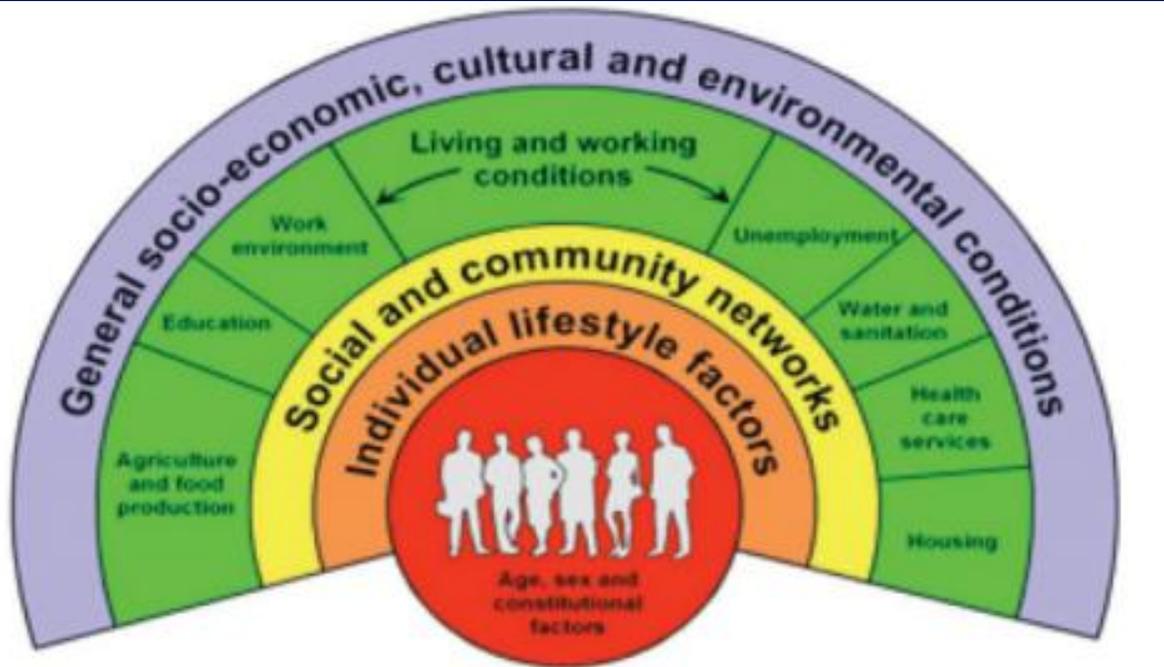
Climate Change

Natural Systems Modifications



\*Today's Threats from Delaware Wildlife Action Plan 2025

# WHY SAVE NATURE?: SUSTAINABLE WILDLIFE & HUMAN HEALTH



Source: Bambra, C., Smith, K. and Kennedy, L. (2008). "Politics and Health", In Naidoo, J. and Wills, J. (Eds.), Health Studies, 2nd edition, Palgrave Macmillan London. pp. 257-287

Ref: [About One Health](#) | [One Health](#) | [CDC](#)

# Nature Enhances Our Mental and Physical Health:

## Sense of Sight:

Green color, other colors, Landscape

## Sense of touch:

Tree Hugging produces oxytocins in us and we feel happier

## Sense of Smell:

Fragrance from trees and flowers, Phytoncides (VOCs) that enhance our immune system's "Natural Killer cells"

## Hearing:

Listening to birds, bees, rustling of leaves is calming

Taste: Eating plant foods and fruits is pleasing, good for mental and physical health (Thanks pollinators!)



# WHY SAVE NATURE?: SCIENCE OF NATURE'S AFFECT ON HUMAN HEALTH

Example: The “3-30-300 Rule” defines the minimum amount of nature necessary for good human health (is part of Philadelphia tree plan):

- 3: should have the ability to see a minimum of 3 trees out any window
- 30: should be minimum 30% tree canopy cover, especially in cityscapes
- 300: Humans should live less than 300 yards from any “green space”

This is SCIENCE-INFORMED!:

Neighborhoods with more trees have fewer physical health problems

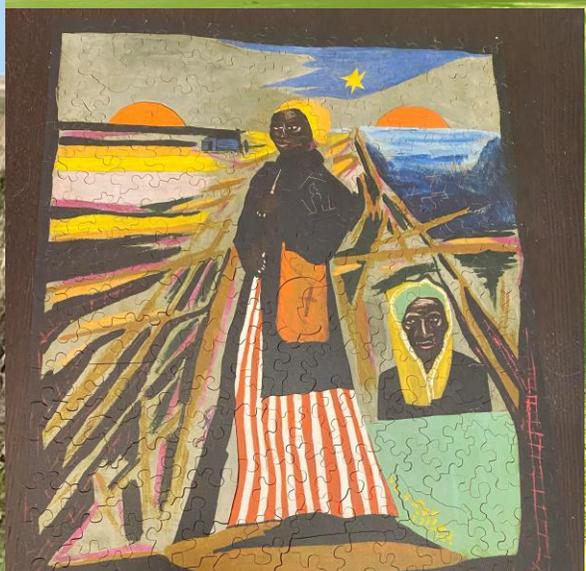
-- for instance, Leaves in tree canopies collect dust and pollen, so keeps that above people

Health issues are much worse in neighborhoods with few or no trees

# WHY SAVE NATURE?: HUMAN CULTURE OFFERS SOCIAL COMMUNITY, RESILIENCE DURING CRISES



National Symbol



Harriet Tubman, Delmarva



Dia De Los Muertos, MX

# HOW 'BOUT AN ECONOMIC RATIONALE FOR SAVING NATURE?

**Tourism economic impact in Delaware: \$4.7BB (= \$724MM tax revenues!)**

**Recreational Fishing economic impact, Delaware: \$138MM (US\$99.4BB)**

**Hunting economic impact, Delaware: \$1.26BB??(US \$45BB)**

**Wildlife-watching economic impact, Delaware: \$2BB? cf NJ \$4BB (US \$250BB)**

**Commercial crabbing, Delaware: \$4-6,000,000/year**

**Commercial oystering, Delaware: ??(fairly new, on 1,000 leased acres)**

**Commercial fishing (all spp), DE: \$10-15,000,000**

**DELAWARE CANNOT AFFORD TO LOSE OUR NATURE-BASED RESOURCE!**

SO WE KNOW WHAT THE PROBLEM IS..AND WHY  
SAVING OUR NATURE IS IMPORTANT...



WE NEED TO MOVE FROM “WHAT” TO “HOW” TO  
SAVE OUR NATURE!

# How do we Save Nature? Personal effort:

(Polar Bears International to reduce climate change):

- \* Take shorter showers (conserves water and need for heat)
- \* Refuse-Reduce-Recycle-Reuse (minimizes plastics in oceans)
- \* Bike or Walk to School or Work (reduces use of fossil fuels)



(CBF Save The Bay to reduce pollution in the Chesapeake drainage)

- \* Use fewer lawn chemicals (reduces Nitrogen and Phosphorous)
- \* Plant natural/native perennials and trees (reduces erosion/runoff)
- \* Reduce use of Household chemicals (reduces toxins in watershed)



**GREAT! BUT...“Personal action” by millions of people still hasn’t worked to save Nature!**

# How do we get there? Community effort:

Example: HOA Stormwater Pond Management/ GOOSE MGT

NOTE: Our 7-YR-OLD COMMUNITY STORMWATER MGT PONDS ARE IN "INLAND BAYS WATERSHED"

**2022:  
EROSION**



**MULTIPLE RESULTS FROM MULTIPLE ACTIONS:  
MORE NATIVE VEGETATION (2.17 Acres, 1 HoA!)  
MORE POLLINATORS AND GOOSE PREDATORS  
FEWER GEESE (Strategic Plantings!!)  
LESS EROSION, BETTER WATER QUALITY!!!!**

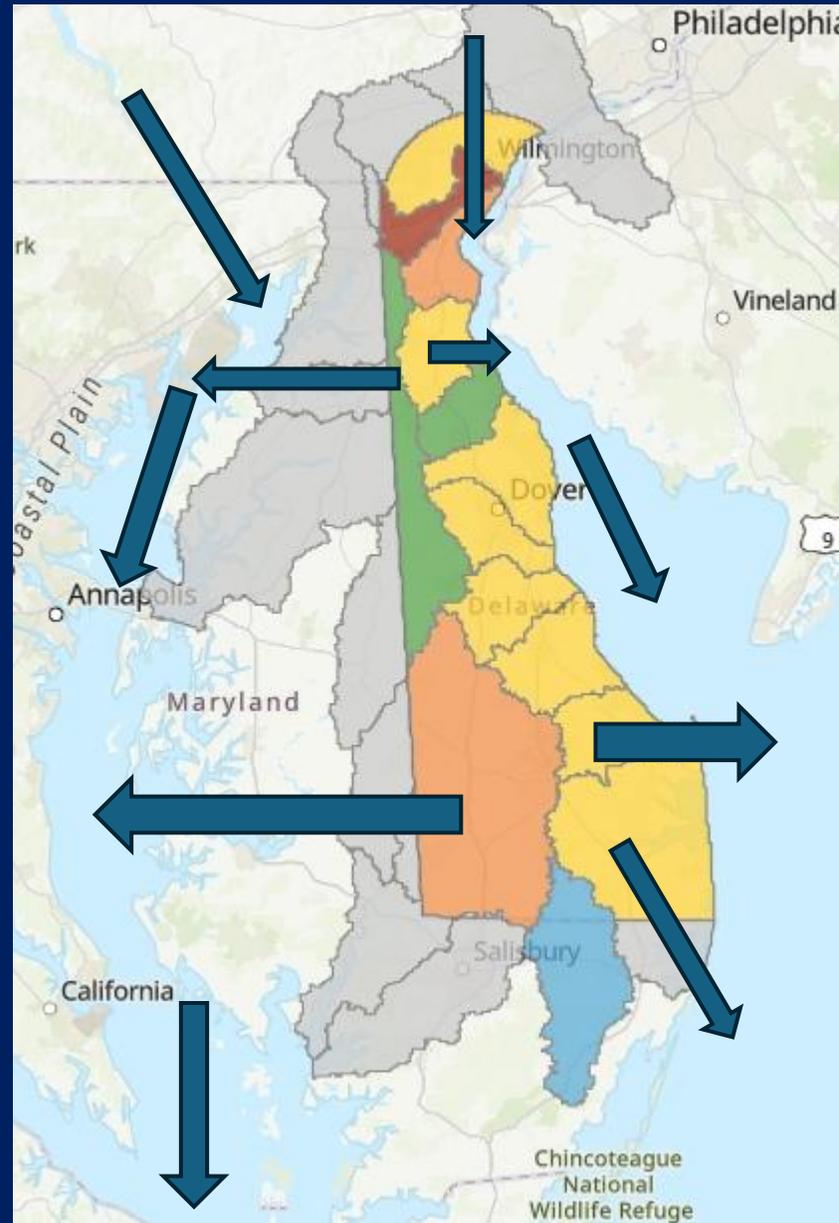


# REMINDER!

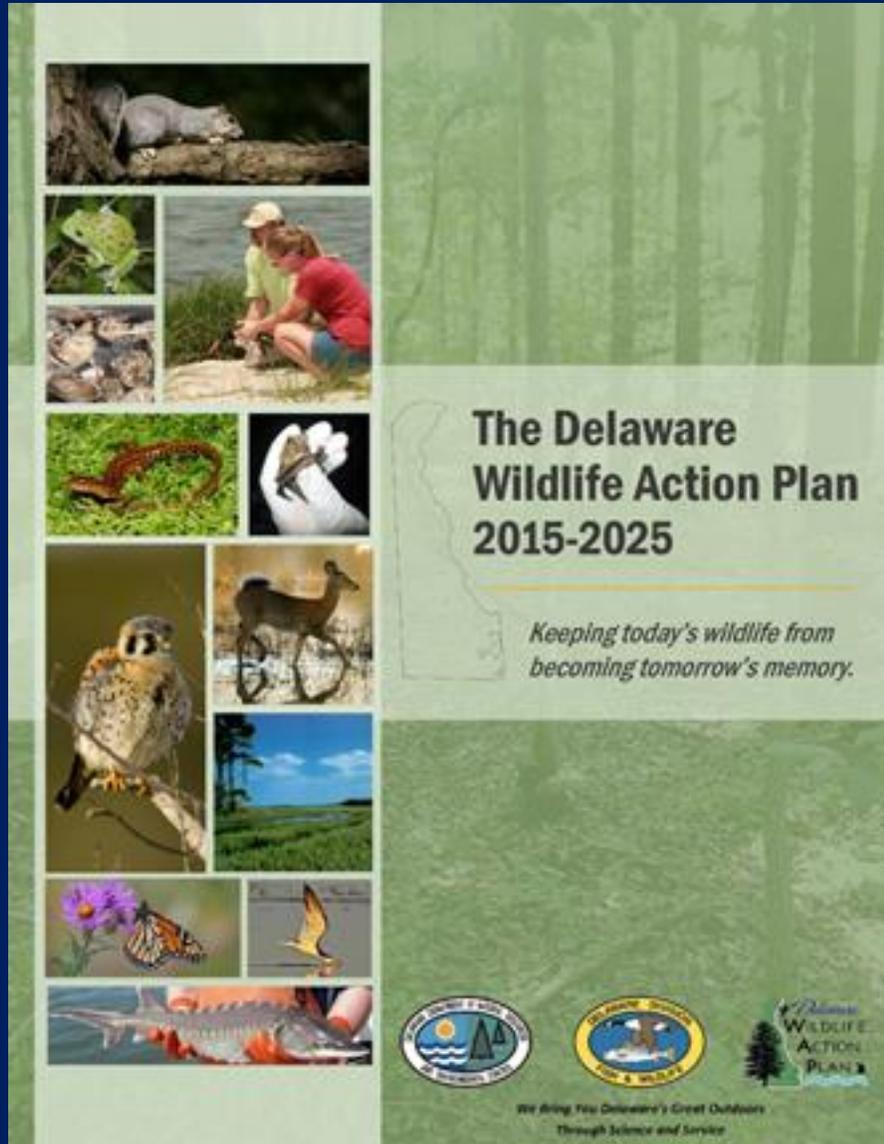
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# How do we get there? State effort:



**THE 2025-2035 DELAWARE WILDLIFE ACTION PLAN DRAFT IS NOW AVAILABLE FOR PUBLIC COMMENT THROUGH NOVEMBER 15.**

**IT IS INTERACTIVE AND WEB-BASED!**

**Proposed sections:**

**Species of Greatest Conservation Need**

**Habitats**

**Threats**

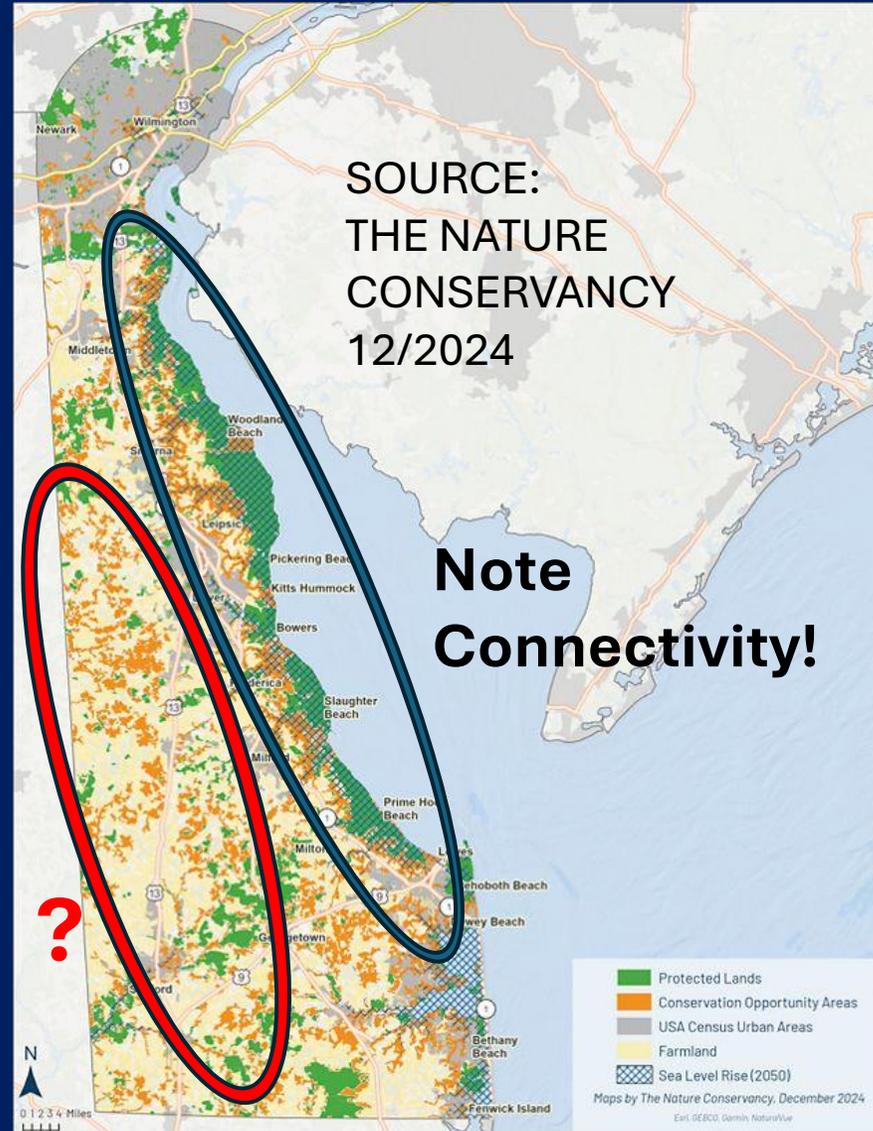
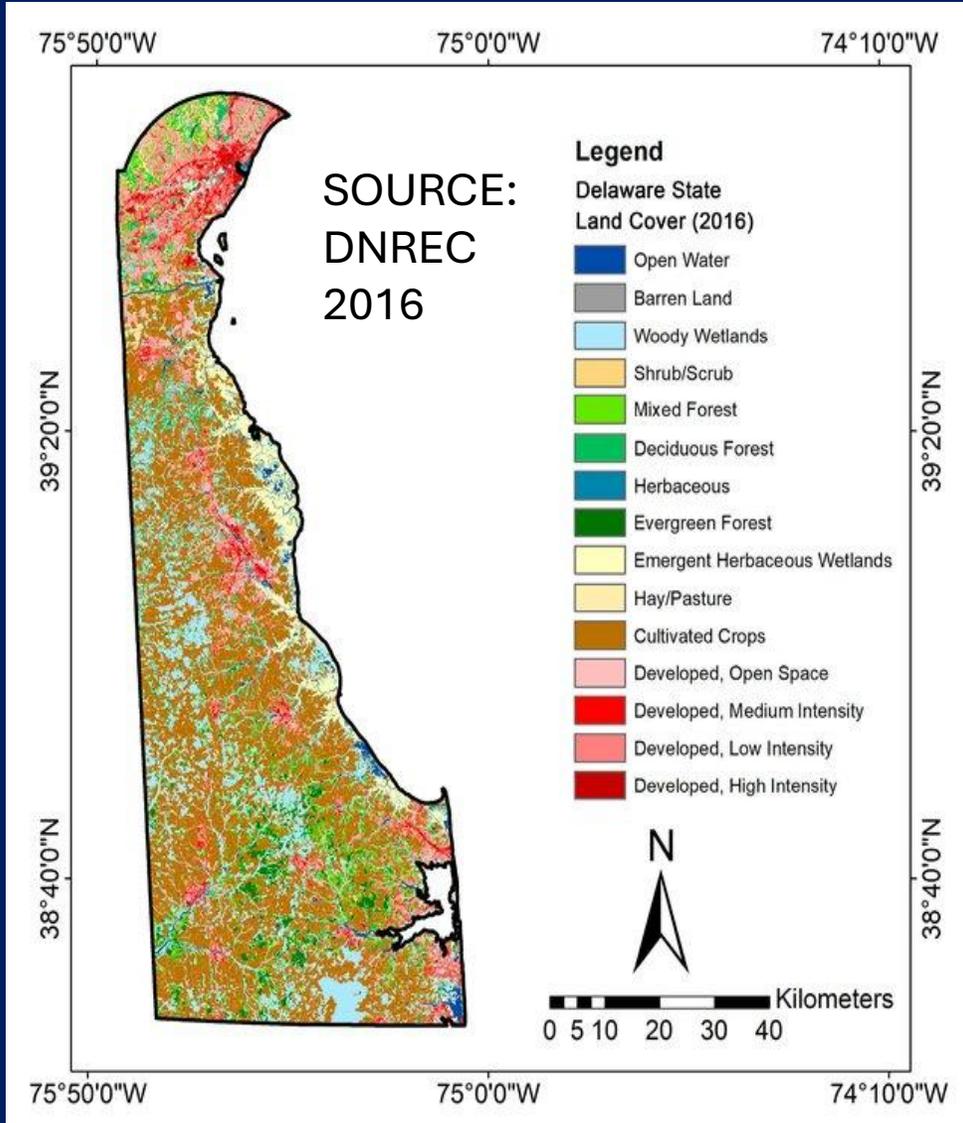
**Actions**

**READ & SUBMIT COMMENTS:**

**[DEWAP2025@delaware.gov](mailto:DEWAP2025@delaware.gov)**

# A "Wildlife Infrastructure" Needs Connectivity!

## A tale of 2 Maps (see also DEWAP maps!):



“By 2050, nearly HALF of all protected lands in Delaware are projected to be impacted by sea level rise”

- TNC

- DE Conservation Blueprint:

\*A data-informed planning tool for conservation of Delaware’s wildlife and wild places

Reminder, in these places:

2,800 animal spp

2,400 plant spp

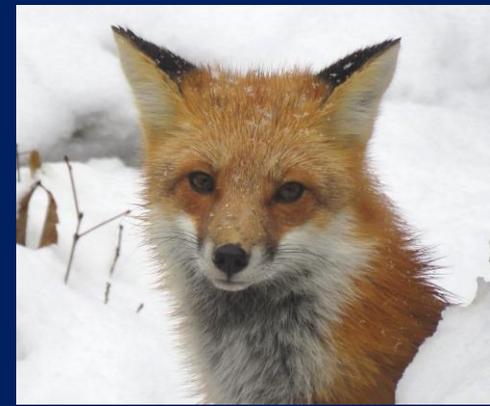
5,200 TOTAL SPECIES

1,019 SGCN

c ONE FIFTH = SGCN!

(DE Wildlife Action Plan)

# How About Enhanced Waterway Pollution Reduction To Protect Our Bays?



**TURFGRASS MANAGEMENT**, State could recommend reduced nutrients!:

- \* Current DE nutrient reccs based on minimum needs for corn and forage crops!
- \* John Emerson (UD Extension) research is showing: 1) Turfgrass performs at a wide range of pH, and 2) Turfgrass performs better under lower nutrient concentrations than higher (often less than 1/10 the recommended amount!)
- \* Recommendation: Update antiquated lawn care reccs and methods! Rationale: Better for the environment and Delaware waterways, huge economic benefit to landowners!

**STORMWATER MANAGEMENT POND MANAGEMENT**, State could recommend or mandate thick, native vegetation up pond banks to reduce runoff of lawn nutrients.

- \* Benefits wildlife (pollinators, goose predators, otters), homeowners' pocketbooks, human health (fewer pollutants in our waterways, and food chain especially in fish)!

# How About A State Law that Supersedes HOA Covenants Mandating Turf Monocultures?

SAVES WILDLIFE  
INFRASTRUCTURE



Maryland Bill 322: The “Low-Impact Landscaping Bill”

In 2021, the Maryland senate unanimously passed House Bill 322, which compels Homeowners’ Associations (HOAs) and other organizations to allow “low-impact landscaping” such as **rain gardens, native plant gardens, pollinator gardens, and xeriscaping in subdivisions.**

**The MD 322 law specifically forbids HOAs to require that “CULTIVATED VEGETATION CONSIST IN WHOLE OR IN PART OF TURF GRASS”**



# HOPE: Unite For Nature!



We can unite to have a “Nature Infrastructure” (aka “Wildlife Infrastructure”) integrated with our typical Human “Infrastructure Needs”: the roads, dams and other structures, and agriculture infrastructure made by Humans

WHY? Nature-based solutions leverage healthy ecosystems – all of HEALTHY Nature – to safeguard a stable future for the planet and protect human health and wellbeing...A Science-Led, Science-Informed Approach! - World Conservation Union, 2025

**THANKS!**

**UNITE FOR NATURE!**

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