

Time for Monarchs!



LLI/NOVA

September 22, 2021

Mary Alexander,

Naturalist



Why Focus on the Monarch?

- ▶ Iconic charismatic creature
- ▶ Flagship for nature
- ▶ Symbol of conservation
- ▶ Indicator species
- ▶ Focus on one helps others that co-exist
- ▶ Strong example of climate change
- ▶ official insect/butterfly of 7 US states
- ▶ Important pollinator & food source







MONARC™
CONSTRUCTION INC.



Photo by Bryan Pfeiffer





Male Monarch



Female Monarch



A small black spot appears on one vein in the center of the hindwings on the male but not on the female.

Monarch butterflies smell and taste with their antennae and legs which are covered with sensory cells called chemoreceptors. These chemoreceptors help Monarchs find milkweed to lay their eggs on.



One female monarch butterfly will lay an average of 300-500 eggs in the wild. The highest recorded number of eggs laid in captivity is 1179!



save our monarchs

Swamp Milkweed



Common Milkweed



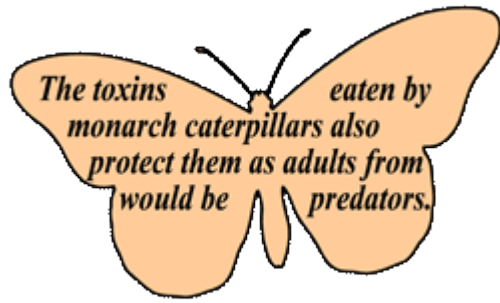
Butterfly Weed



Purple Milkweed







So Why Milkweed? Protective Chemistry

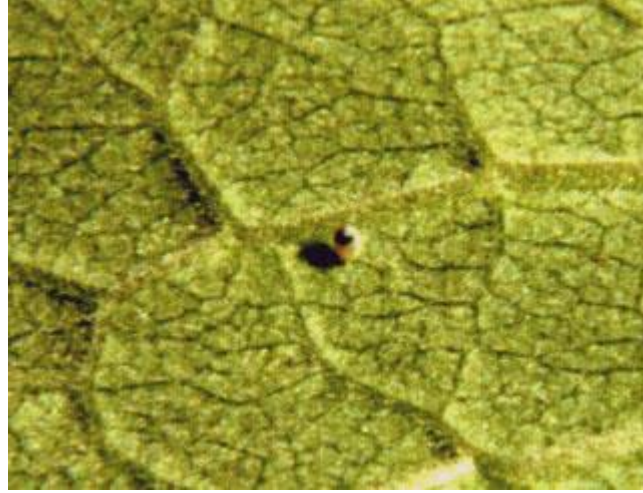
- Milkweed contains chemical compounds that make caterpillars poisonous to potential predators.
- Milkweeds contain a heart poison (cardiac glycoside) that is poisonous to most vertebrates but does not hurt monarch caterpillar.
- Some milkweed species have higher levels of toxins than others; monarchs show preference to these.



Protective Coloration

- The adult monarch & larvae both brightly colored to warn potential predators they are poisonous.
- Unsuspecting predators only taste butterfly or larva once to learn not to eat them again. (Most animals quickly spit them out.)
- The Viceroy butterfly uses protective coloration advantage of the monarch to “mimic” or copy colors & pattern of monarch wing.
- With similar coloration, the viceroy is safe from these “educated” predators.









© Anurag Agrawal







The Monarch's studded gold chrysalises are created by carotenoid pigments that they acquire from their diet of milkweed and hill-like structures that reflect light.



save our monarchs







Nectar Flowers





whyatt

Tim Whyatt's new book out now on Amazon

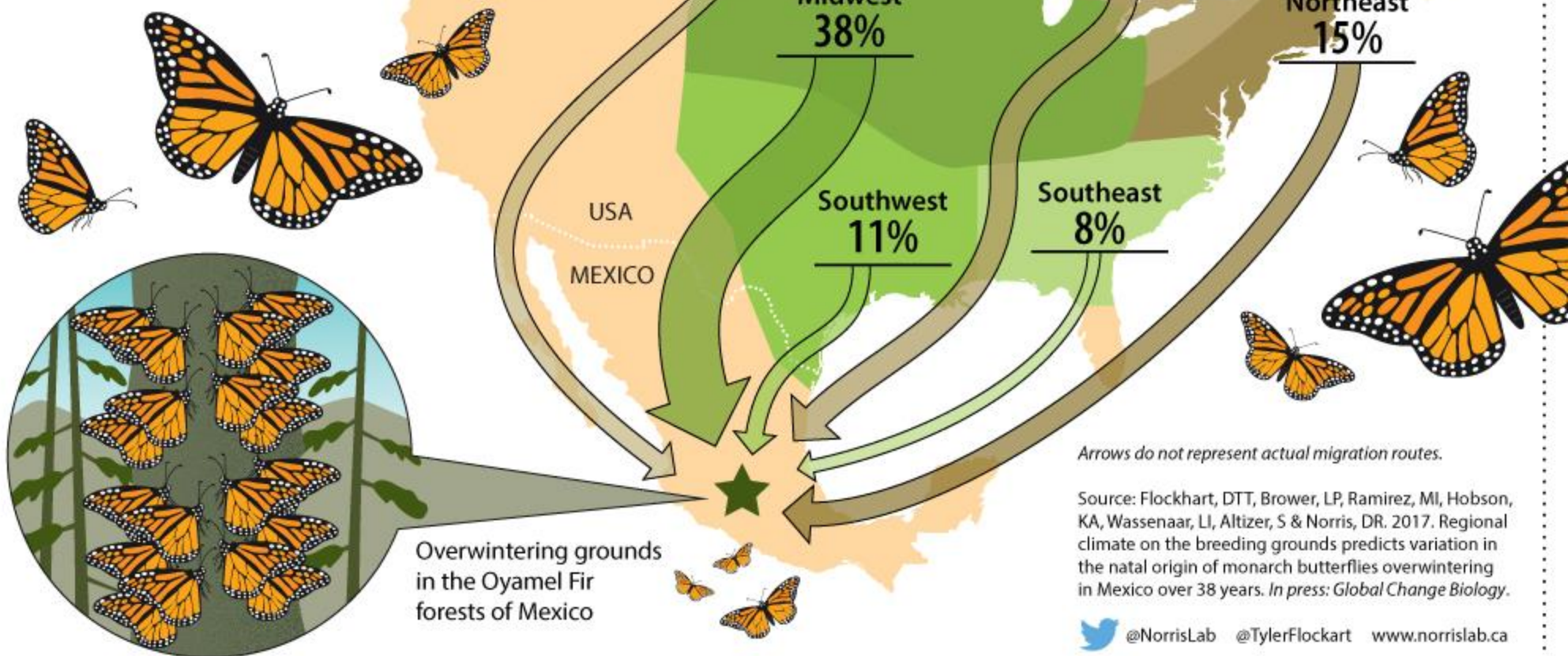
whyatt.com.au

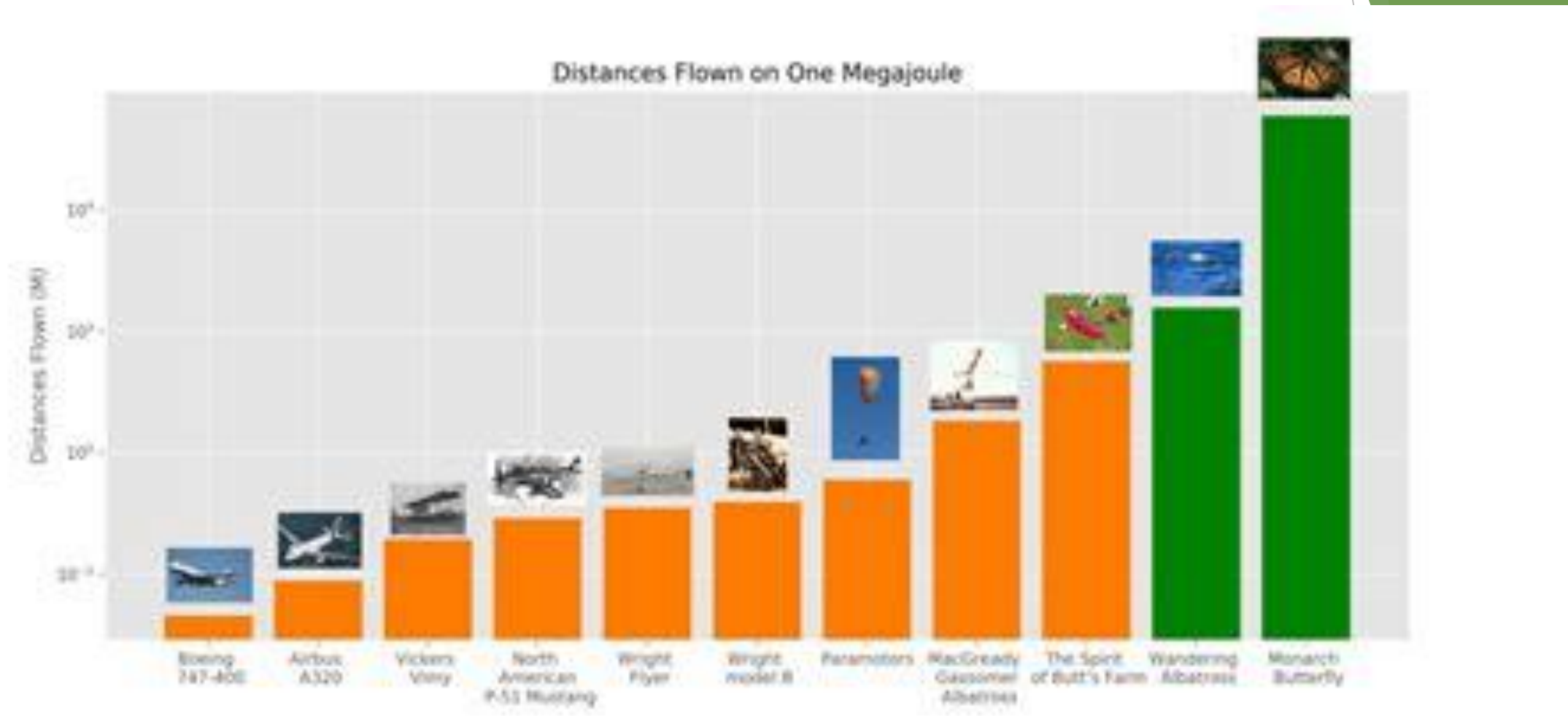
© Tim Whyatt



© 1998 WWW.MONARCHWATCH.ORG

Proportion of monarch butterflies overwintering in Mexico that came from six breeding regions over 38 years





In terms of mass·distance/energy, the most efficient animal was 2-8x more efficient than the most efficient machine.

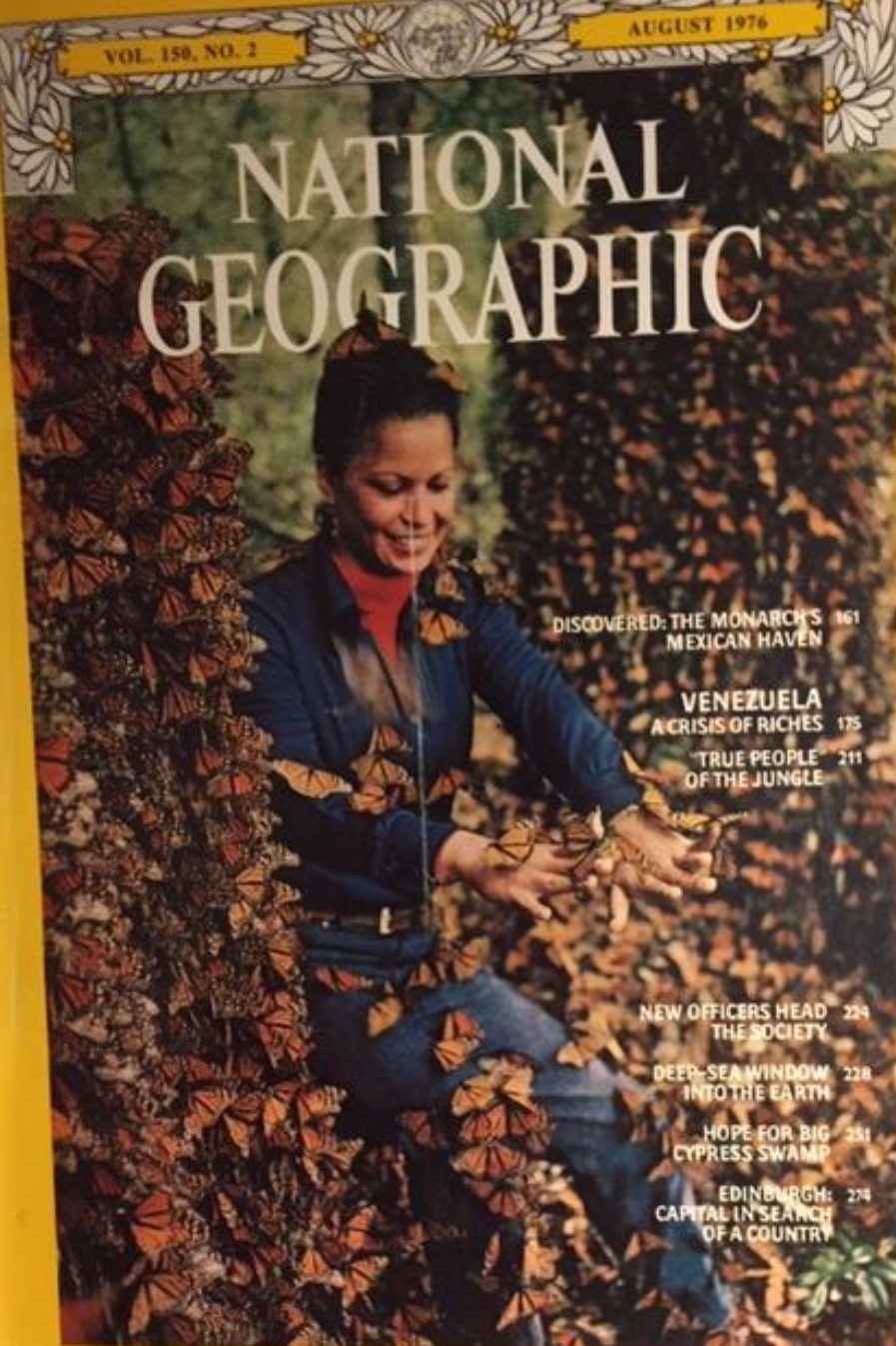




VOL. 158, NO. 2

AUGUST 1976

NATIONAL GEOGRAPHIC



DISCOVERED: THE MONARCH'S
MEXICAN HAVEN 161

VENEZUELA
A CRISIS OF RICHES 175

TRUE PEOPLE
OF THE JUNGLE 211

NEW OFFICERS HEAD
THE SOCIETY 229

DEEP-SEA WINDOW
INTO THE EARTH 228

HOPE FOR BIG
CYPRESS SWAMP 251

EDINBURGH:
CAPITAL IN SEARCH
OF A COUNTRY 274











Morelia, Mexico



















Courtesy of Homero Gomez

JourneyNorth.org



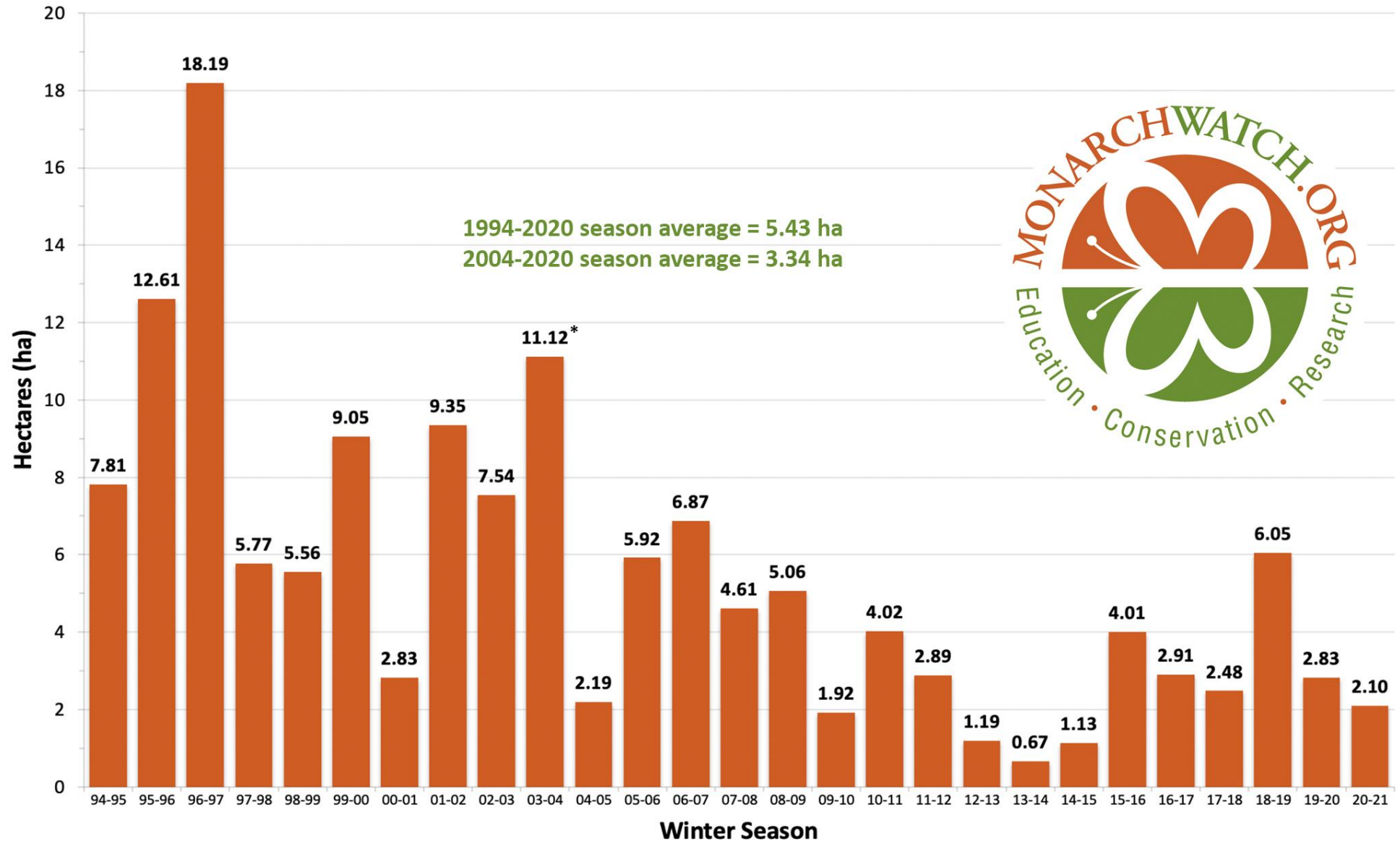
Estela Romero

JourneyNorth.org



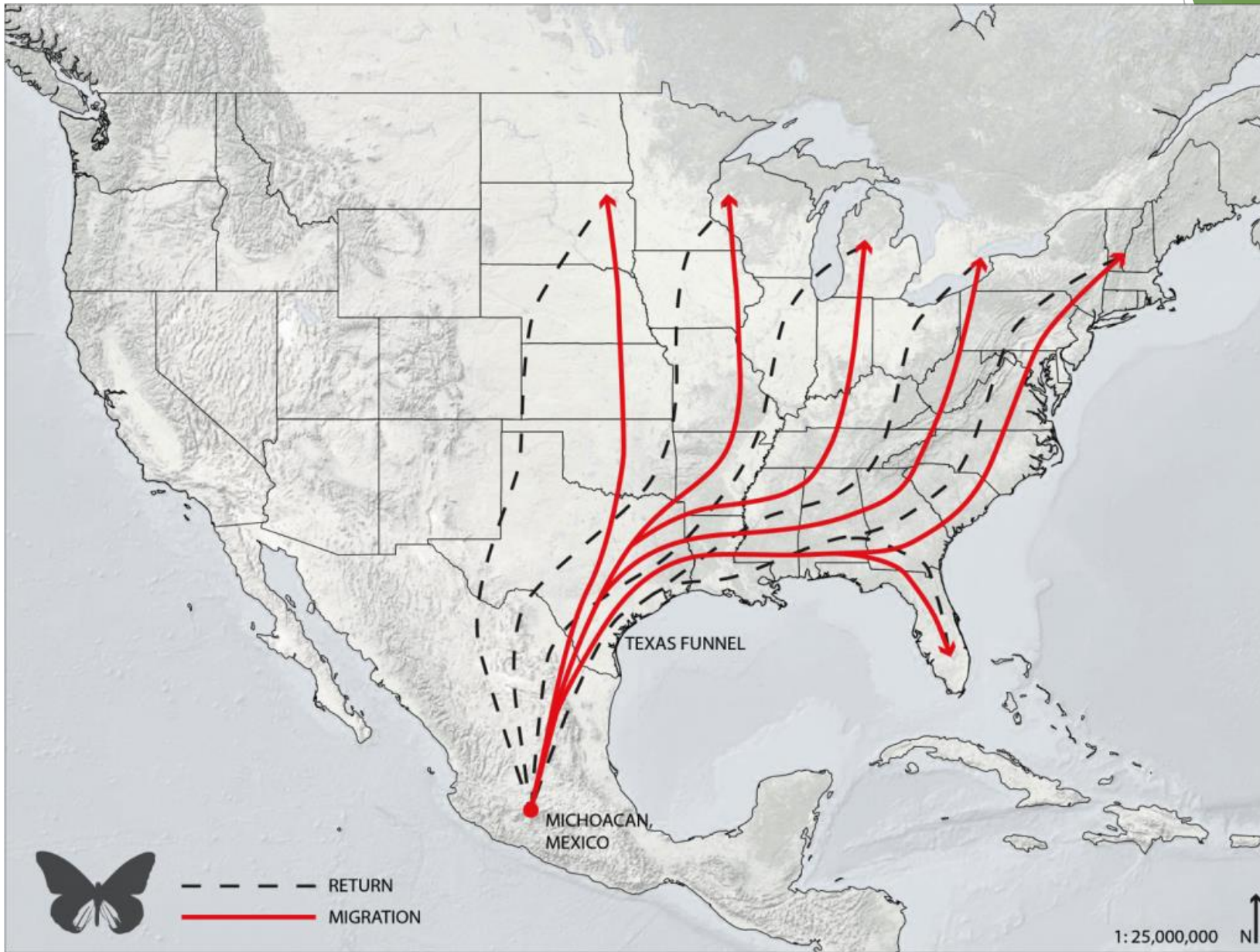
VOA

Total Area Occupied by Monarch Colonies at Overwintering Sites in Mexico



Data for 1994-2003 collected by personnel of the Monarch Butterfly Biosphere Reserve (MBBR) of the National Commission of Natural Protected Areas (CONANP) in Mexico. Data for 2004-2019 collected by World Wildlife Fund Mexico in coordination with the Directorate of the MBBR.

* Represents colony sizes measured in November of 2003 before the colonies consolidated. Measures obtained in January 2004 indicated the population was much smaller, possibly 8-9 hectares. CT

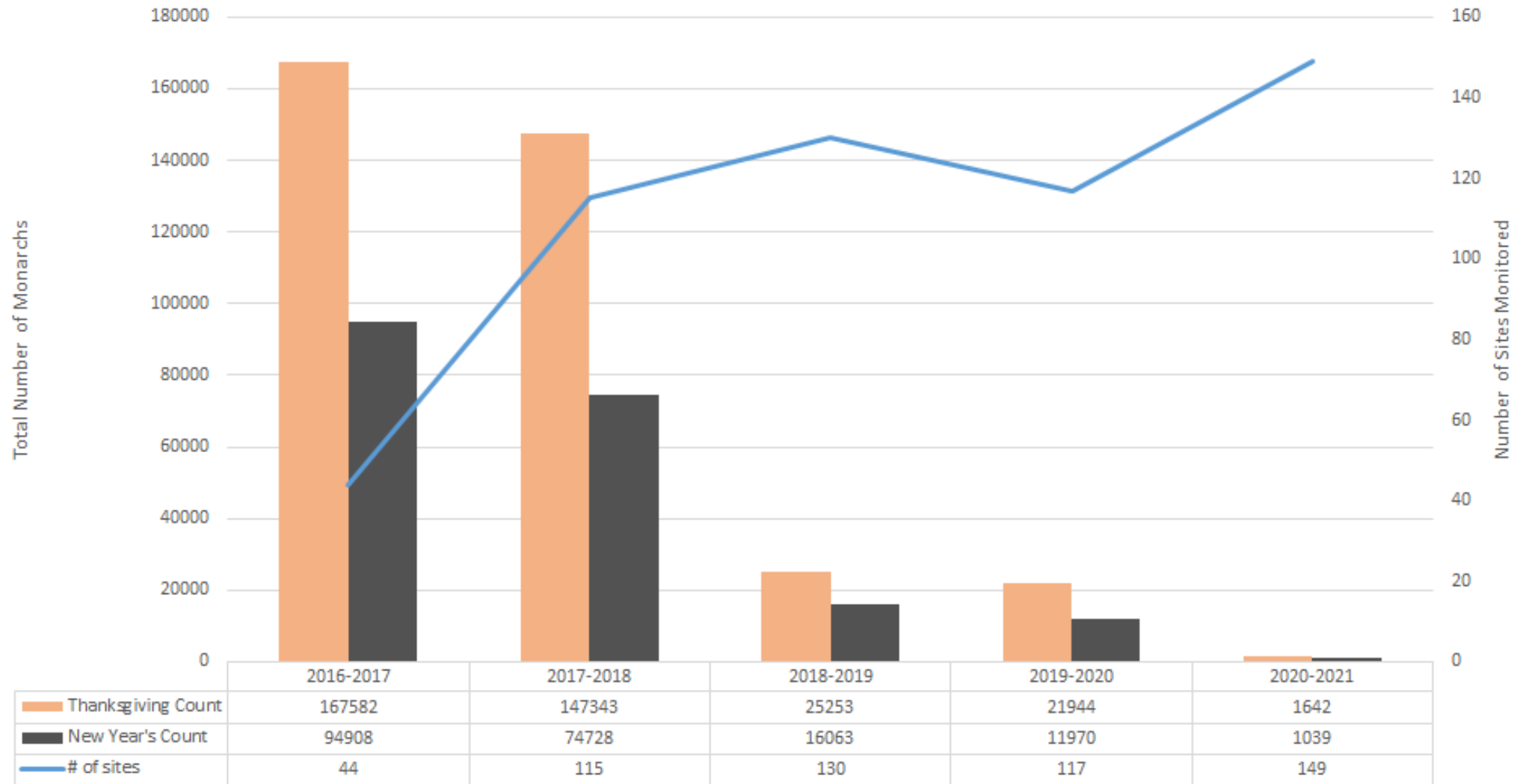


Western Monarch New Year's Count 2017-2021

Total Abundance Estimates for Sites Counted during both Counts

© The Xerces Society for Invertebrate Conservation 2021

www.westernmonarchcount.org



Priority Action Zones in California for Recovering Western Monarchs



Priority #1

Early breeding zone: Protect and plant pesticide-free early season native milkweed and nectar plants.

Central coast areas where monarchs overwinter: Protect and restore overwintering habitat and plant pesticide-free native nectar plants. Avoid planting milkweed within 5 miles of the coast.

Priority #2

South coast areas where monarchs overwinter: Protect and restore overwintering habitat and plant pesticide-free native nectar plants. Avoid planting milkweed within 1 mile of the coast.

North coast areas where monarchs do not overwinter: Plant pesticide-free native nectar plants.

Summer breeding zone: Identify and protect existing native milkweed and nectar plants. Plant pesticide-free native milkweed and nectar plants.

County boundaries.



San Diego Zoo
Wildlife Alliance

Credit: Xerces Society



What Can You Do?

- **Create monarch habitat for food & nectar – “Monarch Waystation”**
- **Plant native milkweed**
- **Avoid or limit pesticide & herbicide use - neonicotinoids**
- **Limit mowing in late summer**
- **Report observations – Witness Nature**
- **Tag migrating monarchs**
- **Support beneficial farming practices**
- **Build community support**
- **Contribute to conservation efforts**

MONARCH BUTTERFLY RESOURCES

- **Journey North**
- **Make Way for Monarchs**
- **Monarch Watch**
- **National Wildlife Federation**
- **Save our Monarchs Foundation**
- **US Fish and Wildlife Service**
- **US Forest Service**
- **Wild Ones for Monarchs**
- **World Wildlife Fund**
- **Xerces Society**



TOUR GROUPS SAMPLES

Natural Habitat Adventures

<http://www.nathab.com/central-america/monarch-butterfly-tour/>

G Adventures

<https://www.gadventures.com/trips/mexico-monarch-butterfly-trail/2808/>

Authentic Mexican Travel

<http://authenticmexicotravel.com/monarch-butterfly-tours/monarch-itinerary/>

Journey Mexico

<http://www.journeymexico.com/itinerary/morelia-and-the-monarch-butterfly-migration>

S and S Tours

<http://ss-tours.com/monarch-butterfly-sanctuary>

MMG Tours

www.MMG.com.mx

Mexperience

<http://www.mexperience.com/travel/outdoors/monarch-butterflies-mexico/>



A large number of monarch butterflies are shown in flight against a dark, blurred background. The butterflies are concentrated on the right side of the image, with a few scattered on the left. The overall scene is dynamic and captures the essence of a mass migration.

THE GREAT

MONARCH
MIGRATION