

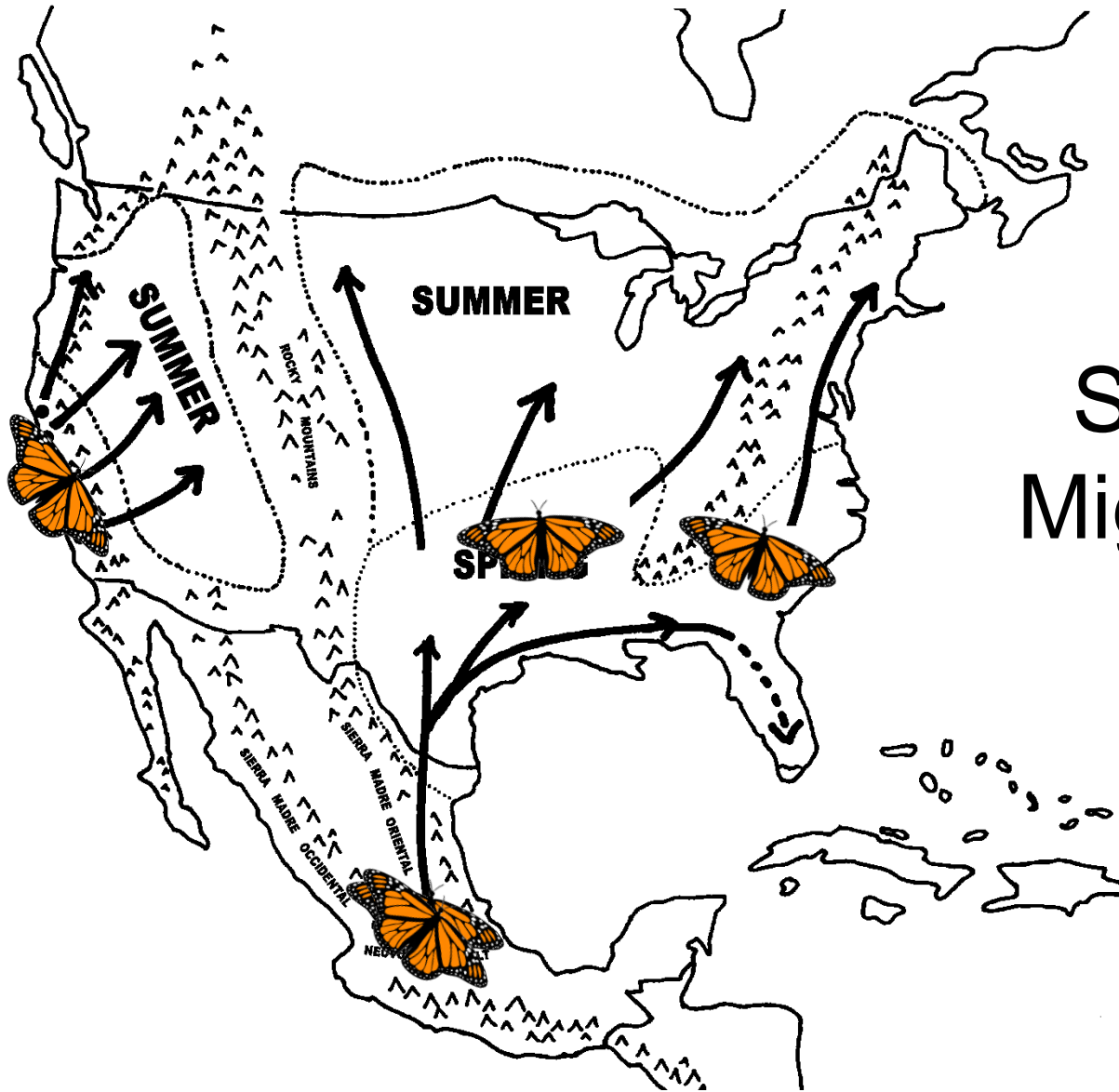
# Monarch and Pollinator Conservation

## Wildlife & Energy Interaction Symposium

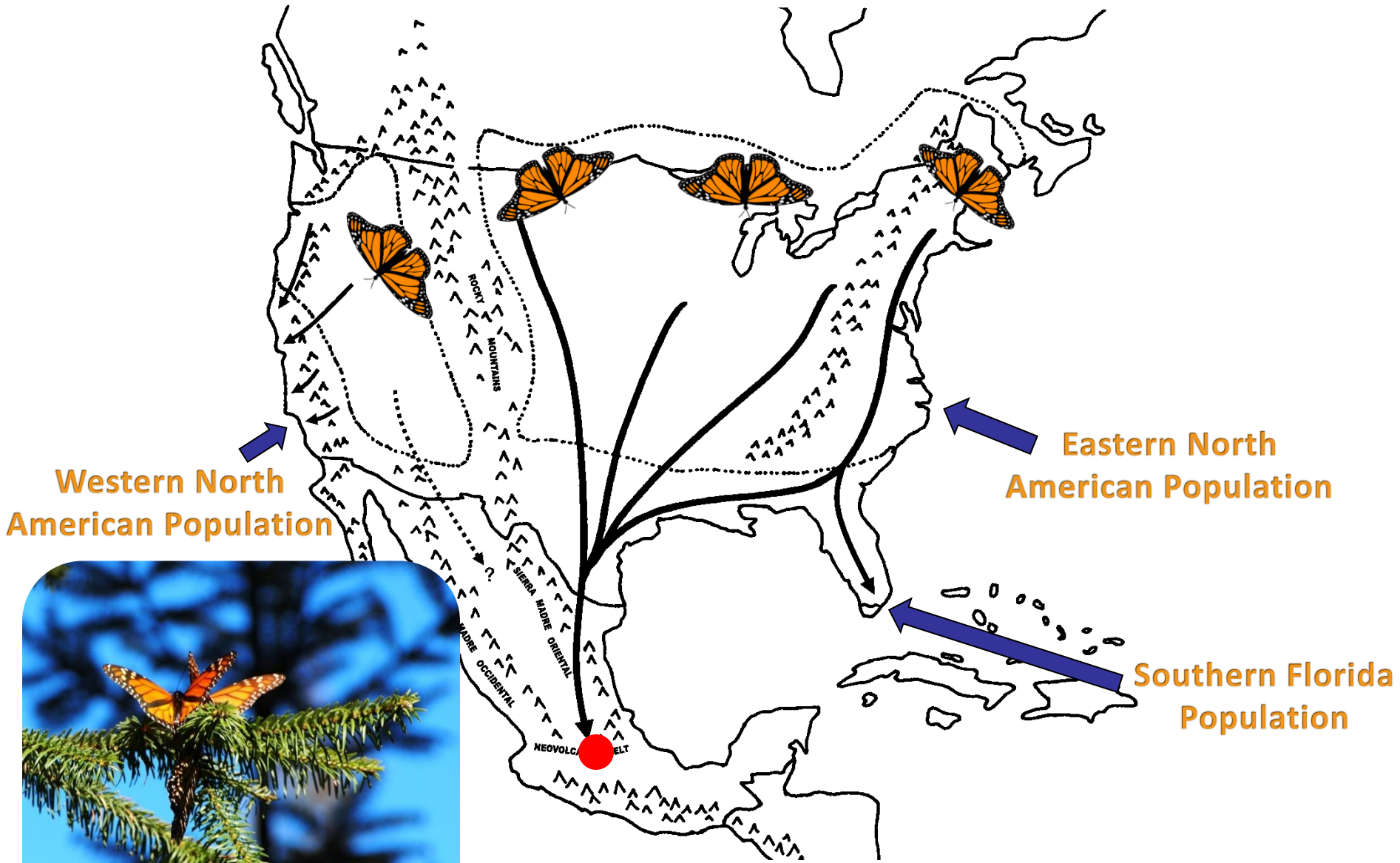


# Monarch Life Cycle





# Spring Migration

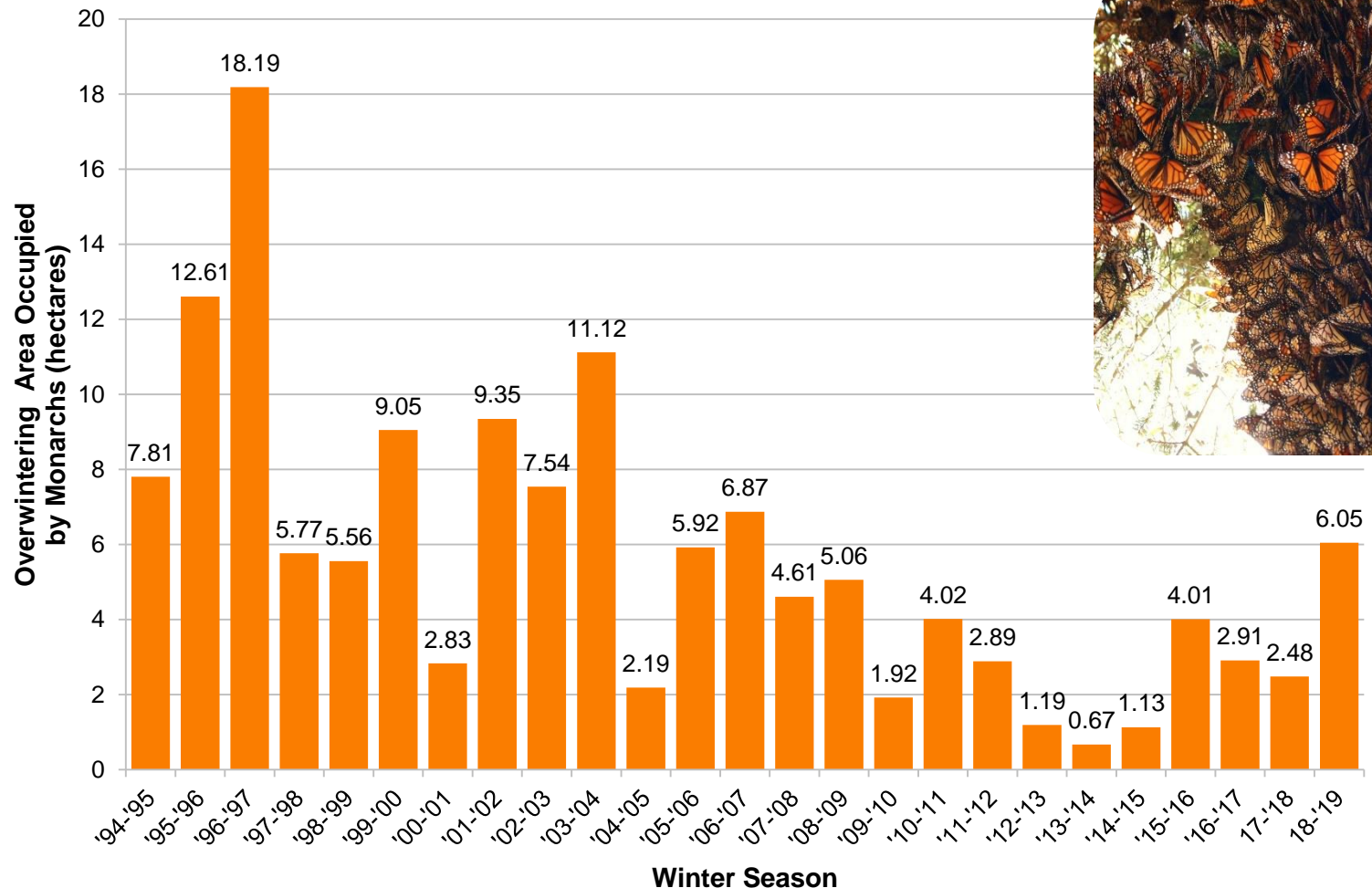


# Mexican Overwintering Sites



# Eastern Population Trends

## Eastern Monarch Numbers

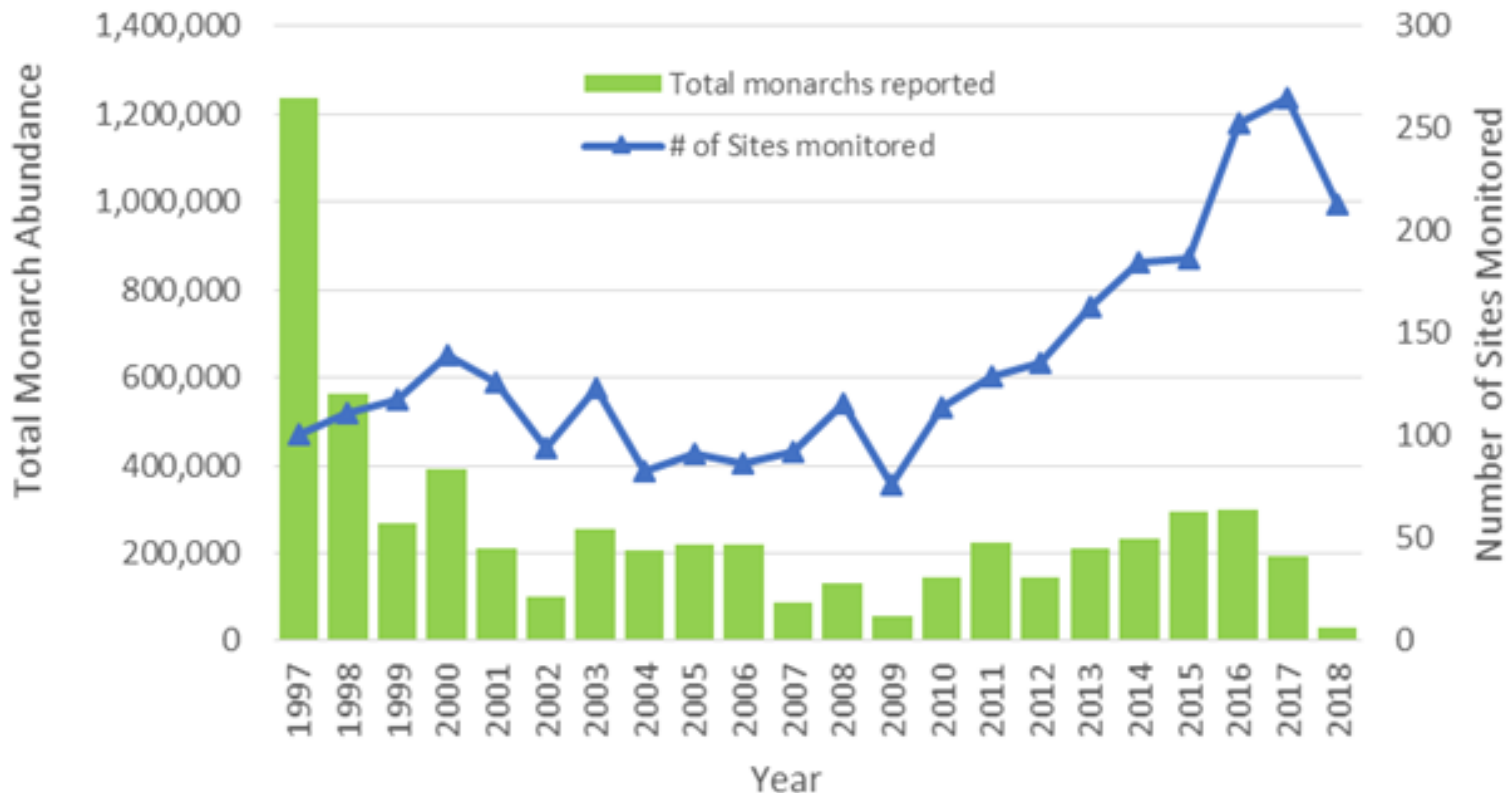


# Western Population Trends

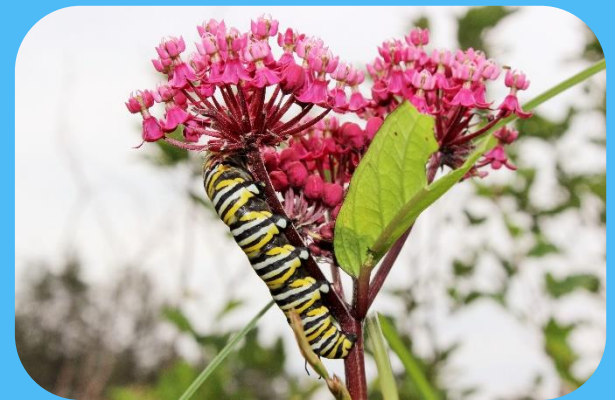
## The Xerces Society Western Monarch Thanksgiving Count

Total Abundance Estimates w/Number of Sites Monitored from 1997-2018

© The Xerces Society for Invertebrate Conservation 2019



# Milkweed (*Asclepias* spp.)



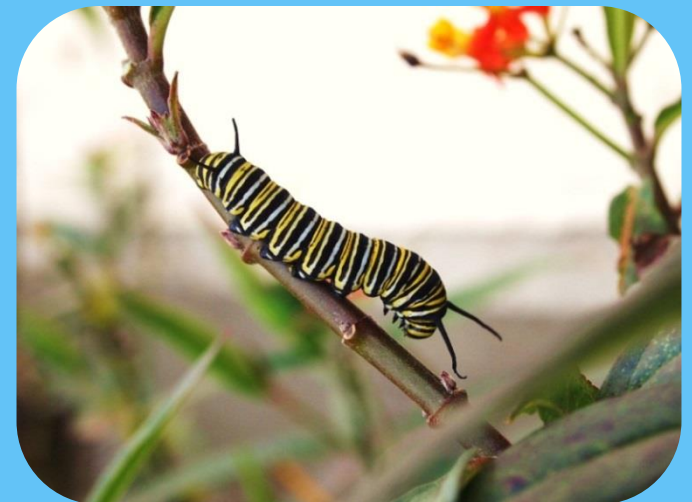


# Nectaring



# Monarchs as a Flagship

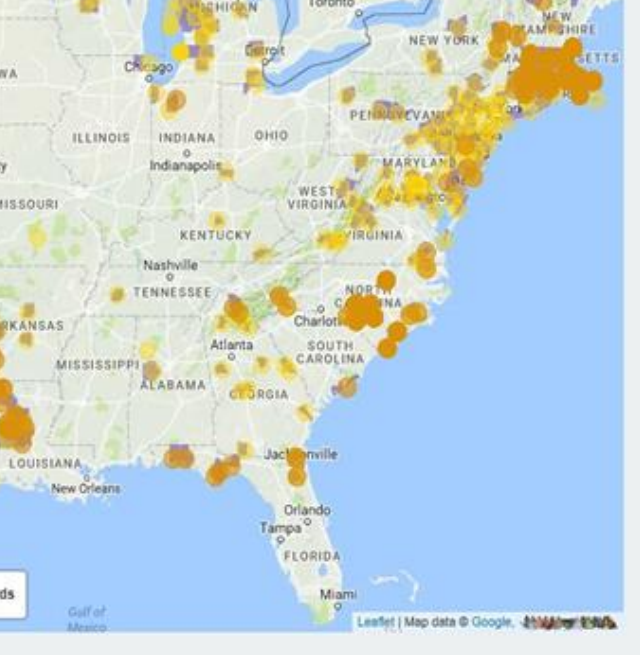
- Engage everyone in science and conservation
- Conservation of monarchs helps other pollinators





# Pollinators of Interest

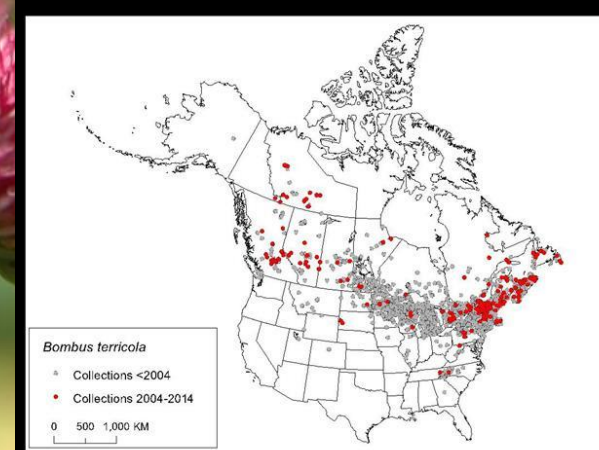
- FWS Listing-Workplan:
- <https://www.fws.gov/endangered/what-we-do/listing-workplan.html>



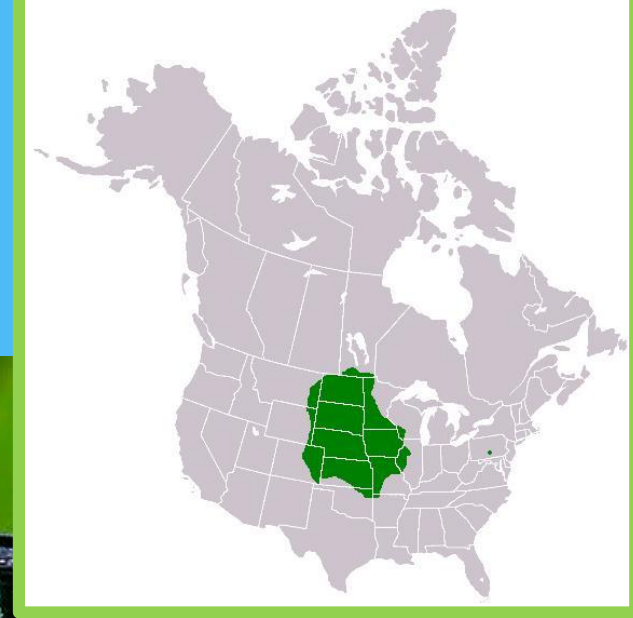
# Frosted Elfin



# Yellow Banded Bumblebee



# Regal Fritillary





# The Insect Apocalypse Is Here

What does it mean for the rest of life on Earth?

*The New York Times Magazine*



	Candidate Conservation Agreements with Assurances (CCAA)	Candidate Conservation Agreements (CCA)	Policy Regarding Voluntary Prelisting Conservation	Safe Harbor Agreements (SHA)	Habitat Conservation Plan (HCP)	Conservation Banks
<b>Purpose</b>	Preclude listing by addressing key threats	Preclude listing by addressing key threats	Preclude listing and prevent future decline by proactive conservation	Recover species by addressing key threats	Conserve species by offsetting impacts and supporting partner activities	Conserve species by permanently protecting important habitat and supporting mitigation for partner activities
<b>Participants</b>	Non-federal	Anyone	Anyone	Non-federal	Non-federal	Anyone
<b>Species</b>	Species at-risk	Species at-risk	Species at-risk	ESA-listed	ESA-listed and species at-risk	ESA-listed and species at-risk
<b>Assurances to signatories</b>	Would not be asked to do more than agreed to in the CCAA, even if covered species is listed	None	Credit-buyer receives documented credit for their investment if species becomes listed	Would not be required to implement additional actions beyond SHA	Would not be required to implement additional actions beyond HCP	Credit-buyer receives documented credit for their investment

# What is a CCAA?

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- > Candidate Conservation Agreement with Assurances (CCAA) are:
  - voluntary agreements that provide conservation for a species that in the future may be listed,
  - provide net conservation benefit to covered species and address all key threats under property owners' control (manageable threats), and
  - Assurances that USFWS will not require additional conservation measures or restrictions (beyond those described in the CCAA) if the species becomes listed



# Monarch Listing Determination

- New Deadline: December 15, 2020
- Possible determinations:
  - Not warranted;
  - Warranted, and threatened, or endangered
  - Warranted, but precluded (candidate)

# Conservation efforts matter more than ever!



# CCAAs and the Nationwide Monarch Agreement



# What can you do?

- Plant milkweed and native nectar plants
- Different species of milkweed grow in various areas
- Have nectar available through the entire season



# Our efforts will be worthwhile!

- Monarchs exist in both disturbed and pristine habitats that are shared with many pollinators
- Monarchs are interesting organisms from which we still have a lot to learn
- Monarch migration is unparalleled!

