

# Attracting & Raising Monarch Butterflies: Gardens that provide nectar and essential host plants



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Friends of Mashpee National Wildlife Refuge

# We'll cover.....

- Mashpee/Falmouth Refuge intro
- Essential monarch butterfly needs
- Nectar & Milkweed plants
- “How to” Raising monarch caterpillars



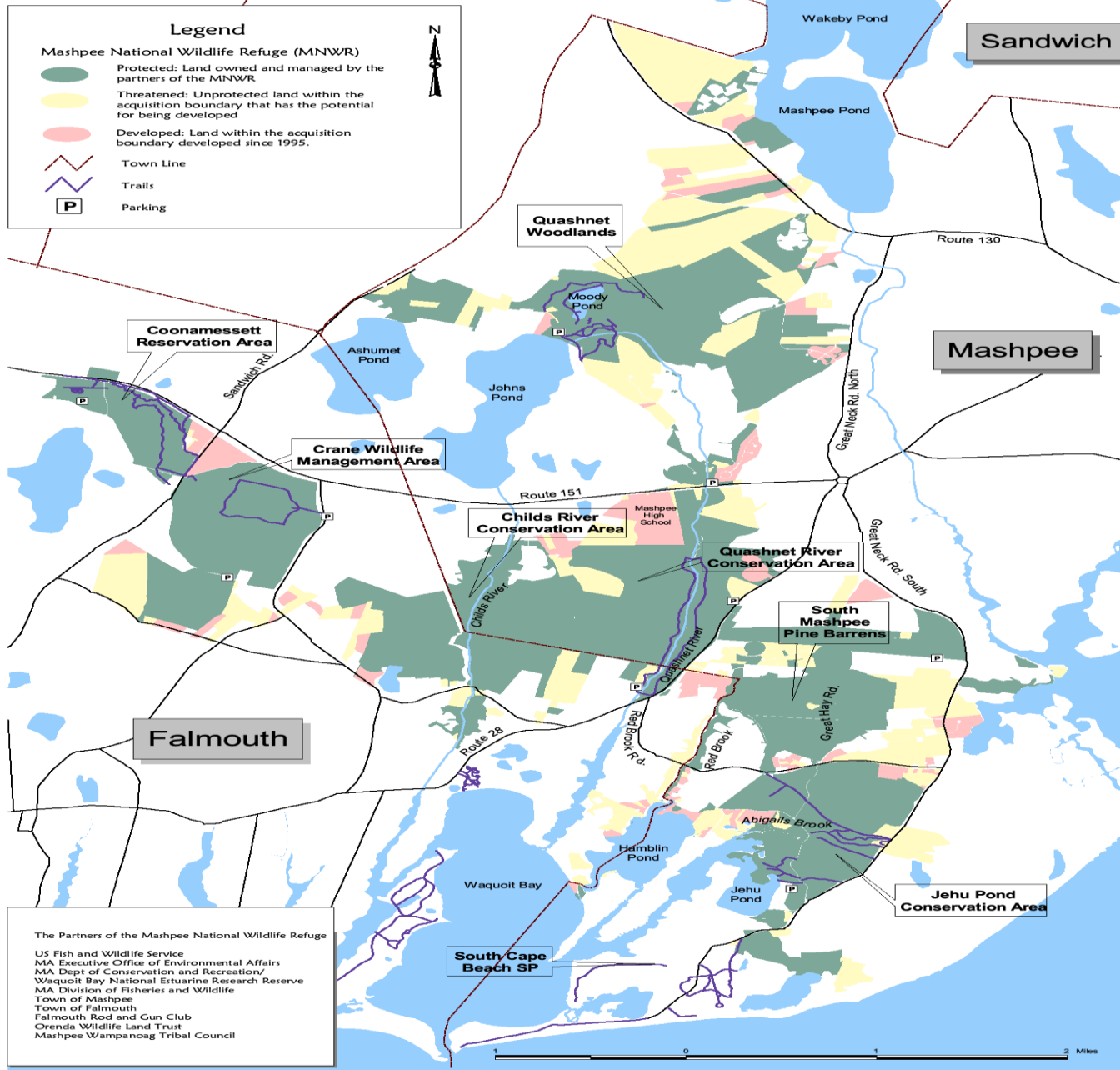
# Wildlife Refuges in Massachusetts

## *Massachusetts*

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# Mashpee National Wildlife Refuge



Created in 1995

Located in the Towns of Falmouth and Mashpee

Second Largest accessible, open space on Cape; the first being the National Seashore

Over 5,871 acres

Additional layer of conservation protection

Unique in National Refuge System

8 conservation land partners & Friends group collaborating on Refuge Management!

# *Collaborative Partnerships with Mashpee Refuge*

## ➤ ***Monarch & Pollinator Native Gardens***

7 acres & Educ component: Teacher workshops for 13 schools, 20 teachers:  
K. Martin at KC Coombs

## ➤ ***Tribal Youth POH Camp***

Research & Native pollinators Day: Telemetry, fire management, pollinator  
gardens created in last 7 years. USFWS, MA Fire, Friends

## ➤ ***Osprey Camera@ Waquoit Bay NERR***

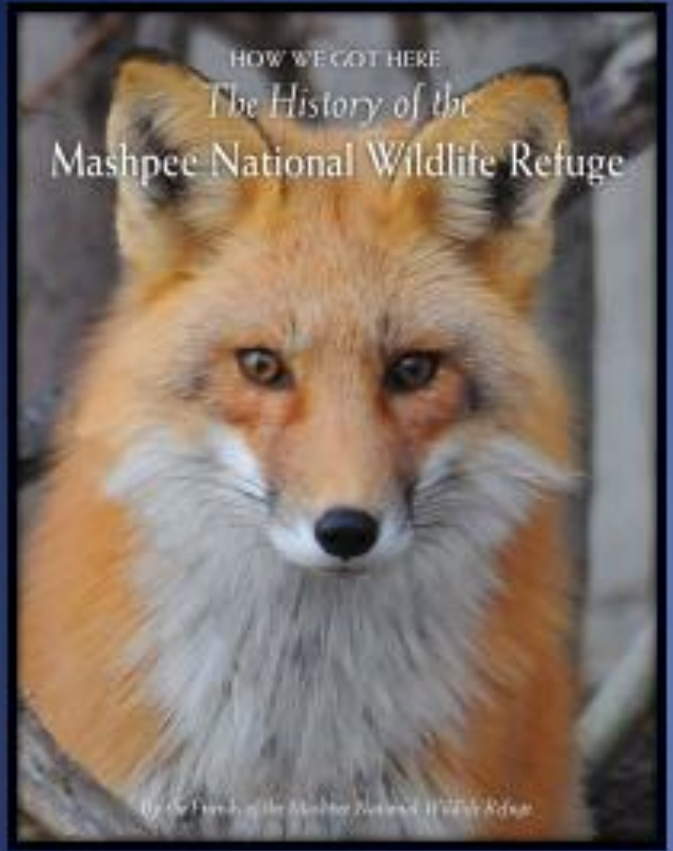
<https://www.friendsofmashpeenationalwildliferefuge.org/osprey-nest-at-waquoit-bay-national-estuarine-research-reserve/>

# Osprey Nest at Waquoit Bay National Estuarine Research Reserve

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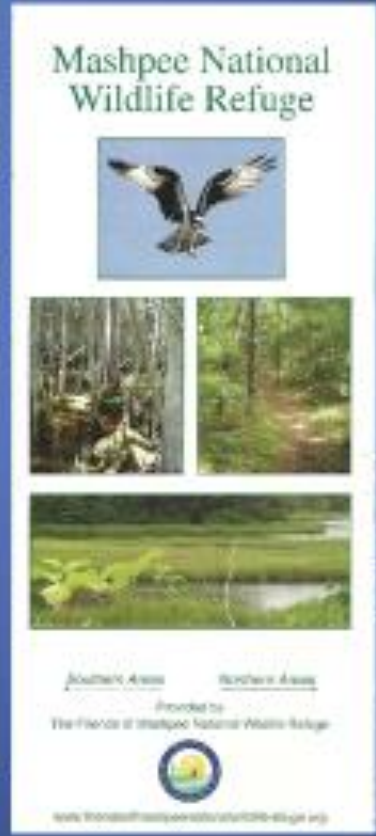
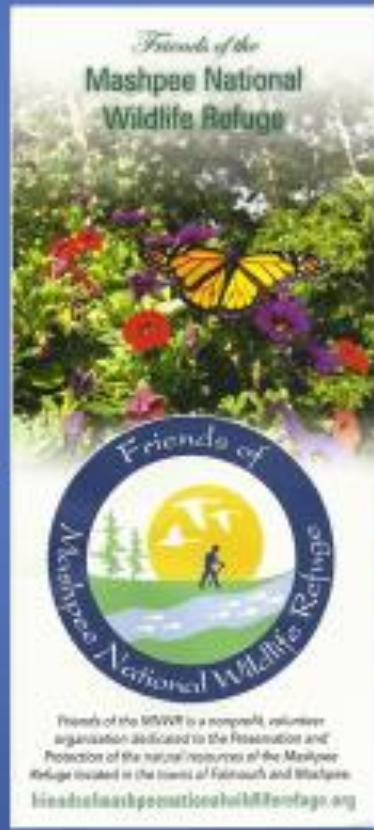
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## Resources...

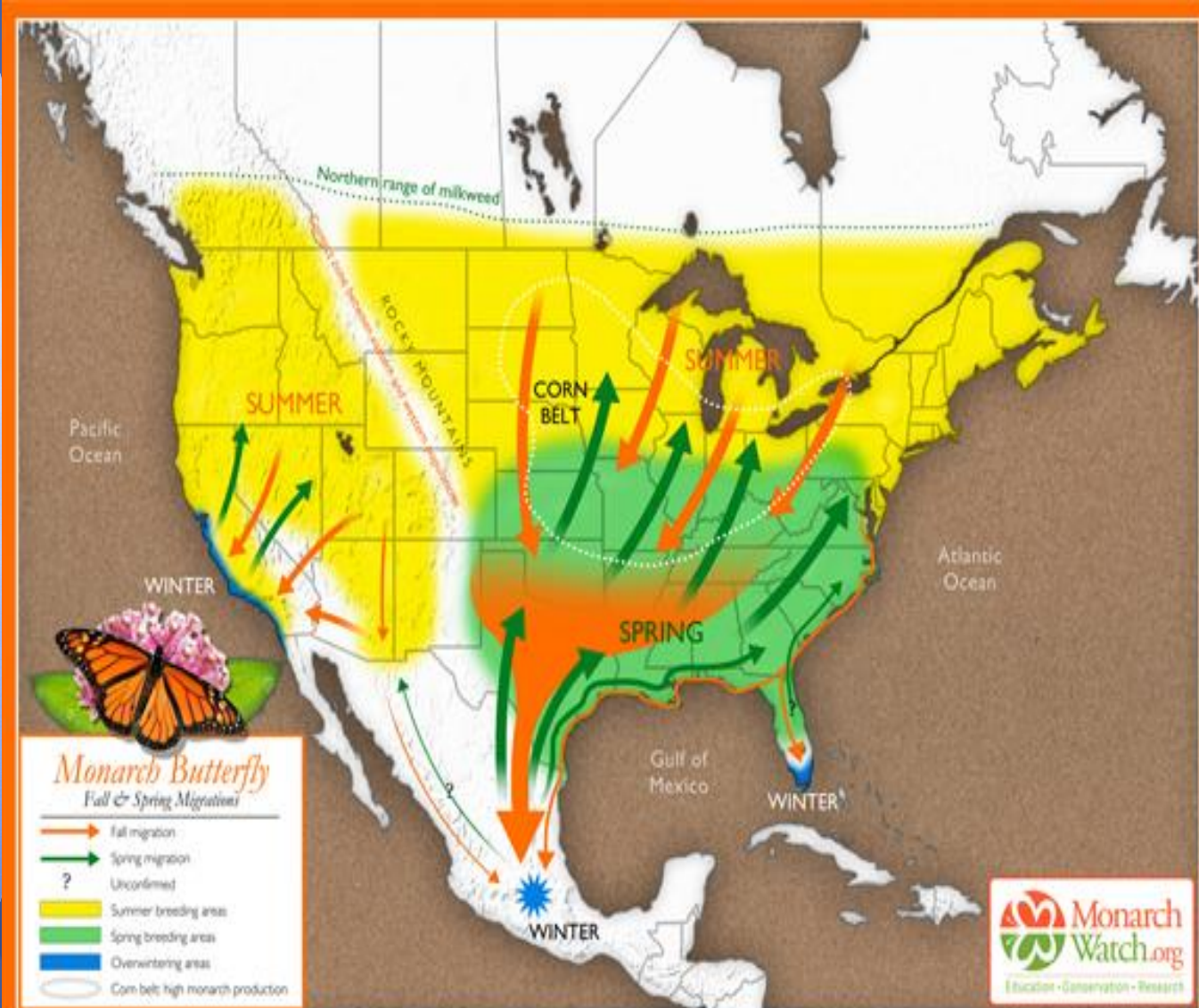
- History Book
- Refuge Brochure
- Trail Map Guide
- Native Plant and Pollinator Brochure

Thanks to Mashpee CPA  
for supporting these  
activities



# Really a story about migration....

90% lose over 30 years- Habitat is the Key!





# Monarchs need...Milkweed-"Host Plant"

- Eggs only laid on Milkweed species
- Caterpillars only eat milkweed  
(glucosidic substances called cardenolides )
- Adults need flowering plants for nectar during breeding, laying, migrating.



# Milkweed

Critical Host Plant for eggs, larvae

Supports breeding adults...

Common



Swamp (Rose)



Purple



Butterfly Weed



# The Essentials in attracting Monarchs to your backyard



# Lets get started on Monarch Needs.....

- Host plants=butterflies only
- Native plants for nectar
- Numerous Nectar magnets, annuals
- Plant selection for targeting early spring to late fall flowering for migrating monarchs.
- Gardens need time...Encourage more monarchs over time by increasing diversity. Start with 3 plants each per seasonal timeframes
- purchase from neonicotinoid-free nurseries (Soares)
- **Please DO NOT PURCHASE Butterflies or beneficial insects**



# Best approach...

- Native! Long-term relationship between Plant-Insect
- Provide Plants that bloom from early spring to late fall
- Add summer annuals (salvia, zinnias, cosmos)
- *Essential-Milkweeds (common, swamp, whorled, purple)*



# Top Perennial & Annual Plants List...

- **Spring:** bushes are earliest-viburnums, shad
- **Summer:** Coreopsis, Lupine, Anise Hyssop, Verbena, lavender, zinnias, clethra, button bush, milkweeds, butterfly weed
- **Late summer:** Joe-Pye weed, Liatrus, mints, coneflower, sunflower, culvers root
- **Fall:** Sedum, Montauk Daisy, NE Aster, NY Aster, goldenrods



**FALL** Migration needs: late blooming perennials

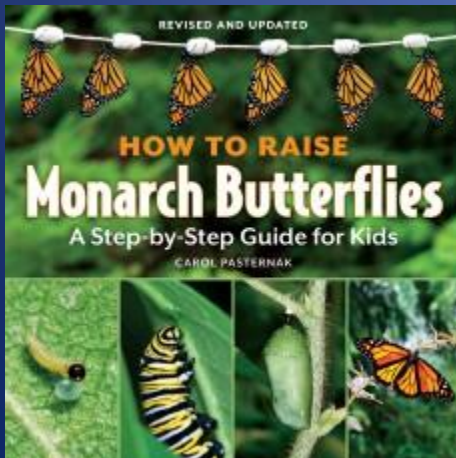


# Raising Monarchs...





# Raising monarch butterflies: equipment needs



- ❖ Start small...Experience 5 eggs or caterpillars from collecting to release!
- ❖ Need a reliable source of milkweed
- ❖ Need to contain caterpillars at all stages

REVISED AND UPDATED

# HOW TO RAISE Monarch Butterflies

A Step-by-Step Guide for Kids

CAROL PASTERNAK



Great basics  
Great photo's  
Great "How To"

Raising monarchs: 28 days lifecycle  
temperature sensitive, moisture impacts, natural light regime essential  
for correct clues to thrive!  
- need to supply FOOD, FOOD, FOOD!

J's, Chrysalis and Emergent  
Butterflies

Eggs & small Cat's



0-3 days-eggs  
3-6 days-cat's

Larger Cat's

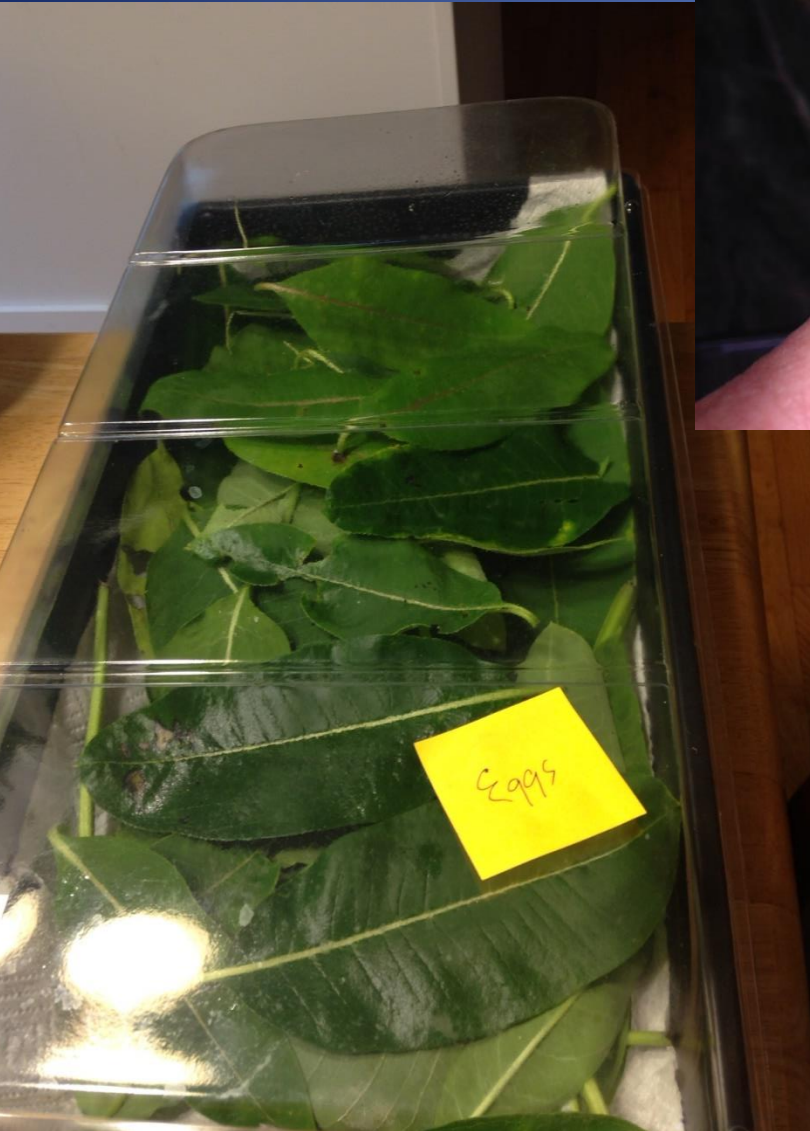


6-15 days-older cat's-  
Then turn into chrysalis



28 days total emerge as  
butterflies

# Eggs and new Caterpillars “Cats -FOOD, FOOD, FOOD!”



- Clean every day, replace paper towel
- New milkweed leaves/plants every day
- Inspect new plant materials= Spiders kill all caterpillars
- Watch for mold/mildew=death
- Keep different life stages separate
- eggs away from cat's, small vs. large cat's
- Molting-keep contained at all times
- “Save” old leaves in a box, just incase you missed spotting a caterpillar. They come to the top after a few days....

# Larger Caterpillars “Cats”

-Supply lots of FOOD, FOOD, FOOD!



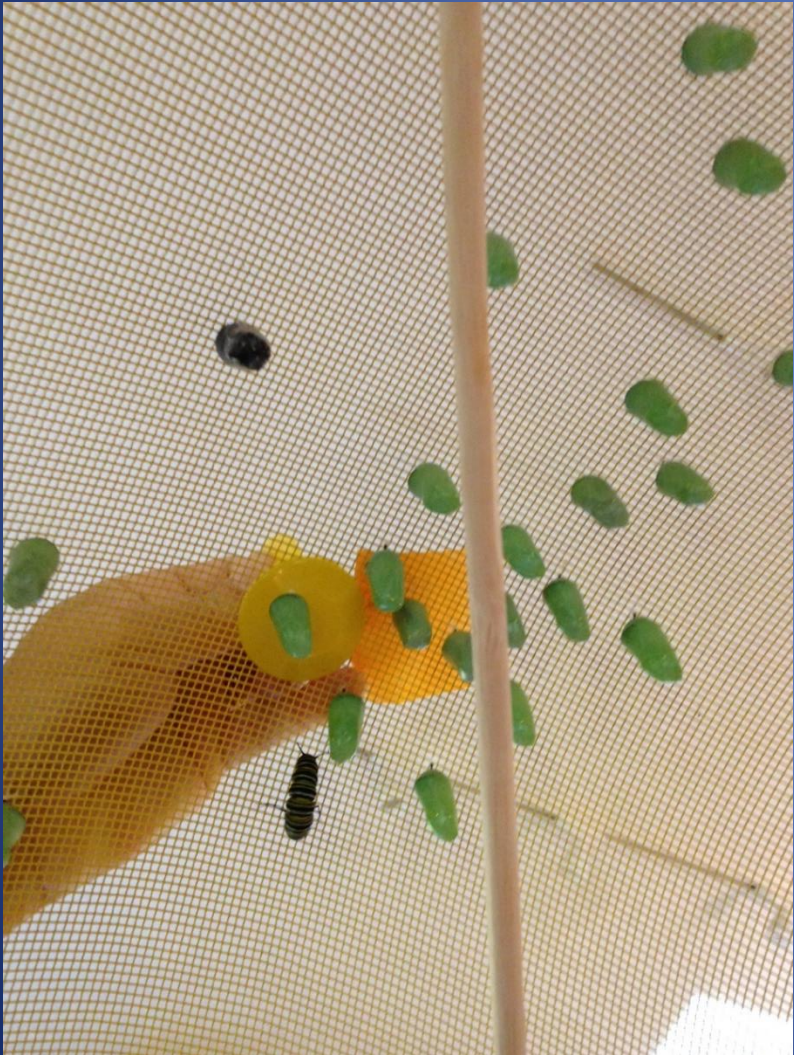
- Clean bottom of tray every day!
- New milkweed leaves/plants when needed
- Molting-keep cat's contained at all times
- Inspect new plant materials for Spiders, ants, etc.



- ❖ Then they STOP eating
- ❖ Abandon the milkweed
- ❖ Start roaming, move UP
- ❖ Turn into a “J”
- ❖ Then rest & pupate



Put all adult, same class-size caterpillars that start to “roam” into a new cage together and all will turn into pupae, then emerge as butterflies together. Can “Layer” to save space as no feces to clean up...



# Release

- Early as possible in day
- Hold up to 2 days after emerging if bad weather
- Release out of wind, in sun, solid structure
- Document sex, tag





Release: Sex?

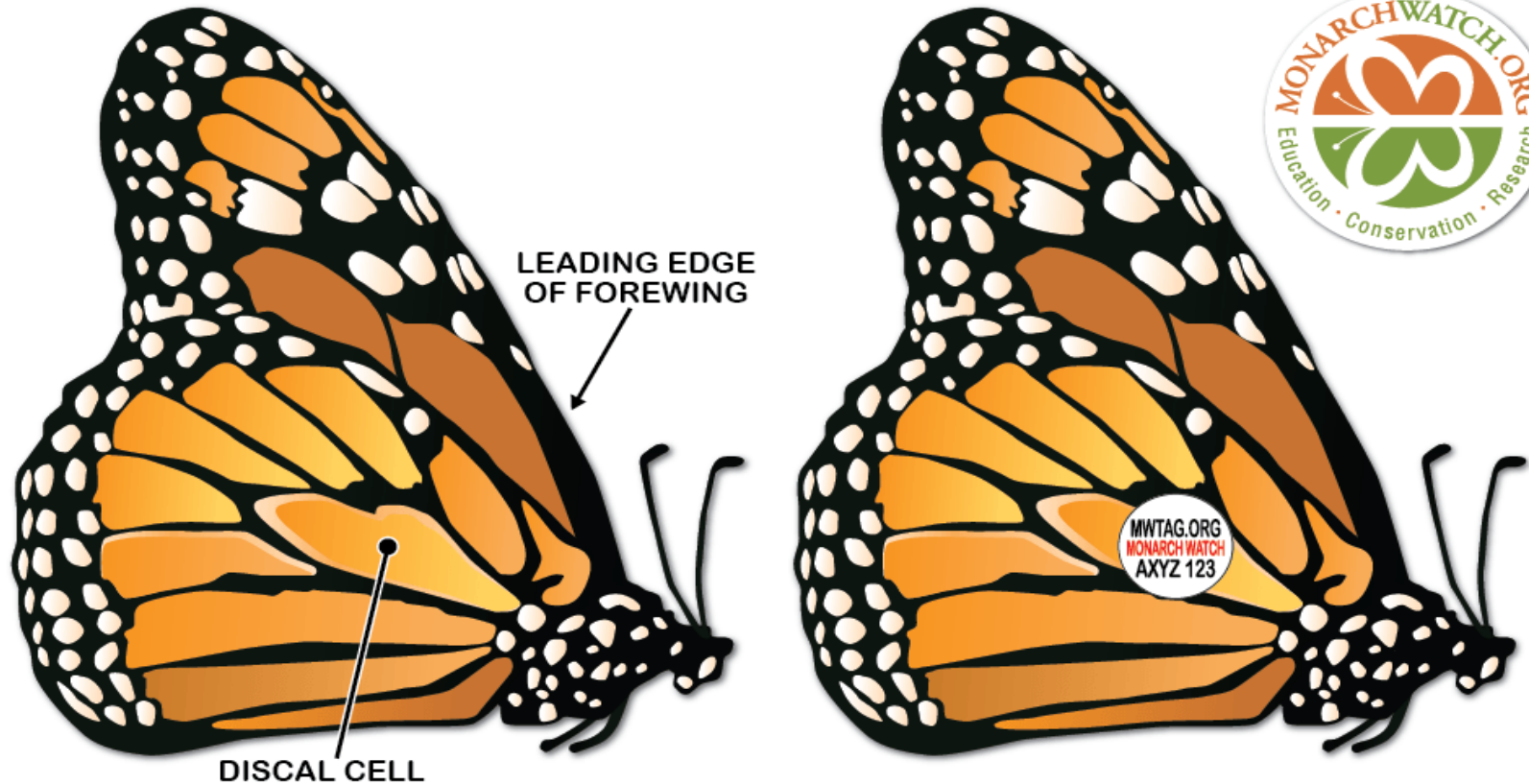


Female

Male



# Tagging Monarchs



**PROPER PLACEMENT OF MONARCH WATCH TAGS**  
[monarchwatch.org/tagging](http://monarchwatch.org/tagging)

# “How to” Demonstration

## Raising methods: Best management practices, simple to complex cages

