

Urban Forestry Commission

Cravath Lakefront room 2nd floor 312 West Whitewater Str, Whitewater, WI, 53190 *In Person and Virtual

Monday, November 27, 2023 - 4:30 PM

Citizens are welcome (and encouraged) to join our webinar via computer, smart phone, or telephone.

Citizen participation is welcome during topic discussion periods.

Urban Forestry Commission

Nov 27, 2023, 4:30 – 6:30 PM (America/Chicago)

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Please note that although every effort will be made to provide for virtual participation, unforeseen technical difficulties may prevent this, in which case the meeting may still proceed as long as there is a quorum. Should you wish to make a comment in this situation, you are welcome to call this number: (262) 473-0108.

AGENDA

CALL TO ORDER

ROLL CALL

CONSENT AGENDA

Items on the Consent Agenda will be approved together unless any committee member requests that an item be removed for individual consideration.

<u>1.</u> Approval of October 23, 2023 Minutes

HEARING OF CITIZEN COMMENTS

No formal Committee action will be taken during this meeting although issues raised may become a part of a future agenda. Participants are allotted a three minute speaking period. Specific items listed on the agenda may not be discussed at this time; however, citizens are invited to speak to those specific issues at the time the Committee discusses that particular item.

To make a comment during this period, or during any agenda item: On a computer or handheld device, locate the controls on your computer to raise your hand. You may need to move your mouse to see these controls. On a traditional telephone, dial *6 to unmute your phone and dial *9 to raise your hand.

TREASURER'S REPORT

STAFF REPORT

CONSIDERATIONS / DISCUSSIONS / REPORTS

2. Discussion to add a fourth Purple Martin house.

TREE CITY

- 3. Future of Territorial Oak felled timber and possible projects relating to it.
- 4. Discussion of the 2024 Tree Sale

Concerning Numbers

Types of Trees

Date of Sale

- 5. Arboretum Grant Update
- 6. Kiwanis Kids Program recap report from October 30, 2023.
- 7. Pulse Sign order and installation plan

BIRD CITY

8. Discussion of 2022 approval

NEW BUSINESS

- Milkweed Protection Discussion
- 10. Protection of oaks from library expansion

FUTURE AGENDA ITEMS

ADJOURNMENT

A quorum of the Common Council may be present. This notice is given to inform the public that no formal action will be taken at this meeting.

Anyone requiring special arrangements is asked to call the Office of the City Manager / City Clerk (262-473-0102) at least 72 hours prior to the meeting.

Urban Forestry Commissio

Item 1.



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MINUTES

CALL TO ORDER

Meeting was called to order at 4:32 p.m. by

ROLL CALL

Present: Sherry Stanek, David Stone, Nicholas Alt, Rose Mary Leaver, Patrick Taylor, Bill Chandler, Andrew Beckman Absent: Ryan Tevis Guest Kori Oberle, Dollar Tree Reps, Andrea Lemken and Civil Engineer Andy Gebhart

APPROVAL OF URBAN FORESTRY SEPTEMBER 25, 2023 MINUTES

1. Approval of September 25, 2023 Minutes

Motion by N. Alt second by D. Stone. Passed unanimously by voice vote.

HEARING OF CITIZEN COMMENTS

No Citizen comments.

TREASURER'S REPORT

Balance is \$1,014.09. No action since last month.

STAFF REPORTS

2. Territorial Oak

Beckman present that the territorial oak is coming down 10-24-2023. Markers taken down. Traffic Flow was discussed. Wood will be going to City garage storage until plan for playground and possible slice for arboretum (slab size needs to be determined). Largest chunks possibly will be preserved. This will take most of the day.

2024 Terrace Tree Order

Order was put in to secure the Butternut from Johnson's. We have 48 trees for spring delivery. Will check later about any price update. Butternut is planned for a park not a terrace. Trees ordered are local and varied. No longer mono-cultures.

CONSIDERATIONS / DISCUSSIONS / REPORTS

3. Review and possible approval of the Landscape Plan for Dollar Tree.

Stanek mention that there are only 5 honey locust trees. There is more than a 15 ft buffer on all sides. So little detail on plans and city ordinance and landscape guidelines.

Stone: Usually a lot more detail vegetation.

Alt: One type of tree in 5 spots and calling it landscape Doesn't seem that is not enough.

Dollar tree representative thought they were following all guidelines, but if there is a additional requirements, than would like to see it.

Stanek: Building in wetland area and what are plans to mitigate

Dollar tree: Buy credits from the DNR.

Dollar: Will meet all requirements. If there are additional guidelines then will work with City to do the right thing.

Conclusion: Not approved as is, will work together to make it work.

TREE CITY

4. Tree Sale:

Alt needs to get the last 2 years. Would like to get a number of trees for spring 2024. This past year we sold all but 4 and those were put into parks. The year before we sold out. Would like the ability to do a pre-sale on line as a possible.

Chandler not sure about presale because advertising and delivery. Leaning toward not doing a presale online.

New parks director we can't approved city money. The park director needs to add to the budget.

Stanek: if people want to order tree they can from other sources. Jim wont' all us to use to use his truck to transport trees. Goal of UFC is to get trees into community not to make money, just cover the expenses.

Suggestions for moving forward. Still want community tree sale. Maybe a different date no arbor day and change to a Friday and Saturday.

Alt: Order list has been modified to reflect sales from previous years. Ok to research presale.

Reconsider whether market has been tapped.

Spring and increase adversting with approval of the City.

Alt and Stanek to meet with Park Director.

Northern White Cedar is the densest tree.

Page 18 is cost and trees.

Motion by Taylor to have tree sale with 250 trees to be conducted as in the past, looking for later in spring for pending weather. Pending approval of the City. Second by Alt. Passed unanimously by voice vote.

6. Arboretum Update

Trying to finish up grant needs to be satisfied.

7. Update on Pulse welcome signs

Signs will now be delivered November 4th. Signs paid for. Pulse Company has been difficult to work with.

BIRD CITY

8. 2022 Certification for Bird City Application Discussion

Certification process was discussed. There were a lot of questions about not adding ordinance. City Manager to read resolution regarding Bird City.

NEW BUSINESS

9. Milkweed Protection Discussion

Put off till next time.

10. Protection of oaks from library expansion

Final approval by the planning board has not been done. Protection still possible.

New item for Next Agenda

Funding for fourth purple martin house.

Next Meeting is November 27, 2023

ADJOURNMENT

Meeting was adjourned at 6:05 p.m.

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Tree Sale Order 1 to 10 11 to 24 25 or more As is Size Cost Total

2023

Maple, Black	Acer nigrum		\$22.5	\$19.5	\$17.0			Std. Tree
Maple, Red	Acer rubrum							No
Maple, Sugar	Acer saccarinum	5	\$50.0			\$250 RM	55	Std. Tree
Maple, Striped	Acer pennsylvanicum	3	\$55.0	\$19.5	\$17.0	\$165 RM	55	Std. Tree
Ohio Buckeye	Aesculus glabra		\$22.5	\$19.5	\$17.0			Std. Tree
Speckled Alder	Alnus incana	5	\$22.5	\$19.5	\$17.0	\$113 #5	22.5	Std. Tree
Serviceberry/ Juneber	r Amelanchier arborea		\$22.5	\$19.5	\$17.0	\$0		Std. Tree
Running Serviceberry	Amelanchier stolonifera	12	\$18.0			\$216 #2	18	
Juneberry	Amelanchier interior		\$22.5	\$19.5	\$17.0			Std. Tree
Allegheny Shadblow	Amelanchier laevis		\$22.5	\$19.5	\$17.0	\$0		Std. Tree
Indigo Bush	Amorpha fruticosa	4	\$20	\$17.5	\$15	\$80 #5	20	Std. Shrub
Black Chokeberry	Aronia melanocarpa	4	\$16			\$64 #2	16	
Paw Paw	Asimina triloba	6	\$26.5	\$24.5	\$22.5	\$159 #1	26.5	T1
Birch, Yellow	Betula alleghaniensis		\$22.5	\$19.5	\$17.0	\$0 #5	22.5	Std. Tree
Birch, River	Betula nigra		\$22.5	\$19.5	\$17.0	\$0 #5	19.5	Std. Tree
Musclewood	Carpinus carolinia	5	\$22.5	\$19.5	\$17.0	\$113 #5	22.5	Std. Tree
Pecan	Carya illinoinensis		\$26.5	\$24.5	\$22.5	\$0 #5	26.5	T1
Kingnut Hickory	Carya ovalis		\$26.5	\$24.5	\$22.5			T1
Hackberry	Celtis occidentalis	2	\$55.0			\$110 RM	55	
Buttonbush	Cephalanthus occidentali	3	\$16.0			\$48 #2	16	
Redbud	Cercis canadensis	11	\$22.5	\$19.5	\$16.5	\$215 #5	19.5	Std. Tree
Yellowwood	Cladrastis kentukea		\$34.5	\$32.5	\$30.5	\$0		T2
Dogwood, Pagoda	Cornus alternifolia	11	\$17.5	\$19.5	\$17.0	\$193 #5	17.5	Std. Tree
Hazelnut	Corylus americana	11	\$20	\$17.5	\$15	\$193	17.5	Std. Shrub
Dwarf Honeysuckle	Diervilla lonicera	5	\$16	\$17.5	\$15	\$80 #2	16	Std. Shrub
Persimmon	Diospyros virginiana	3	\$22.5	\$19.5	\$17.0	\$68 #5	22.5	Std. Tree
Eastern Wahoo	Euanamous atropurpea	3	\$26	\$17.5	\$15	\$78 #2	26	Std. Shrub
Beech, American	Fagus grandifolia	3	\$85.0	\$32.5	\$30.5	\$255 RM	85	T2
Kentucky Coffee Tree	Gymnocladus dioicus	5	\$22.5	\$19.5	\$17.0	\$113	22.5	Std. Tree
Witch Hazel	Hamamelis virginiana	5	\$22.5	\$19.5	\$17.0	\$113 3'	22.5	Std. Tree
Butternut	Juglans cinerea	2	\$55.0	\$19.5	\$17.0	\$110 RM	55	Std. Tree

Common Juniper	Juniperis communis		\$25.0	\$18.5	\$16.5			Spec. Shruk
Larch	Larix larcinia	0	\$22.5	\$19.5	\$17.0	\$0		Std. Tree
Tuliptree	Liriodendron tulipifera	5	\$22.5	\$19.5	\$17.0	\$113	22.5	Std. Tree
Cucumber Magnolia	Magnolia acuminata		\$34.5	\$32.5	\$30.5			T2
Sweetgale	Myrica gale	3	\$16.0			\$16 #2		
Tupelo	Nyssa sylvatica	2	\$22.5	\$19.5	\$17.0	\$45 #5	22.5 pH issue	Std. Tree
Ironwood	Ostrya virginiana	7	\$22.5	\$19.5	\$17.0	\$158	22.5	Std. Tree
Sycamore	Plantanus occidentalis	0	\$22.5	\$19.5	\$17.0	\$0		Std. Tree
Aspen, Bigtooth	Populus grandentata	2	\$45.0			\$90 RM	45	
Plum, American	Prunus americana	11	\$22.5	\$19.5	\$17.0	\$215 #1	19.5	Std. Tree
Cherry, Pin	Prunus pensylvanica	2	\$50.0			\$100 RM	50	
Hoptree, Common	Ptelea trifoliata	2	\$55.0			\$110 RM	55	
	Quarcus muchlanhargii							
Oak, Chinkapin	Quercus muehlenbergii	11	\$22.5	\$19.5	\$17.0	\$215 #5	19.5	Std. Tree
Oak, Swamp White	Quercus bicolor	11	\$22.5	\$19.5	\$17.0	\$215 #5	19.5	Std. Tree
Oak, Bur	Quercus macrocarpa	11	\$22.5	\$19.5	\$17.0	\$215 #5	19.5	Std. Tree
Fragrant sumac	Rhus aromatica	2	\$16.0			\$32 #2	16	
American Mountain A	s Sorbus americana		\$22.5	\$19.5	\$17.0	\$0.00		Std. Tree
Showy Mointain Ash	Sorbus decora	2	\$99.0			\$198 #10	99	
Bladdernut	Staphylea trifolia	11	\$20	\$17.5	\$15	\$193 #5	17.5	Std. Shrub
Bald Cypress	Taxodium distichum	5	\$22.5	\$19.5	\$17.0	\$113 #5	22.5	Std. Tree
Hemlock	Tsuga canadensis							No
	Viburnum							
Downy Arrowwood	rafinesqueanum	5	\$22.0	\$18.5	\$16.5	\$110 #3	22	Spec. Shruk
Total		200		То	tal Cost	\$4,756	Avg./Tree \$23.7	' 8

Item 4.

Available Available PP JN 0 yes 0 yes yes yes yes yes 0 yes 0 yes 0 yes 0 yes

Item 4.

Maple, Sugar	Acer saccharum	11	\$55.0	\$605.0 JN
Maple, Striped	Acer pennsylvanicum	3	\$60.0	\$180.0 JN
Speckled Alder	Alnus incana	5	\$28.5	\$142.5 JN
Running Serviceberry	Amelanchier stolonifera	15	\$19.0	\$285.0 JN
Fringe Tree	Chionanthus virginicus	1	\$100.0	\$100.0 JN
Beech, American	Fagus grandifolia	2	\$90.0	\$180.0 JN
Witch Hazel	Hamamelis virginiana	5	\$21.0	\$105.0 JN
Winterberry	llex verticillata (Female)	6	\$23.0	\$138.0 JN
Winterberry	llex verticillata (Male)	3	\$23.0	\$69.0 JN
Larch	Larix larcinia	2	\$55.0	\$110.0 JN
Sweetgale	Myrica gale	2	\$17.0	\$34.0 JN
Ironwood	Ostrya virginiana	7	\$22.5	\$157.5 JN
Common Ninebark	Physocarpus opulifolius	4	\$17.0	\$68.0 JN
Aspen, Bigtooth	Populus grandentata	2	\$45.0	\$90.0 JN
Plum, American	Prunus americana	5	\$22.5	\$112.5 JN
Western Sand Cherry	Prunus besseyi	2	\$13.0	\$26.0 JN
Chokecherry	Prunus virginiana	5	\$13.0	\$65.0 JN
Fragrant sumac	Rhus aromatica	2	\$17.0	\$34.0 JN
Showy Mountain Ash	Sorbus decora	4	\$60.0	\$240.0 JN
Meadowsweet	Spirea alba	5	\$17.0	\$85.0 JN
Steplebush/Hardhack	Spirea tomentosa	5	\$17.0	\$85.0 JN
Bladdernut	Staphylea trifolia	4	\$19	\$76.0 JN
Canadian Yew	Taxus Canadensis	6	\$46	\$276.0 JN
Northern White Cedar	Thuja Occidentalis	15	\$55.0	\$825.0 JN
Hemlock	Tsuga canadensis	5	\$90	\$450.0 JN
Ohio Buckeye	Aesculus glabra	2	\$21.00	\$42.00 PP
Black Chokeberry	Aronia melanocarpa	4	\$22.00	\$88.00 PP
Musclewood	Carpinus carolinia	5	\$24.50	\$122.50 PP
Hackberry	Celtis occidentalis	2	\$24.50	\$49.00 PP
Buttonbush	Cephalanthus occidentalis	3	\$22.00	\$66.00 PP
Dogwood, Pagoda	Cornus alternifolia	11	\$21.50	\$236.50 PP
Hazelnut	Corylus americana	5	\$22.00	\$110.00 PP
Dwarf Honeysuckle	Diervilla lonicera	15	\$19.50	\$292.50 PP
Persimmon	Diospyros virginiana	2	\$24.50	\$49.00 PP
Tuliptree	Liriodendron tulipifera	4	\$21.00	\$84.00 PP
Tupelo	Nyssa sylvatica	2	\$24.50	\$49.00 PP
Plum, American	Prunus americana	12	\$21.50	\$258.00 PP
Oak, White	Quercus alba	11	\$21.50	\$236.50 PP
Oak, Chinkapin	Quercus muehlenbergii	11	\$21.50	\$236.50 PP
Oak, Bur	Quercus macrocarpa	11	\$21.50	\$236.50 PP
Oak, Dwarf Chinquapir	Quercus prinoides	2	\$21.00	\$42.00 PP
Maple Leaf Viburnum	Viburnum acerifolium	11	\$21.50	\$236.50 PP
Downy Arrowwood	Viburnum rafinesqueanum	11	\$21.00	\$231.00 PP
Total		250		\$7,204.00

Milkweed - Monarch's

- Milkweeds Native to Wisconsin (13 milkweed species) 1 non-aggressive (close neighbor introduced)
 - Swamp/Rose, Butterfly, Common, Poke, Whorled are the most common
 - Each has a bit different bloom time and location where they live naturally
 - Asclepias amplexicaulis Clasping Soils: Sandy; dry Habitat: grasslands, savannas, woodland edges. 3' Tall Max.
 - Asclepias asperula Antelope-horns (Spider) milkweed Typically 1-2ft tall - Southwestern United States
 - Asclepias incarnata Swamp/Rose/Red Soils: Silty to loamy or clayey: moist-wet, tolerates some mesic Habitat: Moist prairies, marshes, ditches, edges of ponds, lakes, streams.
 - Asclepias hirtella Green Soils: Sandy, rocky to clay; dry-wet. Habitat: Prairies, meadows, open woods, disturbed areas, railways. It tends to grow in light to moderate shade, but tolerates full sun
 - Asclepias exaltata Poke Soils: All Habitat: upland woods to rich woodland openings, dappled to full shade.
 - Asclepias lanuginosa Woolly Soils: rocky soil Habitat: sunny; dry prairies, open woods 10-12" Tall Rare in WI.
 - Asclepias quadrifolia Four leaf Soil: dry, rocky, open woods, often inhabiting slopes and ridges 1-2.5' T Just South & East of WI
 - Asclepias ovalifolia Oval leafed High Quality prairies and savannas, prefers open sun and frequent wildfire. Rare in WI
 - Asclepias purpurascens Purple Soils: Loamy to clayey Habitat: Oak Savannah, woodland edges, savannas Endangered
 - Asclepias speciosa Showy Habitat: along canal banks and riparian sites and in sub-irrigated or occasionally flooded wetlands with sedges and rushes. (West of Wisconsin) Introduced to WI
 - Asclepias stenophylla Narrow- leaved Habitat: sun, dry hill prairies
 1-2' Tall Just West and South of WI
 - Asclepias sullivantii Prairie Soils: Sandy clay or loamy: mesic-moist Habitat: prairies, wet meadows. 4' Tall Max
 - Asclepias syriaca Common Soils: All Habitat: All, disturbed areas.
 - Asclepias tuberosa Butterfly Soils: Sandy, loamy, rocky, dry-mesic;
 Habitat: Prairies, old fields, open woods
 - Asclepias variegata Redring/White-Flowered Soil: dry clay, loam, or rocky soil Habitat: Full sun to light shade, upland forests and woodland edge habitats, sandy open ground, ravine bottoms, low woods, slopes, ridges and roadsides. 1-3' Tall. SE United States

- Asclepias verticillata Whorled Soils: Sandy, rocky, clayey; dry-mesic Habitat: Prairies, open woods, fields, flood plains, glades, railways, disturbed areas.
- Asclepias viridiflora Green Comet Sandy, Rocky, dry; prairies, old fields, dunes, open woods 3' Tall

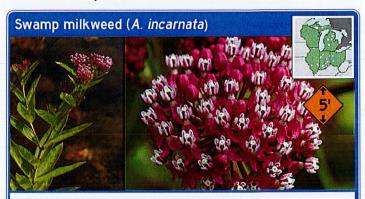
Milkweeds (*Asclepias* spp.) are herbaceous perennial plants named for their milky sap. These plants occur in a wide range of habitats, including intact natural communities on roadsides and highly disturbed roadsides. As required host plants for monarch (*Danaus plexippus*) caterpillars, milkweeds play an essential role in the butterfly's life cycle (see reverse). Vegetation management that allows milkweeds to persist can support monarchs. This guide can help you recognize the most common native species found on roadsides in your region.



The most common milkweeds in roadsides in the Great Lakes Region (in alphabetical order):



PLANT: Upright, unbranched stems. **LEAVES:** Alternate; long and narrow; pointed at tips; with short hairs. **HABITAT:** Prairies, meadows, open woods, disturbed areas, railways. **SOILS:** Sandy, rocky to clay; dry-wet. **BLOOM:** Jun-Aug; green with purple or cream.



PLANT: One to many upright, branched stems; smooth or with short hairs. **LEAVES:** Opposite; lance-shaped or narrow; with few short hairs. **HABITAT:** Moist prairies, marshes, ditches, edges of ponds, lakes, streams. **SOILS:** Silty to loamy or clayey; moist–wet, tolerates some mesic. **BLOOM:** Jun–Aug; pink or light purple.



PLANT: One to many stout, upright, unbranched stems; usually with short dense hairs. **LEAVES:** Opposite; oval-shaped; hairy underneath. **HABITAT:** Prairies, old fields, railways, open woods, flood plains, disturbed areas. **SOILS:** Sandy to loamy, rocky or clayey; dry-wet. **BLOOM:** May-Aug; light purple or pink.



PLANT: One to many spreading to upright stems; with short hairs; lacks milky sap. **LEAVES:** Alternate; lance-shaped; hairy underneath. **HABITAT:** Prairies, old fields, open woods. **SOILS:** Sandy, loamy, rocky; dry-mesic. **BLOOM:** May-Aug; orange to red or yellow.



PLANT: One to several upright, unbranched stems; with short hairs. LEAVES: Whorled; narrow to needle-like; smooth or with short hairs. HABITAT: Prairies, open woods, fields, flood plains, glades, railways, disturbed areas. SOILS: Sandy, rocky, clayey; dry-mesic. BLOOM: May-Sep; white to green.

Additional Resources:

- For more information on monarchs and roadsides, including monitoring, visit: tinyurl.com/MJV-Monarchs-Roadsides
- Mowing and Monarchs: tinyurl.com/MJV-MowingForMonarchs
- Serces Society for Invertebrate Conservation: xerces.org
- Monarch Joint Venture: monarchjointventure.org

THE MONARCH BUTTERFLY LIFE CYCLE 1 Egg 3-5 DAYS 2 Larva Caterpillar grows by molting 5 INSTARS Adult 2-5 WEEKS (BREEDING GENERATIONS); 6-9 MONTHS (OVERWINTERING GENERATION) Chrysalis 10-14 DAYS

Multiple generations of monarchs are produced over the spring and summer, with the fall generation migrating to overwintering sites. You can monitor monarchs or milkweeds; see Additional Resources above.

Clasping milkweed (A. amplexicaulis)

PLANT: Upright, unbranched, stems; smooth; 3' max. LEAVES: Opposite; oval-shaped; wavy margins; base of leaves clasp stem. SOILS/HABITAT:



Sandy; dry; grasslands, savannas, woodland edges. BLOOM: Apr-Jun; pink or green with cream, sometimes purple.



Purple milkweed (A. purpurascens)

PLANT: Upright, unbranched, stout stems; smooth; 6' max. LEAVES: Opposite; oval-shaped; smooth above with fine hairs below. SOILS/



HABITAT: Loamy to clayey; mesic; prairies, meadows, woodland edges, savannas. BLOOM: May-Jul; dark rose to purple.



Prairie milkweed (A. sullivantii)

PLANT: Upright, unbranched, stout stems; smooth; 4' max. LEAVES: Opposite; lance- to oval-shaped; very smooth. SOILS/HABITAT: Sandy



clay or loamy; mesic-moist; prairies, wet meadows. BLOOM: Jun-Aug; pink with light green or purple.



Green comet milkweed (A. viridiflora)

PLANT: Multiple unbranched, spreading or upright stems; with short hairs; 3' max. LEAVES: Opposite; lance- or oval-shaped,



edges folded upward or wavy. SOILS/HABITAT: Sandy, rocky; dry; prairies, old fields, dunes, open woods. BLOOM: Jun-Jul; light to yellowish green.

Additional milkweeds in the Great Lakes region: Asclepias exaltata, A. lanuginosa, A. quadrifolia, A. ovalifolia, A. speciosa, A. stenophylla, A. variegata.

Maps & Distribution Data:

These profiles are derived from regional floras and field guides and Woodson's The North American Species of Asclepias (1954). Most common species are abundant across the states and are found in roadsides. Less common species might not occur in all states, have a limited distribution across a state, or may be less common in roadsides. Additional species may be uncommon in roadsides, have a small distribution in a state or region, or are uncommon or rare. The range maps indicate counties where species have been observed (but may be incomplete), and were created by USDA-NRCS using the latest data from the USDA's PLANTS database (https://plants.sc.egov.usda.gov).

ACKNOWLEDGMENTS: Written by Jennifer Hopwood, Stephanie Frischie, and Karin Jokela (Xerces Society), and Alison Cariveau (Monarch Joint Venture). Reviewed by Dan Zay (Michigan NRCS). Design, header, and monarch life cycle by Sara Morris (Xerces Society). This work was conducted in the National Cooperative Highway Research Program, which is administered by the Transportation Research Board of the National Academies of Sciences, Engineering, and Medicine.

PHOTO CREDITS: Jim Fowler (A. syriaca); Krista Lundgren, USFWS / flickr (A. viridiflora); Joshua Mayer / flickr (A. hirtella); Jerry Oldenettel / flickr (A. verticillata); Tom Potterfield / flickr (A. incarnata, A. purpurascens); Paul Rothrock / SEINet (*A. amplexicaulis*); Scott Seigfreid (*A. tuberosa)*, Xerces Society / Ray Moranz (A. sullivantil). Photographs remain under the copyright of the photographer. © 2019 by The Xerces Society for Invertebrate Conservation. Xerces® is a trademark registered in the U.S. Patent and Trademark Office.