

USDA Forest Service

# URBAN FOREST CONNECTIONS

*webinar series*

Second Wednesdays | 1:00 – 2:00 pm ET

[www.fs.fed.us/research/urban-webinars](http://www.fs.fed.us/research/urban-webinars)

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# WILDLIFE CONSERVATION IN CITIES AND SUBURBS: RESEARCH, PROGRAMS, TOOLS



**Susannah Lerman**

*Research Ecologist  
USDA Forest Service &  
University of Massachusetts  
Amherst*



**David Mizejewski**

*Naturalist: Media/TV  
National Wildlife Federation*



**Naomi Edelson**

*Director, State and Federal  
Wildlife Partnerships  
National Wildlife Federation*



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# **GARDEN FOR WILDLIFE**



## **Attracting Birds, Butterflies and Other Backyard Wildlife**

**David Mizejewski**

**Naomi Edelson**

**National Wildlife Federation Naturalist**



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# GARDEN FOR WILDLIFE



National Wildlife Federation has been encouraging people to plant landscapes for wildlife since 1973.

There are two main goals of the program: helping wildlife and helping people.



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# GARDEN FOR WILDLIFE

Plants are the foundation of the food web in any ecosystem.

That includes the urban, suburban and rural ecosystem.





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90% of the insects that eat plants can develop and reproduce only on the native plants with which they share an evolutionary history.

(Forister et al. 2014)

Insects are the next critical level of the food web.







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# GARDEN FOR WILDLIFE

Native plant communities =  
healthy wildlife populations.

The act of planting for a  
purpose is the definition of  
gardening.

NWF advocates this special  
kind of gardening:

## **Gardening for Wildlife**



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Everyone loves birds and butterflies.

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But other kinds of wildlife are important and need habitat too....



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...even wildlife that might scare us...

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...or species that might be a garden nuisance...



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...and even predators.



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Gardening for wildlife connects people to nature.



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# GARDEN FOR WILDLIFE



All wildlife needs four things to survive:

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



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# FOOD FOR WILDLIFE





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# FOOD FOR WILDLIFE



Plants are the best  
food source.



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# FOOD FOR WILDLIFE





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# FOOD FOR WILDLIFE





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# FOOD FOR WILDLIFE





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# FOOD FOR WILDLIFE





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# FOOD FOR WILDLIFE



**96% of terrestrial birds rely on invertebrates to feed their young.**





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# FOOD FOR WILDLIFE





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# FOOD FOR WILDLIFE



# Birds that eat insects

**Tyrannidae** (tyrant flycatchers)  
**Laniidae** (shrikes)  
**Vireonidae** (vireos)  
**Corvidae** (crows & jays)  
**Alaudidae** (larks)  
**Hirundinidae** (swallows)  
**Paridae** (titmice)  
**Remizidae** (verdins)  
**Aegithalidae** (bushtit)  
**Sittidae** (nuthatches)  
**Certhiidae** (creepers)  
**Troglodytidae** (wrens)  
**Pycnonotidae** (bulbul)  
**Regulidae** (kinglets)  
**Sylviidae** (Old World warblers)  
**Muscicapidae** (old world flycatchers)  
**Timaliidae** (babblers)  
**Turdidae** (thrushes)  
**Mimidae** (mockingbirds & thrashers)  
**Sturnidae** (starlings) introduced  
**Prunellidae** (accentors)  
**Motacillidae** (pipits & wagtails)  
**Bombycillidae** (waxwings)  
**Ptilogonatidae** (silky-flycatcher)  
**Peucedramidae** (olive warbler)  
**Parulidae** (wood warblers)  
**Coerebidae** (bananaquits)  
**Thraupidae** (tanagers)  
**Emberizidae** (sparrows & buntings)  
**Cardinalidae** (cardinals & grosbeaks)

**Icteridae** (blackbirds & orioles)  
**Fringillidae** (finches)  
**Ploceidae** (weaver finches)  
**Passeridae** (Old World Sparrows)  
**Podicipedidae** (grebes)  
**Ardeidae** (herons)  
**Threskiornithidae** (ibises & spoonbills)  
**Anatidae** (ducks, geese & swans)  
**Accipitridae** (hawks, kites & eagles)  
**Falconidae** (falcons)  
**Phasianidae** (turkeys & grouse)  
**Odontophoridae** (new world quail)  
**Rallidae** (rails, gallinules & coots)  
**Aramidae** (limpkins)  
**Gruidae** (cranes)  
**Charadriidae** (plovers)  
**Recurvirostridae** (avocets & stilts)  
**Jacaniae** (Jacana)  
**Scolopacidae** (sandpipers & phalaropes)  
**Laridae** (gulls & terns)  
**Columbidae** (pigeons & doves)  
**Cuculidae** (cuckoos & roadrunners)  
**Tytonidae** (barn owls)  
**Strigidae** (owls)  
**Caprimulgidae** (goatsuckers)  
**Apodidae** (swifts)  
**Trochilidae** (hummingbirds)  
**Trogonidae** (trogons)  
**Alcedinidae** (kingfishers)  
**Picidae** (woodpeckers)



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# FOOD FOR WILDLIFE





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It's not just birds  
that need insects.





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# FOOD FOR WILDLIFE





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# WATER FOR WILDLIFE



All animals need water to drink or bathe.



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# WATER FOR WILDLIFE





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# WATER FOR WILDLIFE





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# COVER FOR WILDLIFE



Prey and predator  
need cover



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# COVER FOR WILDLIFE





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# COVER FOR WILDLIFE





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# COVER FOR WILDLIFE





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# COVER FOR WILDLIFE





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# COVER FOR WILDLIFE





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# PLACES TO RAISE YOUNG



Wildlife needs resources for courtship, mating, nest building, egg laying, giving birth and caring for young.



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# PLACES TO RAISE YOUNG



Wildlife use many of the same features that offer cover as places to raise their young.



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# PLACES TO RAISE YOUNG





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# PLACES TO RAISE YOUNG



Cavity nesters use holes in trees as nesting spots, but many will also use a well-placed nesting box too.



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# PLACES TO RAISE YOUNG





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# PLACES TO RAISE YOUNG



Some species have special habitat requirements for their young that are totally different than their adult phase .



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# MONARCHS IN CRISIS

Monarch populations have plummeted 90%.

**Plant  
milkweed  
and nectar  
plants!**



# SUSTAINABLE GARDENING



How you garden  
makes a  
difference.

Mimic nature and  
you'll have less of  
an impact.



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# SUSTAINABLE GARDENING





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# SUSTAINABLE GARDENING



We must keep domestic animals under control. Rely on nature for pest control.



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# SUSTAINABLE GARDENING





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# SUSTAINABLE GARDENING





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# SUSTAINABLE GARDENING





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# NATIVE PLANTS



Salal



Western Serviceberry

**Adapted to local soils**

**Adapted to regional precipitation**

**Resilient and hardy once established**

**Relationship with native wildlife**



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# NATIVE PLANTS



Oaks = 557 species of caterpillars



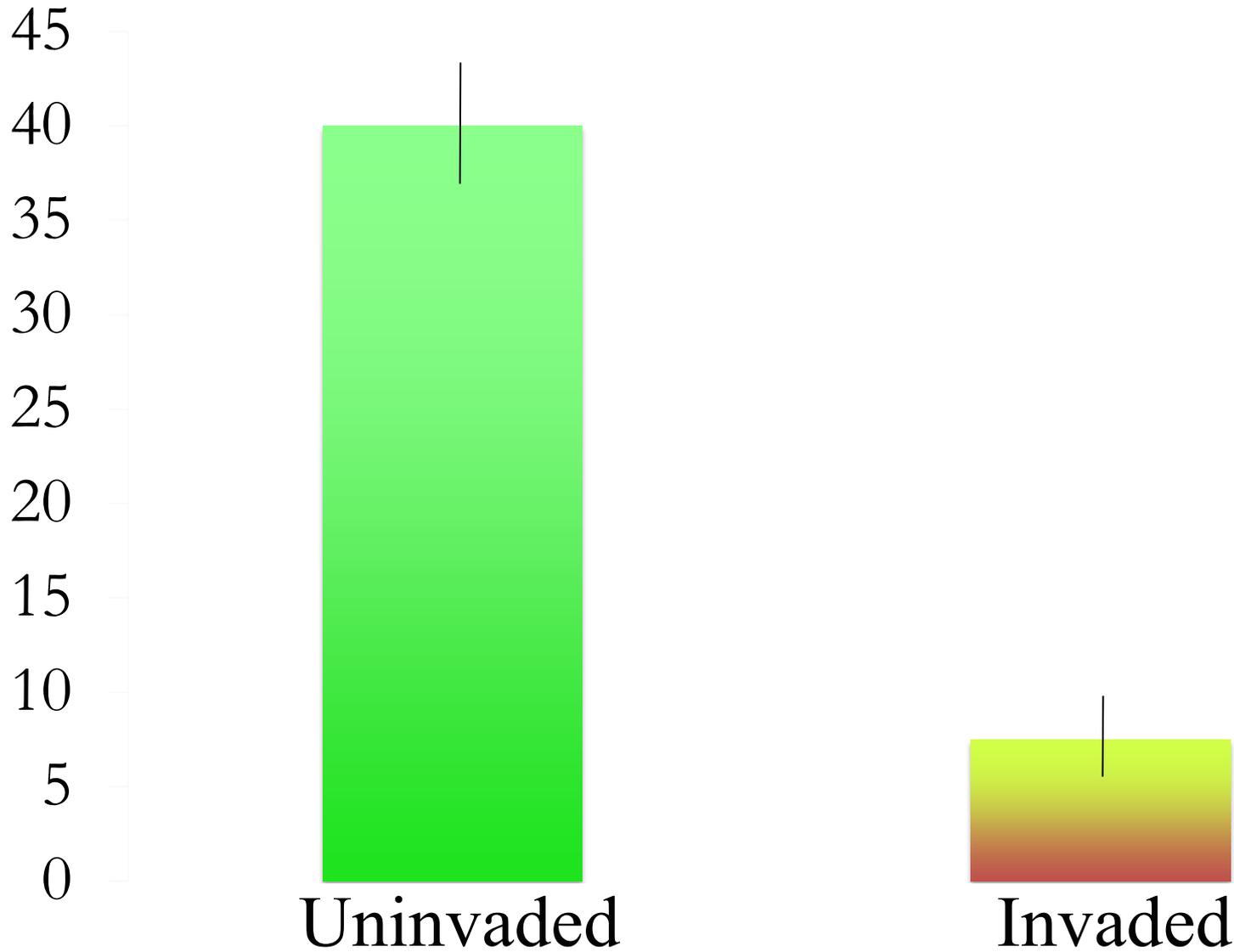
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# NATIVE PLANTS

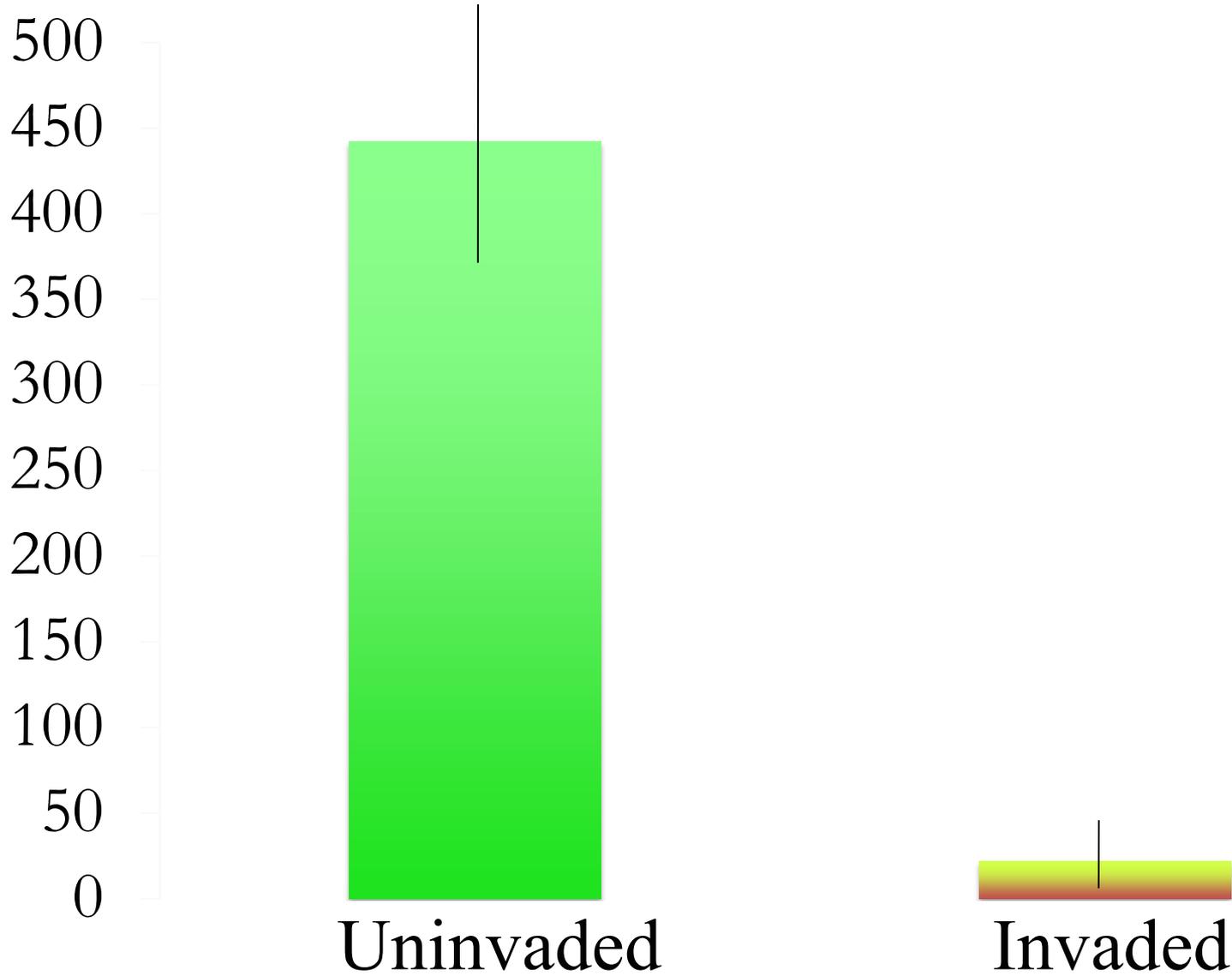


Ginkgo = 4 species of caterpillars

# Number of Species



# Abundance





## Caterpillars on July 26 2014

White oak	233 caterpillars:	15 species
Black cherry	53 caterpillars:	10 species
Burning bush	2 caterpillars:	1 species
Bradford pear	1 caterpillar:	1 species



# NATIVE PLANTS

The relationship between birds and native plants is also specialized!

Summer  
Berries

Fall  
Berries

Late Winter  
Berries

High sugar

High fat

High sugar post freeze

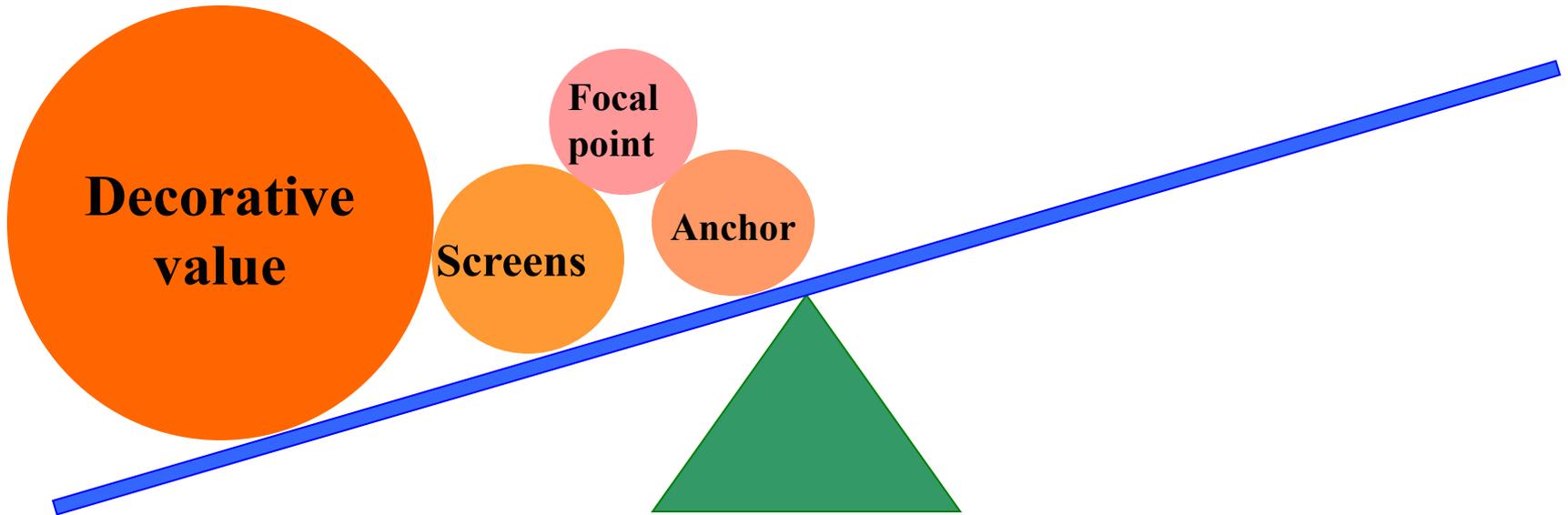
Most (all??) non-native berry producers are phenologically out of sync with the needs of our birds.

They produce high sugar berries in the fall instead of the summer

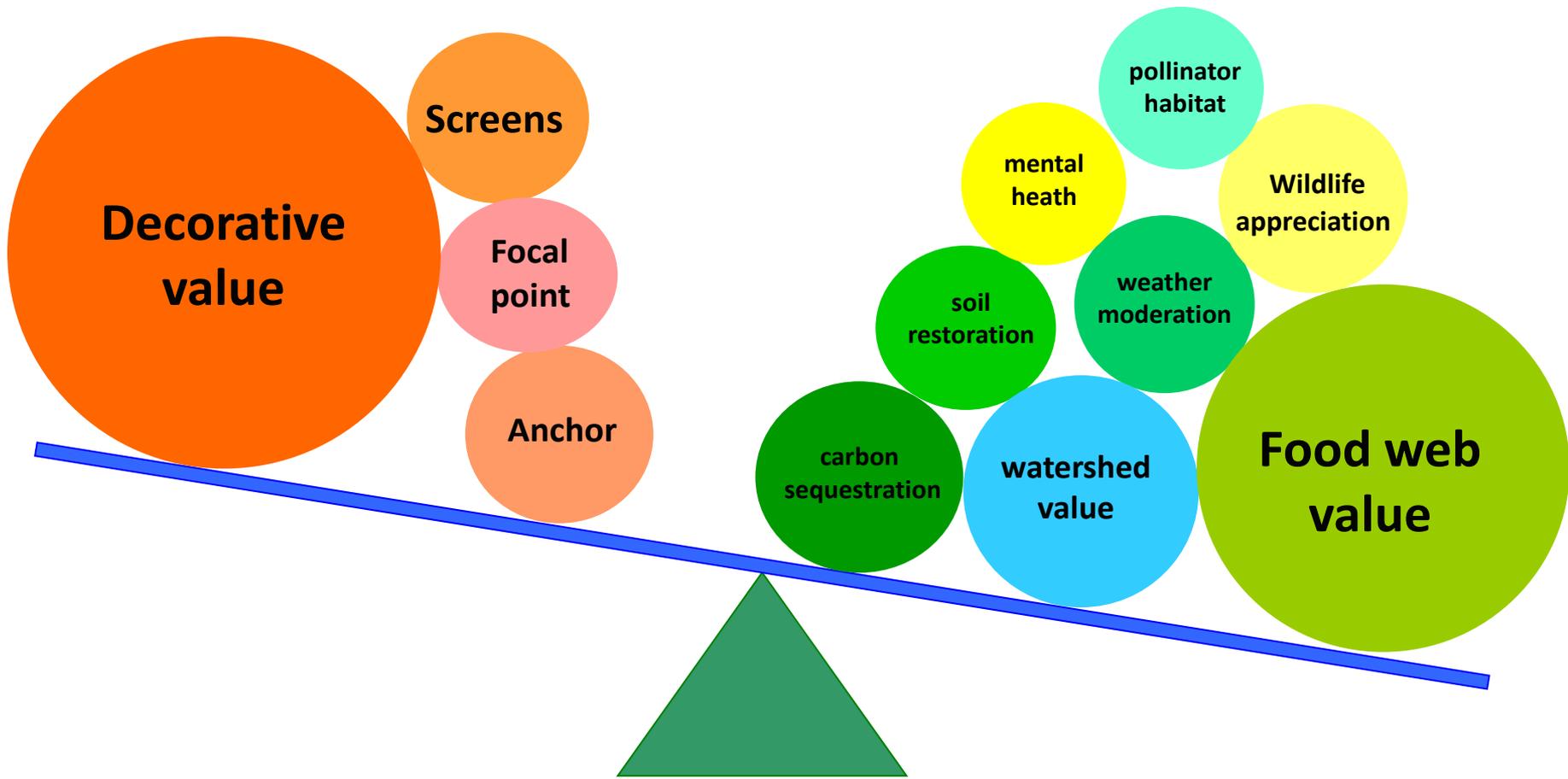


The nutritional difference between invasive exotic berries and natives is significant.

<b>Native</b>	<b>% fat</b>
<i>Myrica pennsylvanica</i>	50.3%
<i>Viburnum dentatum</i>	48.7%
<i>Lindera benzoin</i>	48.0%
<i>Cornus racemosa</i>	34.9%
<i>Parthenocisus quinquefolia</i>	23.6%
<b>Non-native</b>	
<i>Rosa multiflora</i>	0.9%
<i>Lonicera spp.</i>	0.7%
<i>Rhamnus cathartica</i>	0.5%
<i>Elaeagnus umbellata</i>	2.1%
<i>Celastrus orbiculatus</i>	2.6%



Past criteria for choosing plants for our  
landscapes



Future criteria for choosing plants for our landscapes



# SUSTAINABLE GARDENING

To share our neighborhoods with wildlife, we need to:

- Create corridors connecting natural areas
- Reduce the area now in lawn
- Begin the transition from exotic ornamentals to native ornamentals



# INVASIVE EXOTIC PLANTS



Scotch Broom  
Himalayan  
Blackberry  
Butterfly Bush  
Spurge Laurel

English Ivy  
Knotweed  
Yellow Flag  
Iris  
Fennel



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# GARDEN FOR WILDLIFE ANYWHERE



Home

Workplace

Farm

School or University

Apartment or Rooftop Garden

Park or Community Garden

Place of Worship



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# CERTIFIED WILDLIFE HABITAT

NATIONAL WILDLIFE FEDERATION

**CERTIFIED WILDLIFE Habitat™**

This certificate recognizes the establishment and maintenance of an official wildlife habitat.

This habitat is certified in the National Wildlife Federation's worldwide network of mini-refuges. Because of the owner's conscientious planning, lands coping and sustainable gardening, wildlife may find quality habitat—food, water, cover, and places to raise their young.

*David Mizeljewski*  
David Mizeljewski  
Naturalist, National Wildlife Federation  
Host, SACRAMENTO AREA Bird on Animal Planet™






# COMMUNITY WILDLIFE HABITAT

## Certified:

Alki  
Bainbridge Island  
Bellingham  
Camano Island  
Edmonds  
Fidalgo Island/Anacortes  
Lake Forest Park  
Kirkland  
Mukilteo  
Sammamish  
Shoreline  
Skagit Valley  
Surrey Downs  
Tukwila  
Whidbey Island

## Registered:

Bonney Lake  
Brier  
Burien  
Crescent Valley BMA  
Edgewood  
Friday Creek  
Mercer Island  
Newcastle  
Poulsbo  
Queen Anne  
Redmond

**Seattle area has the  
highest  
concentration of  
Community Wildlife  
Habitats in the  
country!**







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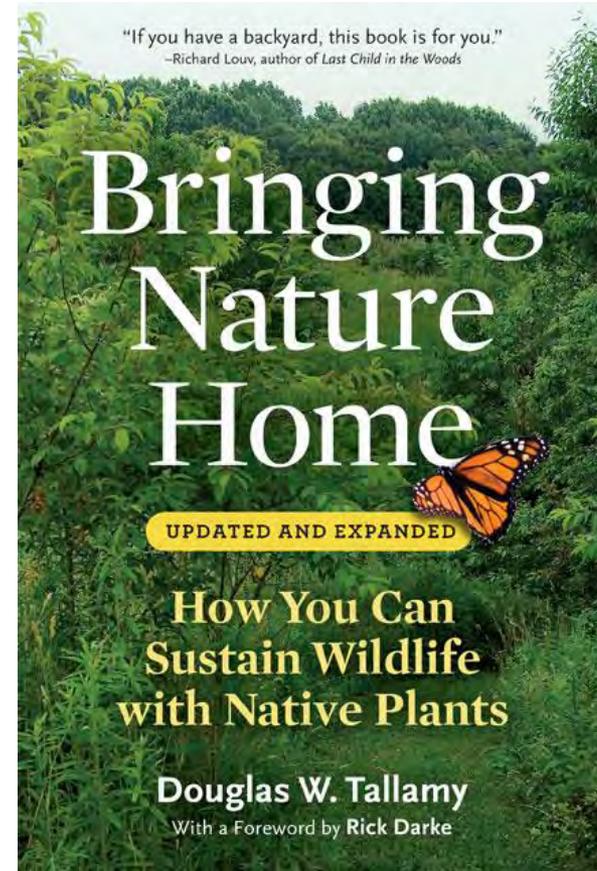
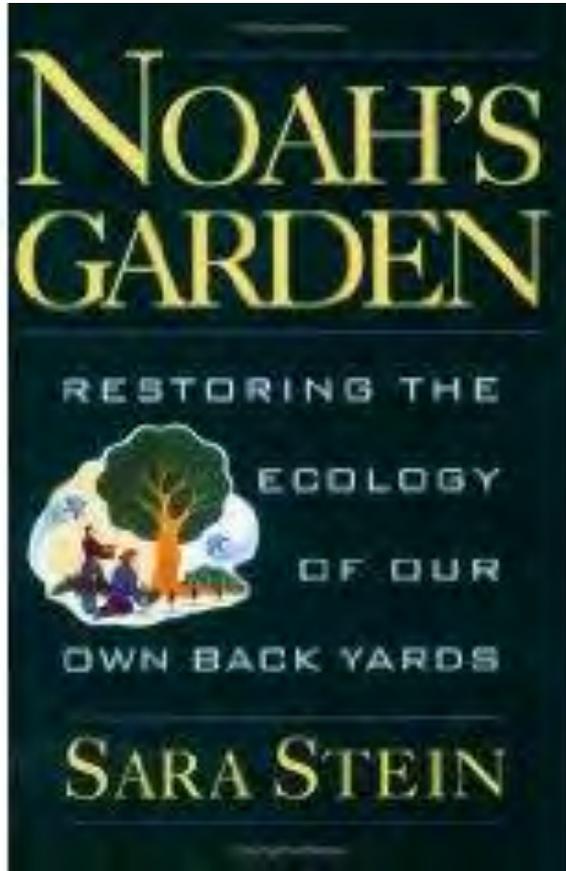
# RESOURCES





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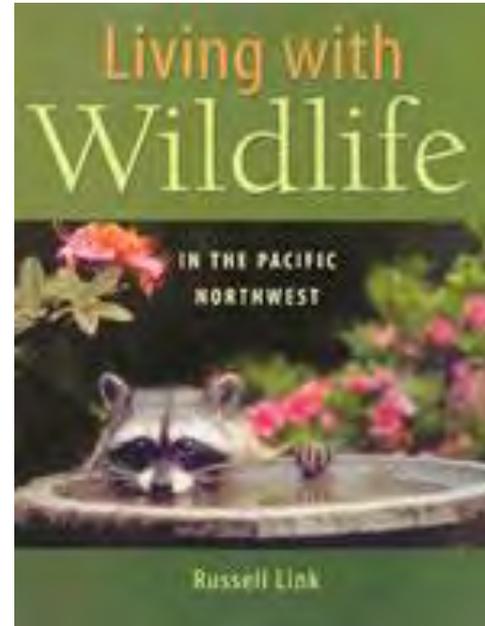
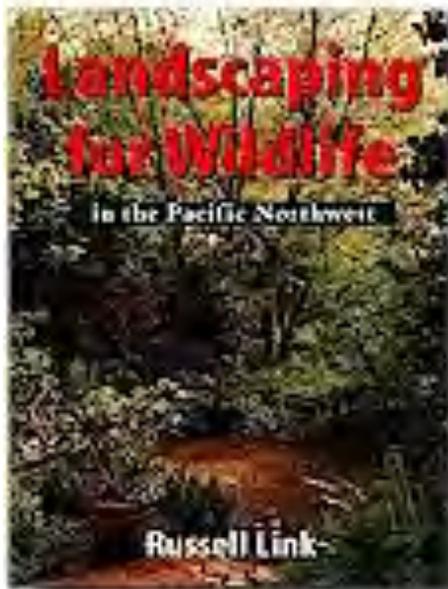
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# REGIONAL RESOURCES



**NWF Pacific Regional Center**

<http://www.nwf.org/Regional-Centers.aspx>

**Washington Native Plant Society**

<http://www.wnps.org/index.html>

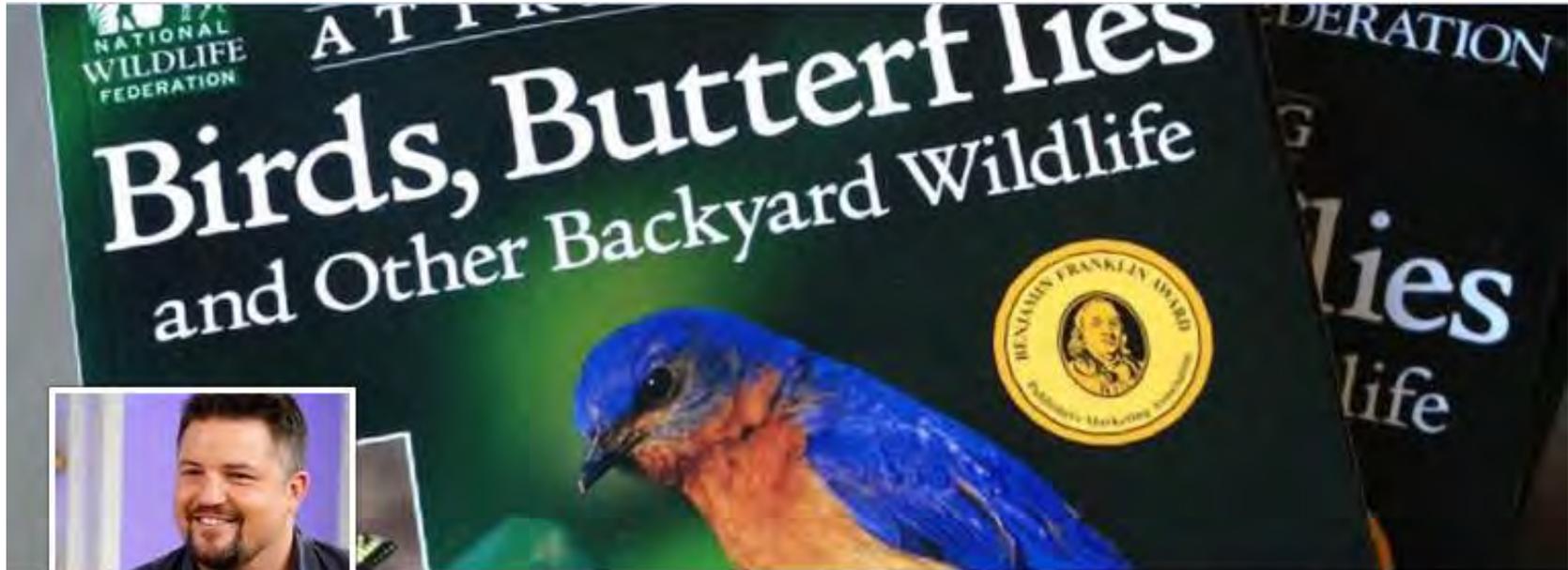
**WA Department of Fish and Wildlife**

<http://wdfw.wa.gov/wlm/backyard/>



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**Naturalist David  
Mizejewski**

3,071 likes · 305 talking about this

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Arts & Entertainment · Environmental Conservation · [Add A Category](#)

This is the official fan page for National Wildlife Federation Naturalist and Media Personality David Mizejewski. If you love wildlife and nature, click "like" to get links to David's latest TV and radio appearances, videos and blog posts.



👍 3,071



About

Photos

Likes



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# RESOURCES



## Certified Wildlife Habitat

38,392 likes · 6,212 talking about this

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Message



### Non-Profit Organization

From backyards and apartment balconies to schools, businesses and farms, no garden is too big or small to turn into a wildlife-friendly habitat. <http://bit.ly/145ekIm>

About – Suggest an Edit



Photos

👍 38,392

Likes



Events



Email Sign Up



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# RESOURCES

## Garden For Wildlife

MAKING WILDLIFE HABITAT AT HOME

HOME

CREATE

CERTIFY

SHARE & CONNECT

COMMUNITY HABITATS

SCHOOLYARD HABITATS

GARDENING TIPS

LANDSCAPERS

Gardening Tips

National Wildlife  
Gardening Channel

Gardening Tipsheets

*Make a  
Difference*

▶ Donate

▶ Shop

▶ Renew

▶ Adopt

▶ Leave a Legacy

### Latest Blogs

Habitat for Screech  
Owls [2/05/14]

Monarchs Face New  
Threats, Losses Along

### Gardening Tips

Share

24

Tweet

2

Pin It

67

Forward

#### Attract It!

- Bird Feeding 101
- Attracting Birds
- Bird Watching Tips
- Attracting Butterflies
- Attracting Amphibians
- Attracting Dragonflies
- Attracting Hummingbirds
- Attracting Wildlife With Dead Trees



#### Build It!

- Build a Bat House
- Build a Bee House
- Build a Nesting Box
- Build a Gourd Bird House
- Build a Backyard Pond
- Create a Brush Shelter

JOIN NWF ON:



GET OUR E-NEWSLETTER



Certified Wildlife Habitat

Like

You like this.

### Create a Wildlife Habitat

Step 1 - Provide Food

Step 2 - Supply Water

Step 3 - Create Cover

Step 4 - Give Wildlife a Place to  
Raise Young

CERTIFY NOW



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# NATIVE PLANTS

ABOUT

13108

LOGOUT

SEARCH



GROWWILD



PLANT LIFE



WILD LIFE



MY GARDEN

Justin Meissen

Liven up your garden.

FIND PLANT LIFE



Jacobi Enos



FIND WILD LIFE



VIEW MY GARDEN



Mary Crocarno





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# RESOURCES



NATIVE PLANTS

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American Beauties

Native Plants

Native Plant Finder

Why Use Native Plants?

Landscape Plans

Resource Center



Where to Buy  
American Beauties  
Native Plants

Enter your zip code 

Quick Plant Search

Keyword  



## Native Plants Great For:



Bird  
Gardens



Dry Shade  
Gardens



Butterfly  
Gardens



Moist Sun  
Gardens

## Featured Plant

*Asclepias tuberosa*



Hello Yellow Butterfly Weed produces many golden yellow, flat-topped flower clusters in early June.

[Read More >](#)

## Native Plants

American beauties takes the guess work out of gardening with native plants

American Beauties Native Plants® is a ground breaking program that offers proven solutions for your landscape while creating beautiful garden habitats for desirable wildlife. American Beauties take the guess work out of native plant gardening by providing plants and landscape solutions that fit your site.

Find the best native plants all dressed up in distinctively branded pots along with fact-filled tags and instructive handouts, at your local Garden Center. By purchasing American Beauties Native Plants® you will be supporting the National Wildlife Federation's efforts to inspire Americans to protect wildlife for our children's future.



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# RESOURCES

## Garden For Wildlife

MAKING WILDLIFE HABITAT AT HOME



February 11, 2014

DONATE NOW | E-NEWS SIGN UP | SHOP NWF



© Carla Brown

### How to Enjoy Your Wildlife Garden in 2014

Our New Year's Resolution is to get outdoors in 2014.

Here are 20 inspiring ideas to help keep the resolution.



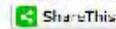
### Hire a Certified Wildlife Landscaper

Need help creating a fantastic wildlife garden?

We've got a new program just for you.



© Dianne Keller



Got Wildlife?  
Turn your yard into a  
**CERTIFIED WILDLIFE HABITAT!**

**Certify Today!** >

1/30/14



© Jennifer Peaslee

### A Wildlife Garden in Indiana

Use the Indiana Women, you might be surprised by our garden.

Get fact sheets, Garden Plan, Sign up for our garden experience and tips.



## Garden for Wildlife newsletter

- Practical Tips
- NWF expertise
- Wildlife and plant focus
- Informed by what participants want

[www.nwf.org/garden](http://www.nwf.org/garden)



*Inspiring  
Americans to  
Protect  
Wildlife for our  
Children's  
Future.*

**[www.nwf.org/garden](http://www.nwf.org/garden)**