

Mayors' Monarch Pledge: Preparing for Spring Planting

December 12, 2016



Presentation Overview

- 1) About the National Wildlife Federation
- 2) Short Overview of the Mayors' Monarch Pledge
- 3) Mary Phillips – Director of Garden for Wildlife – Working with the Garden Trade to Access Native Plants and Seeds
- 4) Chip Taylor – Director and Founder of Monarch Watch – Milkweeds for Gardens & Restorations



National Wildlife Federation



National Wildlife Federation



• Family of Lions • Pretty Parakeets • Kids That Rock • Swamp Games

National Wildlife Federation® **Ranger Rick** April 2010



**STICKY
Business**



Garden for Wildlife

All wildlife needs four things to survive:

1. FOOD
2. WATER
3. COVER
4. PLACES TO RAISE THEIR YOUNG

Emphasis on sustainable gardening
and use of native plants



Certification

You can certify:

- Homes
- Farms
- Schools
- Communities
- Other Community Hubs like City Hall, Public Parks, Libraries, Zoos, Municipal Buildings and More



Step # 1 – Take the Pledge



...Cities, towns and counties have a critical role to play to help save the monarch butterfly. Municipalities in particular can provide habitat at public parks, median strips, community gardens and municipal buildings that serve as community hubs such as recreation centers and libraries. Schools, homes and businesses can all **provide essential habitat for monarchs** too. Simple changes in landscaping ordinances or school policies can make a big difference for the monarch. **Educating citizens** about how and where to grow milkweed is also a key piece of the puzzle. Creating habitat and educating citizens will benefit other pollinators that need healthy habitat as well.

When Mayors speak up and take a stand, citizens notice. Therefore, we hereby commit to help restore habitat for the monarch and encourage our citizens to do the same, so that these magnificent butterflies will once again flourish across the continent... **Full language at** www.nwf.org/mayorsmonarchpledge



Step # 2 – Specify Your Actions



- Commit to at least 3 of 25 specific actions
- Begin those actions within 1 year
- One action from the “Program & Demonstration Gardens” section
- List of 25 actions is also available at www.nwf.org/mayorsmonarchpledge
- Mayors that take 8 or more actions are eligible to join the “Mayors’ Monarch Pledge Leadership Circle”
- Take all 25 actions and become a “Monarch Champion”



Recognition





Step # 4 – Report Progress

Simple report back form so we can roll up common metrics - # of gardens installed, # of acres of habitat, # of citizens educated, etc.



NWF Support

- An online, frequently updated resources page with model actions taken by cities
- Guide: *Monarch Conservation in America's Cities – A Solutions Guide for Municipal Leaders*
- Regular Webinars
- Networking through the Mayors' Monarch Pledge Facebook Group
- Regular email updates
- Email and phone consultations – mayorsmonarchpledge@nwf.org

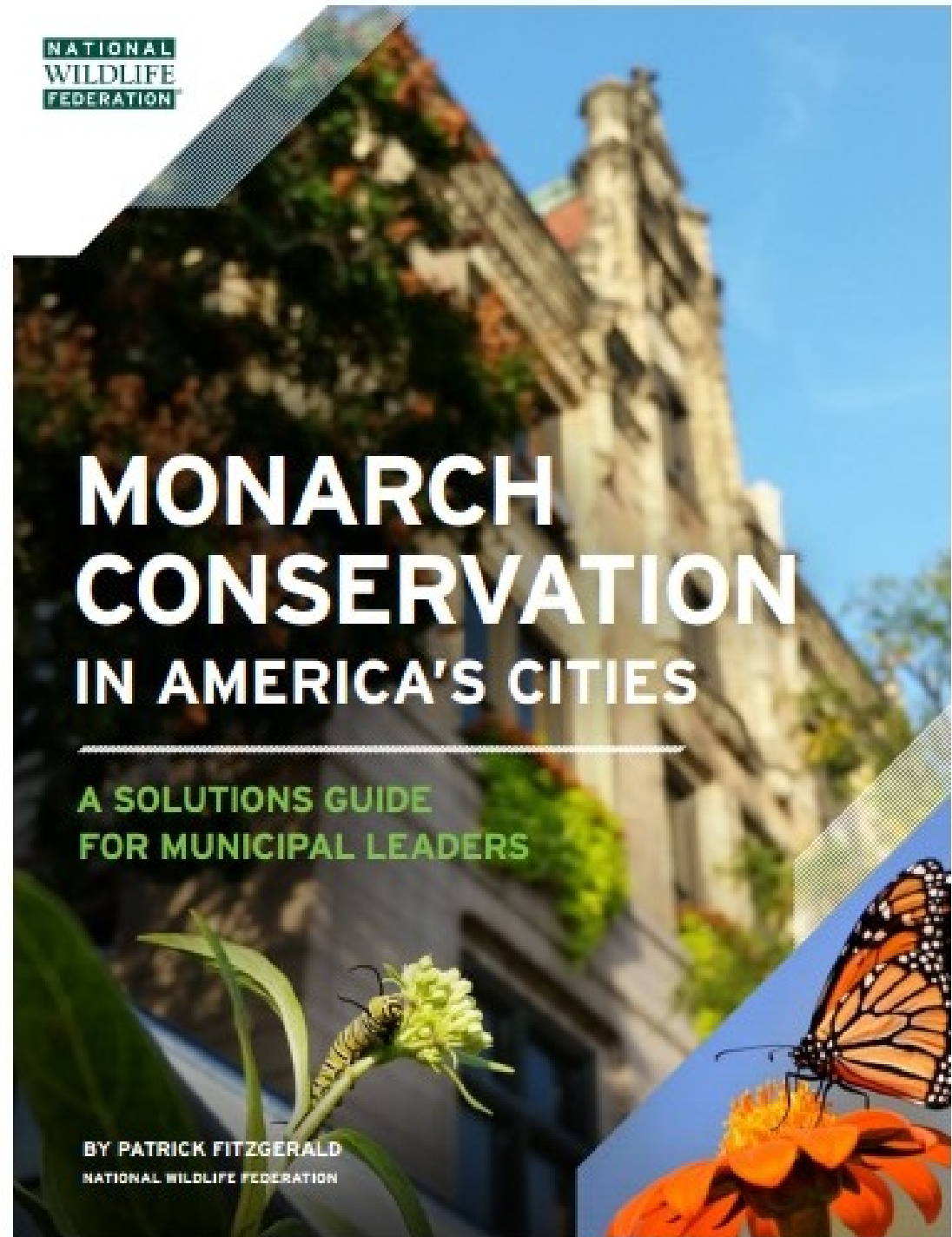


NATIONAL
WILDLIFE
FEDERATION

MONARCH CONSERVATION IN AMERICA'S CITIES

A SOLUTIONS GUIDE
FOR MUNICIPAL LEADERS

BY PATRICK FITZGERALD
NATIONAL WILDLIFE FEDERATION



Creating Monarch and Pollinator Habitat across your Community

Engaging the Garden Trade

Sourcing Native Plants and Seed



National Wildlife Federation's GARDEN FOR WILDLIFE™



Photo credit : Tammy Behm, Greenscape Gardens, St. Louis MO,

Steps to Secure Seed and Plants for Spring Planting

Now- Identify number of gardens, estimated size, quantities of needed native species of seed and plants.

December –January

Outreach to Local Native Plant Sources-Assess inventory available - submit orders for more established larger plants.

Identify additional need for online national sources- Submit orders asap for delivery based on your planting zone readiness.

When to use Seeds or Plants

1/2 acre or more – **Bulk seed** for larger landscape areas.

Seeds can be sown in cool weather along as ground is loose enough to cover with 1/2 inch layer of soil so to cover from birds. Pick the right seed mix for sun, shade, moist or dry conditions.

100 square foot and up- Combination of **seed, plugs and seedlings** - requires consistent watering show growth by summer's end into fall.

Highly visible demonstration gardens, like City Hall, park, etc.
Quart to gallon 1 -2 year old perennials for quick results – also requires watering until established.



Identifying species native to your city

Monarch Joint Venture/Xerces/NWF
– Regional Monarch Nectar Plant Lists

Lady Bird Johnson Wildflower Center

Pollinator Partnership Bee Friendly
Regional Plant lists

Monarch Watch



www.NWF.org/garden

MONARCH NECTAR PLANTS

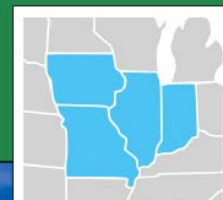
Southern Plains



Bloom	Common Name	Scientific Name	Flower Color	Max. Height
Forbs				
Spring to Summer	1 Betonyleaf thoroughwort	<i>Conoclinium betonicifolium</i>	Blue	3
	2 Blacksamson echinacea	<i>Echinacea angustifolia</i>	Pink/purple	2
	3 Butterfly milkweed	<i>Asclepias tuberosa</i>	Orange/yellow	2
Spring to Fall	4 Dakota mock vervain	<i>Glandularia bipinnatifida</i>	Purple	1
	5 Spider milkweed	<i>Asclepias viridis</i>	White/yellow/green/purple	2
	6 Whorled milkweed	<i>Asclepias verticillata</i>	White	3
Summer	7 Bearded beggarticks	<i>Bidens aristosa</i>	Yellow	4
	8 Baldwin's ironweed	<i>Vernonia baldwinii</i>	Pink/purple	5
	9 Blue mistflower	<i>Conoclinium coelestinum</i>	Blue/purple	3
	10 Button eryngo	<i>Eryngium yuccifolium</i>	White	6
	11 Canada goldenrod	<i>Solidago canadensis</i>	Yellow	5
	12 Compassplant	<i>Stiphidium laciniatum</i>	Yellow	12
	13 Cusp blazing star	<i>Liatris punctata</i> var. <i>mucronata</i>	Pink/purple	3
	14 Downy ragged goldenrod	<i>Solidago petiolata</i>	Yellow	3
	15 Golden crownbeard	<i>Verbesina encelioides</i>	Yellow	3
	16 Gray goldenrod	<i>Solidago nemoralis</i>	Yellow	2

MONARCH NECTAR PLANTS

Midwest



Bloom	Common Name	Scientific Name	Flower Color	Max. Height	Water Needs
Forbs					
Spring to Summer	1 Blacksamson echinacea	<i>Echinacea angustifolia</i>	Pink/purple	2	L
	2 Culver's root	<i>Veronicastrum virginicum</i>	White/pink/blue	7	M/H
	3 Stiff tickseed	<i>Coreopsis palmata</i>	Yellow	3	L/M
Summer	4 Bearded beggarticks	<i>Bidens aristosa</i>	Yellow	4	H
	5 Butterfly milkweed	<i>Asclepias tuberosa</i>	Orange/yellow	2	L
	6 Common milkweed	<i>Asclepias syriaca</i>	White/purple	3	L/M
	7 Common sunflower	<i>Helianthus annuus</i>	Yellow	8	M
	8 Eastern purple coneflower	<i>Echinacea purpurea</i>	Pink/purple	5	M
	9 Prairie blazing star	<i>Liatris pycnostachya</i>	Purple	5	M
	10 Swamp milkweed	<i>Asclepias incarnata</i>	Pink	4	M
	11 Black-eyed Susan	<i>Rudbeckia hirta</i>	Yellow	2	M
	12 Dotted blazing star	<i>Liatris punctata</i>	Pink/purple	2	M
	13 False boneset	<i>Brickellia eupatorioides</i>	White	4	L
Summer to Fall	14 Field thistle	<i>Cirsium discolor</i>	Pink/purple	7	L
	15 Maximilian sunflower	<i>Helianthus maximiliani</i>	Yellow/brown	10	L
	16 New England aster	<i>Symphoricarpos novae-angliae</i>	Pink/purple	6	M
	17 Ontario blazing star	<i>Liatris cylindracea</i>	Purple	2	L/M

Sources for Milkweed and Pollinator Seeds In bulk-for larger landscape installations-



Wholesale and Retail



<http://www.xerces.org/milkweed-seed-finder>



Wholesale Only



Resource: <http://www.ernstseed.com/resources/planting-guide>

Online Sources for Milkweed and Pollinator Seeds for individuals, schools and community groups



Identify if local schools, native plant groups, or university extension are collecting and propagating locally grown milkweed and/or native nectar plants.

Spring 2017

NWF Butterfly Heroes
Garden Starter Kits
1 milkweed packet per
pledge - free while
supplies last



Botanical Interests

Regional Seed
Collections

(4 seed packets –
milkweed, nectar
plants)



Local Plant Sources

Midwest - Grow Native Network - Missouri

NICE-Natives Instead of Common Exotics
Texas Garden Centers and Nurseries

State Native Plant Societies - Plant Sales

Botanical Gardens/Arboretum/
Nature Centers - Native plant sales

Presented by:

Grow Native! and the Grow Native!
member network of garden center retailers.



More than 11 species in the Pollinator Buffet program to add to your garden!



Local Plant Sources

Local Garden Centers Native Plants for:

- Butterflies, Bees and Bird Friendly**
- Prairie/Meadow Mixes**
- Deer Resistance**
- Drought Tolerance**
- Rain Gardens**



Online Plant Sources



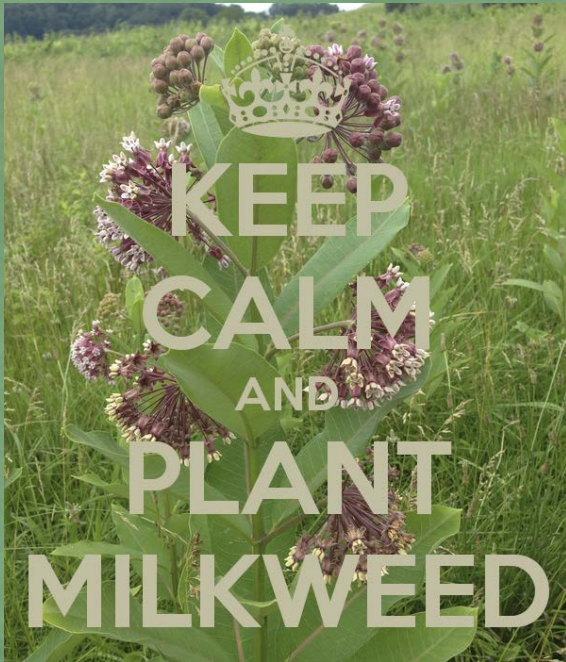
Flats of Milkweed plugs



Flats of nectar and milkweed plants



Garden Habitat Design and Planting Help



www.NWF.org/Garden/Create

Regional Conservation Landscaping Associations

Master Gardeners/Master Naturalists

NWF Community Wildlife Habitats Team Leaders

NWF Habitat Stewards

DONATE

TAKE ACTION



National Wildlife Federation's
GARDEN FOR WILDLIFE™



GARDEN FOR
WILDLIFE



CERTIFY YOUR
HABITAT



HELP THE
BUTTERFLIES

ABOUT CREATE FOOD WATER COVER YOUNG SUSTAINABILITY WILDLIFE CERTIFY

CREATE

A SUSTAINABLE GARDEN
THAT HELPS WILDLIFE



FOOD



WATER



COVER



YOUNG

Regional Conservation Landscaping groups





MILKWEEDS FOR GARDENS AND RESTORATION

ORLEY R. "CHIP" TAYLOR

DIRECTOR

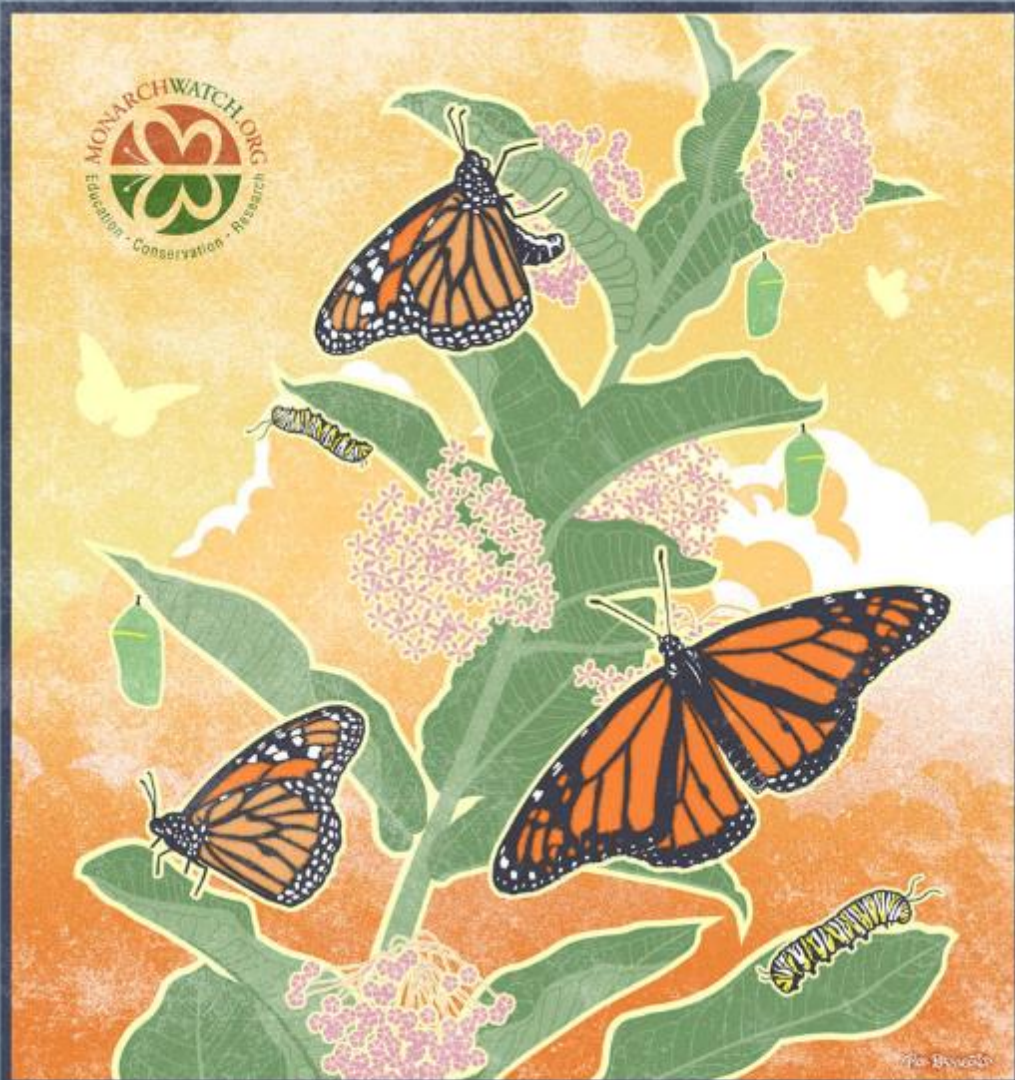
MONARCH WATCH

UNIVERSITY OF KANSAS

LAWRENCE, KS



Monarch Waystation #1 Lawrence, KS



This poster symbolizes our milkweed restoration program.

For milkweed profiles please visit –

<http://monarchwatch.org/bring-back-the-monarchs/>



SAVE THE MONARCH MIGRATION – PLANT MILKWEED

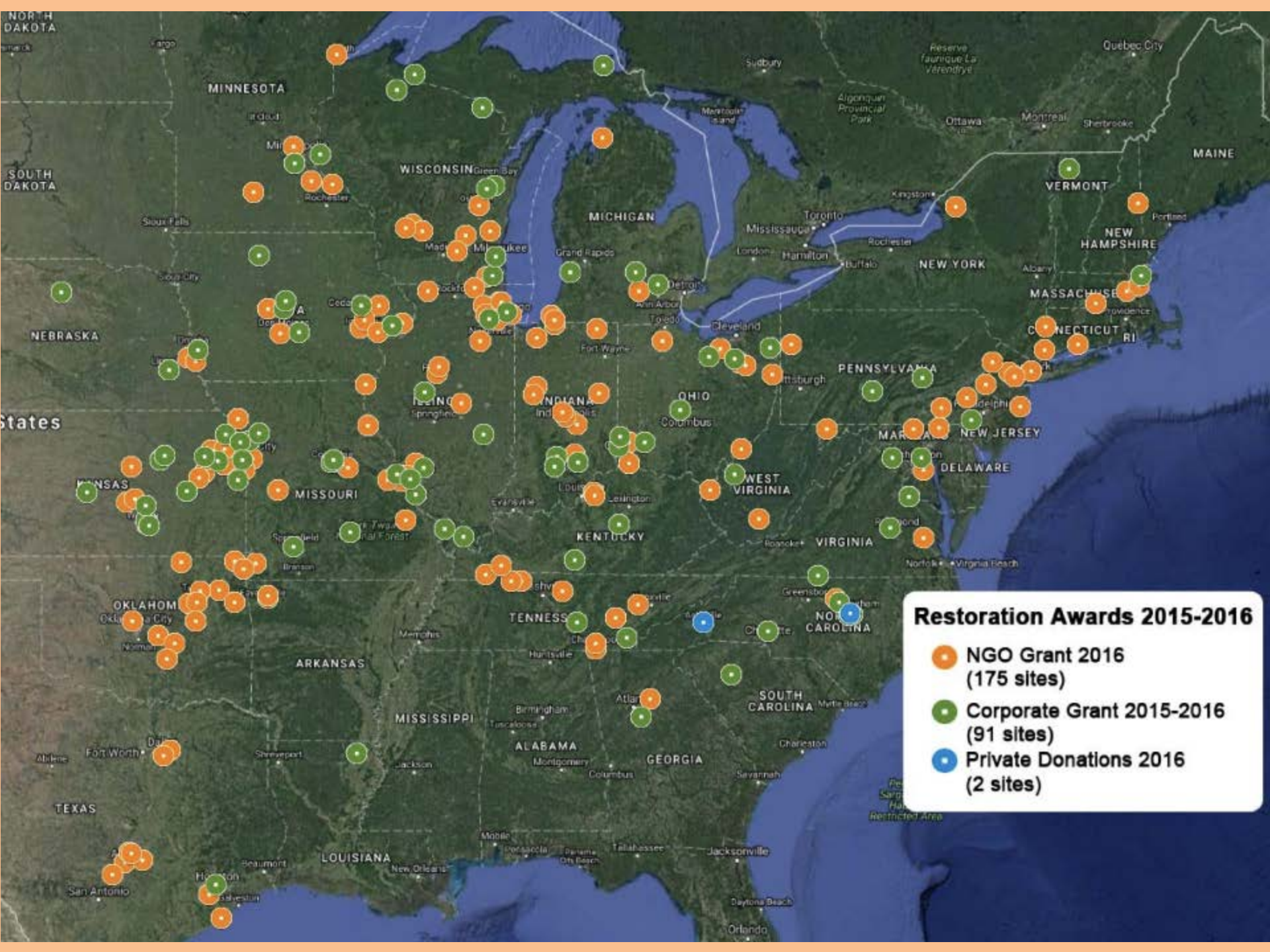
Plugs distributed

2013 >22,000

2014 >59,000

2015 >109,000

2016 >206,000

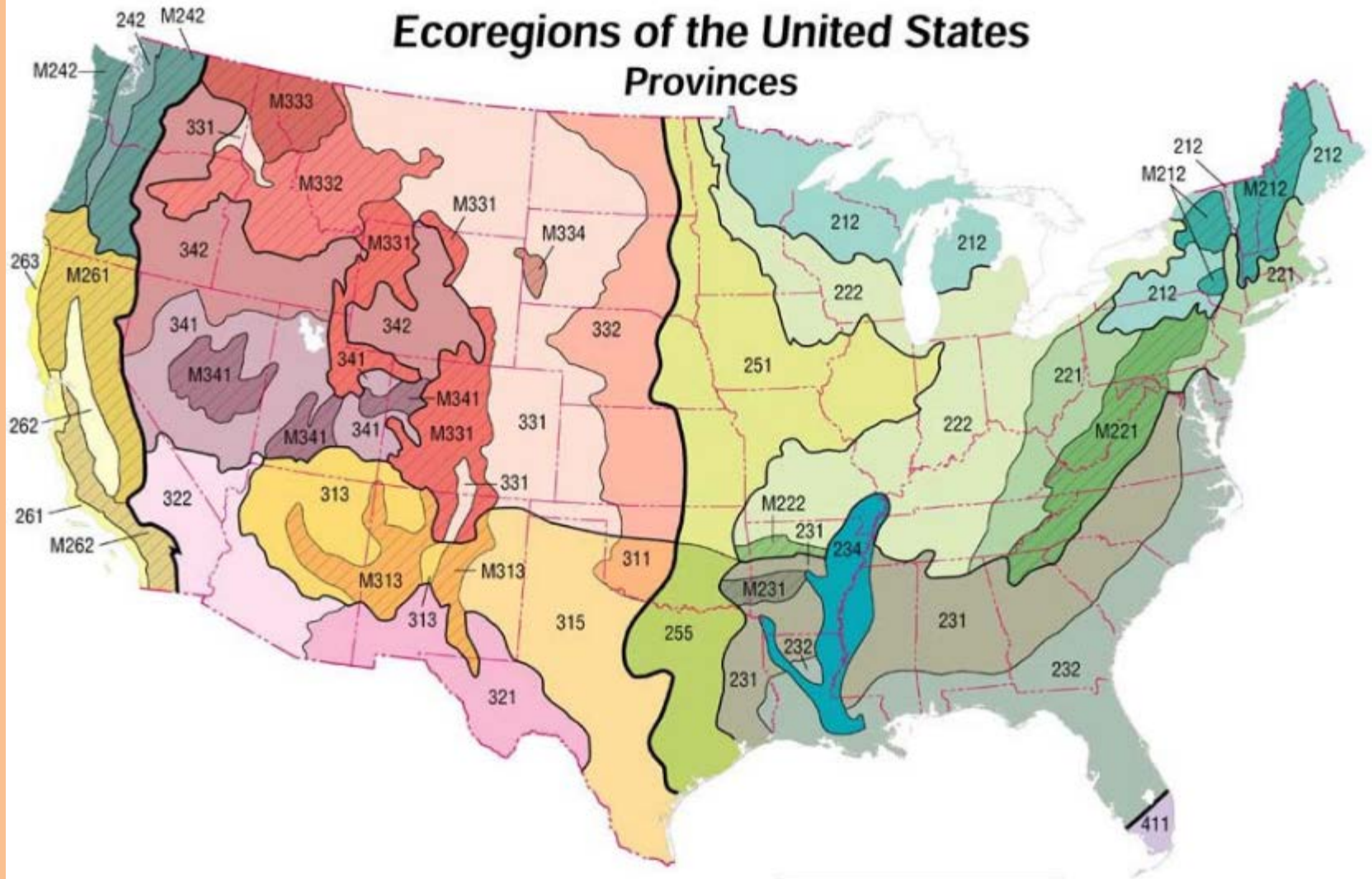



Restoration Awards 2015-2016

- NGO Grant 2016 (175 sites)
- Corporate Grant 2015-2016 (91 sites)
- Private Donations 2016 (2 sites)

Ecoregions of the United States

Provinces



 M Mountains with altitudinal zonation. These provinces are named for the spectrum of zones from lower to upper (subnival); e.g., semi-desert – coniferous forest – alpine meadow.

Boundaries:  Domain  Division  Province



ID: SY275
DT: OCTOBER 2015
ER: 212
LC: TAYLOR CO., WI
CR: AL & JULIE HILLERY

ID: SY283
DT: Fall 2015
ER: 222
LC: Vigo Co., IN
CR: Joanne Wilson

ID: IN120
DT: Sept. 2015
ER: 222 (North)
LC: Brookfield, WI
CR: Barb Agnew

ID: IN121
DT: Oct. 2015
ER: 222 (North)

ID: AS1
DT: 8/2010
ER: 255
LC: AUSTIN, TX
CR: JOHN BARR

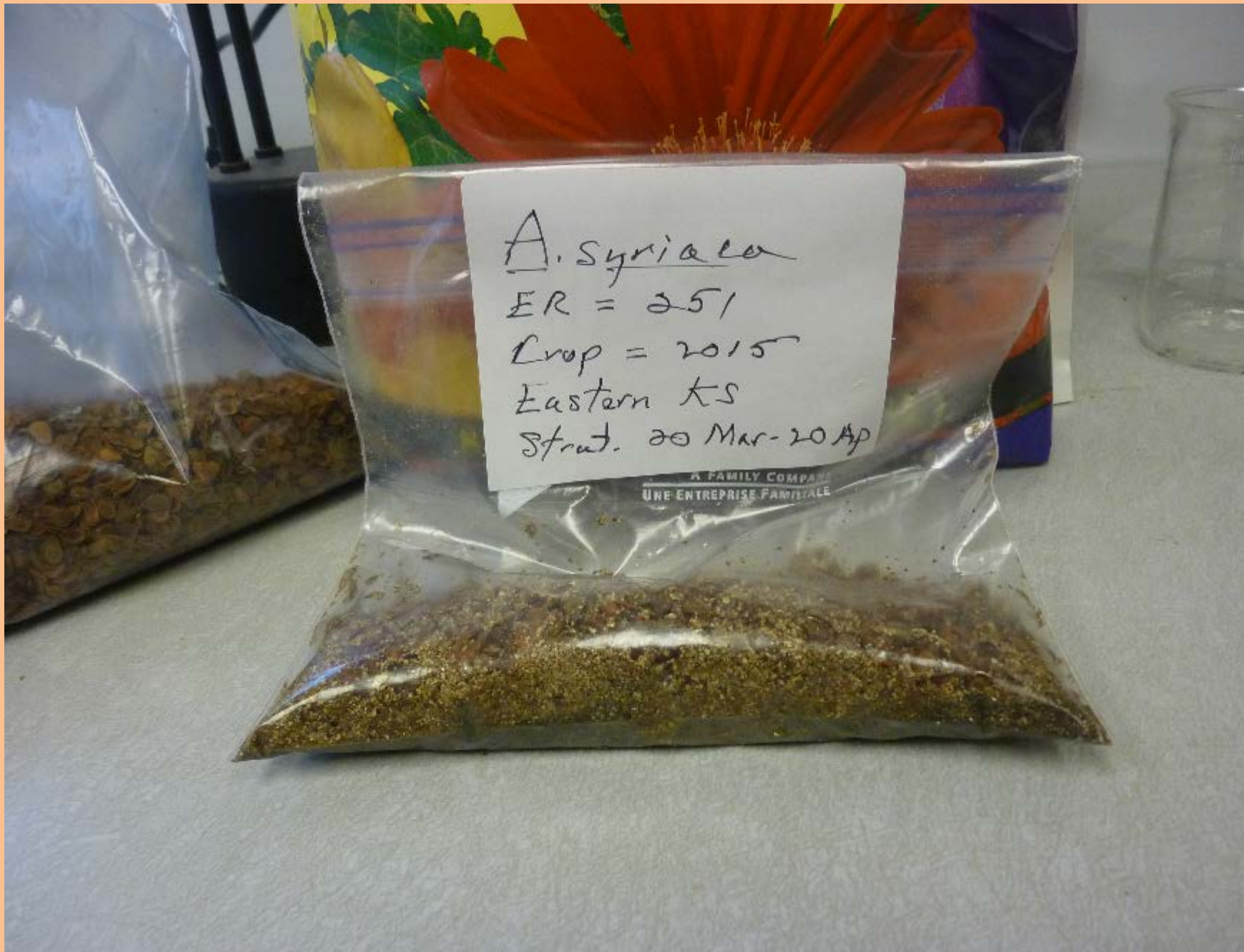
Seed stocks provided by cooperators throughout the US.

ID: Sy 283
DT: Fall 2015
ER: 222
LC: Vigo Co., IN
CR: Joanne Wilson

Asclepias syriaca (common milkweed) from ecoregion 222 (Indiana)



Stratification = seed treatment required before germination – seeds+vermiculite+water+refrigeration for 30 days.



Cold moist stratification for 30 days



Seeding flats planted with stratified seeds.



Germination – radicals (first roots) elevate seed coats containing the cotyledons



Seedlings a week to 10 days after germination



Training session showing TEAM members how to transplant seedlings. Applied Ecological Services, Baldwin, KS.



ASCLEPIAS INCARNATA – SEEDLING – NOTE THE BEGINNING OF A FIBROUS ROOT MASS



Transplanting seedlings - Cedar Valley Nursery, Ada, OK



Tens of thousands of seedlings – Applied Ecological Services, Baldwin, KS.



Growing out plugs – about two weeks after transplanting – AES, Baldwin, KS.



Plugs – 6-8 weeks after transplanting with many ready to ship.



Asclepias incarnata (swamp milkweed) ready to ship. AES, Baldwin, KS.



Elliott Duemler (AES) with lush swamp milkweed In need of trimming before shipment



Asclepias tuberosa (butterflyweed) ready to ship, AES, Baldwin, KS.



Asclepias asperula (antelopehorn milkweed) ready to ship, AES, Baldwin, KS



Asclepias oenotheroides (zizotes milkweed) ready to ship. AES, Baldwin, KS.



Asclepias viridis (green antelopehorn milkweed) ready to ship, AES, Baldwin, KS.



PLUGS – *A. VIRIDIS*, *A. SULLIVANTII*, *A. SYRIACA*, *A. INCARNATA* - READY TO SHIP OR PLANT

Roots



A. incarnata



A. tuberosa



A. viridis



Shipping via UPS– boxes with 1 or two flats (left) or boxed on pallets(right).

<http://www.stihlusa.com/products/augers-and-drills/planting-auger/bt45ead/>



Auger bits sold separately.

Augers can be rented or purchased and are highly recommended for large scale projects



With the use of two augers a team of 6 can plant 2500 plugs in 4 hours.



A typical plug from a 50 cell restoration tray.



Straw mulch is used to retain moisture and reduce competition from other plants.

COST OF PLUGS

Waystation (garden) plugs - flats of 32 = \$74

Restoration plugs - flats of 50 = \$ 93.50

S&H included

Flats of 32 and 50 available for most locations
except Texas (50s only).





Mayors' Monarch Pledge Webinar Questions & Answers

Preparing for Spring Planting - 12/12/16

NOTE: The slides and recorded webinar will be available at www.nwf.org/mayorsmonarchpledge under the resources tab toward the bottom of the page before the holidays.

Q: Are cities integrating monarch attracting gardens into city streetscapes for people walking and bicycling for transportation to enjoy?

A: Yes, many cities are integrating milkweed and native nectar plants in places where people can enjoy them and learn about the monarch butterfly and pollinators. More than 100 mayors have committed to planting a demonstration garden at city hall, a public park or other prominent locations. I'll also share two examples, in Springdale, AR, the team is working to integrate monarch habitat along a regional greenway. They ordered several hundred plugs to plant this fall. The San Antonio River Authority also recently planted 1,400 square feet of monarch habitat along the San Antonio River.

Q: I am from Lee County Florida parks and recreation we have several botanic gardens and many places to grow more plants to attract monarchs. Is it true that in some places monarchs are not migrating? If so do we need to look into more plants that bloom year round to support these non-migrating butterflies?

A: Yes. There is a monarch population in the Miami area that is said to be non-migratory. Further, to date there is no evidence supporting the idea that monarchs move north through Florida in the spring. There are many nurseries in FL that provide both native and non-native nectar sources suitable for butterflies. There is a strong interest in monarchs in FL with many Monarch Waystations throughout the state. Here is a link to the Florida Association of Native Nurseries: <http://www.afnn.org/> and here is a link to more information about monarchs in Florida from the University of Florida: <http://gardeningsolutions.ifas.ufl.edu/plants/ornamentals/milkweed.html>.

Q: Does Monarch Watch help with Monarch programs and habitat west of the Rockies?

A: Yes. We have two excellent and very active Monarchs Conservation Specialists in AZ and work with a nursery in CA that provides plants for both CA and NV.

Q: Chip, did you say that you particularly were looking for restoration planting sites in TX?

A: Yes. We are working with a nursery in OK that produces milkweeds for TX from TX seed.

Q: Do you have plugs for Texas available for 2017? I had just tried to order and thought there were none available.

A: Yes. We currently are planning on the production of 20K plugs for TX. Please visit the Milkweed Market or the Free Milkweeds for Restoration portions of our website www.MonarchWatch.org.

Q: Can someone in an apt keep milkweed on the porch for monarchs? or is that not enough space? thanks.

A: Yes. It's been done with positive results and greenroofs have even been planted with milkweeds as well.

Q: Will the four varieties in Chip's PPT succeed in other areas - mainly northern Minnesota?

A: I'd sub verticillata for sullivant's milkweed for northern MN but the other three species, tuberosa, syriaca and incarnata can be used from the eastern Dakotas to the east coast and south to northern GA.

Chip: if we tell you the square footage, can you tell us the number of plants we should order from you?

A: We recommend planting 50-100 plugs per acre for restoration. The number in a garden will vary with the size of the garden and location but 2-3 species and 20-30 milkweeds and lots of nectar and host plants will create fantastic monarch and pollinator gardens.

Q: Are there any formulas showing number of plugs per 100 Square feet or larger area?

A: Allow a square foot or 1.5 square foot for each plant.

Q: Do you spread roots when planting or just put in ground just as they come out of pots?

A: You can put the plugs directly in the ground after pulling them out of the pots.

Q: Have you identified a species of Asclepias native to Tamaulipas, MX? We would like to plant it here, but we only know A. curassavica which I have read comes from South America.

A: A. curassavica is native to Mexico. It's the only common milkweed in Tamaulipas though others occur in the area.

Q: Can you ship plants or seeds to Canada.

A: Monarch Watch does not ship plants outside the U.S. The David Suzuki Foundation has great resources around monarch butterflies: <http://www.davidsuzuki.org/what-you-can-do/monarch-and-milkweed-faq/>.

Q: Does a flat of milkweed contain more than one species?

A: Each flat of milkweed contains 32 (or 50) plugs of the same species, we cannot mix and match species.

Q: To increase the Monarch Watch market, have most of your orders from Texas (and other states) come from businesses, cities, and/or landowners? Can you give approximate estimates of your buyers and who they are? Thanks!

A: That would take some time but it's a healthy mix of all of the above.

Q: I see seeds stored in plastic bags. Is that okay? Most seeds are shipped/stored in paper.

A: We store in plastic bags and plastic containers once the seeds are thoroughly dry.

Q: Our city received butterfly heroes kits in the summer. The milkweed seed pack included is stamped packed for 2015. Would these packs still be viable for spring 2017 planting?

A: The seeds will remain viable for some time, but we recommend using these packets no later than spring 2017.

Q: Is there a link to a set of materials to present to a local garden center or any store that presents the Monarch Program and clarifies the local production of plants for Monarchs - as Promo for trying to get garden centers and stores to buy into program.

A: We do not currently have these kinds of resources but will connect with some of our partners to see if we can develop something along these lines or share any existing materials with you.