

# Resident Ecological Education

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A challenge for many municipalities engaged in sustainability work is maximizing impact with available resources. One effective approach is to increase resident engagement: getting residents to both pursue projects on their own and volunteer their time with municipal projects. This increased involvement will mean that more projects and more ambitious projects are within reach. To help Meridian Township with this goal, CLC Fellow Sam Fleckenstein created two educational campaigns: one about plants native to the township and one about keeping lakes and shorelines healthy.

These campaigns are built around actions residents can take and are delivered as three pieces of monthly content: a printable pamphlet; a social media post; and an article for the Green Gazette, a local ecological newsletter. The content of these educational campaigns is directly applicable to communities near Meridian Township and is designed to be easily adapted for different locations.

Below are all of the pamphlets and Facebook posts created for these campaigns. Templates are available in Canva for both the [Facebook images](#) and [pamphlets](#), but before replicating them, be sure to make a copy in Canva to work off of. Please visit this [Google Site](#) (Content Creation tab) for more complete information on how to adapt these templates for other communities. To extend the existing campaigns to other topics, this [Content Notes](#) spreadsheet can be used to identify new information sources and potential partners. To plan the delivery of this content, the [Editorial Calendar](#), initially created for Meridian Township, may be useful for scheduling seasonally relevant content.

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# HARMONY WITH WILDLIFE



How native wildflowers can support local critters



© R.W. Smith  
Foxglove Beard Tongue

## WANT TO ATTRACT MORE WILDLIFE TO YOUR YARD?

Try planting native wildflowers!  
Hummingbirds and bees love **Foxglove Beard Tongue** and **Marsh Blazing Star**.

Native wildflowers can provide a wide variety of food for wildlife. Beneficial insects are drawn to the wildflowers, becoming protein-packed treats for birds. Many native plants also produce delicious seeds or provide nectar for hummingbirds.

## SOME THINGS TO CONSIDER WHEN PICKING YOUR PLANTS

- **Deer resistance:** If you have lots of deer in your area, try plants the deer won't be drawn to.
- **Butterfly attraction:** Some species are especially choosy about their food, so find flowers they can't resist.
- **Soil conditions:** Make sure any plants you pick will do well in your soil - sandy or clay; wet or well-drained; etc.



© R. Schipper  
Marsh Blazing Star



Wild Ones' Lansing chapter has much more: [bit.ly/43aZaUB](https://bit.ly/43aZaUB)

For more on plants native to the region, see *Planting a Native Meridian*: [bit.ly/430uFRk](https://bit.ly/430uFRk)



# HARMONY WITH WILDLIFE



Foxglove Beard Tongue



Marsh Blazing Star

Create a vibrant wildlife habitat for birds, bees and more by embracing the beauty of native flowers like **Marsh Blazing Star** and **Foxglove Beard Tongue!**

# INVASIVE SPECIES



Taking action to protect native ecosystems



Invasive Phragmites  
Photo Credit: E. Campbell

## INVASIVE IMPACT

Invasive plants are aggressive species that out-compete natives, leaving wildlife without the food and shelter they rely on. Invasive species can also pose problems for humans by clogging waterways or producing toxic chemicals.

Lansing's Wild Ones chapter recommends three management steps: **identify**, **remove**, **prevent**. For more, follow the link below!

## HOW TO KEEP INVASIVES FROM SPREADING

- **Clean:** Remove soil from your shoes before leaving nature areas to prevent seeds from hitching a ride.
- **Pick carefully:** Many garden centers still sell invasive plants, so purchase with care.
- **Talk:** Share your knowledge with friends and neighbors about the dangers of invasives, and what they can do to help.



Oriental bittersweet  
Photo Credit: E. Campbell



Wild Ones' Lansing chapter has much more on invasive species: [bit.ly/3JMZvGr](https://bit.ly/3JMZvGr)

For more on plants native to the region, see Planting a Native Meridian: [bit.ly/430uFRk](https://bit.ly/430uFRk)



# INVASIVE SPECIES



Invasive phragmites  
*Photo Credit: E. Campbell*



Oriental bittersweet  
*Photo Credit: E. Campbell*

**Identify, remove, prevent** - three steps to prevent invasive species from outcompeting and pushing out natives!

# LAWNS & HOME LANDSCAPES



Diversify your yard with  
native plants

## CREATING YOUR OWN NATIVE PLANT GARDEN



Low maintenance native garden

Follow the guidance in [Planting a Native Meridian](#) to find plants that will thrive in your landscape: sunny or shady, wet or dry, deer prone or deer free.

Then talk to a greenhouse like **Designs By Nature, LLC** to pick out your plants. You can choose **wildflowers** to attract pollinators, deep rooted **grasses** to manage storm water and much more!

## BENEFITS OF NATIVE GARDENS

- **Cleaner groundwater:** Deep root systems help filter contaminants from groundwater.
- **Increase biodiversity:** Native plants can increase biodiversity, improving the resiliency of the local ecosystem.
- **Support wildlife:** Many native animals depend on native plants for their survival.



Native wetland buffer



Designs By Nature, LLC is a local source for native plants: [bit.ly/3PRHU3Z](https://bit.ly/3PRHU3Z)

For more on plants native to the region, see [Planting a Native Meridian](#): [bit.ly/430uFRk](https://bit.ly/430uFRk)



# LAWNS & HOME LANDSCAPES



Low maintenance native garden



Native wetland buffer

Unlock the potential of native plants in your landscape! Talk to local **native plant nurseries**, to learn about wildflowers, grasses, and more!



# NATURAL SHORELINES



Waterfront plants and healthy shorelines



Water smartweed  
Photo credit: R. Clark on Flickr

## AQUATIC PLANTS GROW IN THREE LOCATIONS

- **Emergent plants** extend above the water and do best in water 0-18 inches deep.
- **Submergent plants** grow totally submerged and do best in water 1.5 - 15 feet deep.
- **Floating-leaf plants** have leaves that float on top of the water and do best in water 1.5 - 15 feet deep.

## PLANTS TO TRANSFORM YOUR SHORELINE

Native plants offer a shoreline many benefits! They reduce erosion by absorbing energy from waves. Their deep roots hold soil in place and filter pollutants, and they provide wildlife with habitat.

Changing your shoreline? Ensure that you're planting where **plants can thrive**; consider **replacing lawn** with native options; and **add logs** to protect young plants.



© G. Vaclavek  
White turtlehead

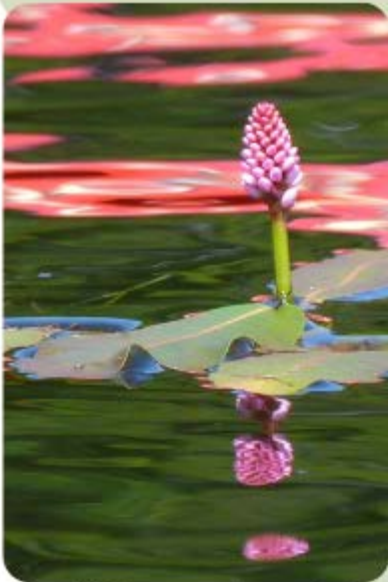


Learn more about waterfront plants from the MSU Extension: [bit.ly/3ObSSQA](https://bit.ly/3ObSSQA)

For more on plants native to the region, see Planting a Native Meridian: [bit.ly/430uFRk](https://bit.ly/430uFRk)



# NATURAL SHORELINES



Water smartweed

Photo credit: R. Clark on Flickr



White turtlehead

Harness the power of native plants for a thriving shoreline!  
**Reduce erosion, filter pollutants, and create wildlife havens.**

# POLLINATORS



Creating a haven in  
your yard



© M. Demmon  
Wild lupine blooms in April

## WANT TO DO MORE IN YOUR YARD?

- **Chemical use:** Apply fertilizer and pesticides with care, avoiding pollinator plants and habitats.
- **Bee nesting:** Leave patches of untouched soil in low-traffic areas so ground-nesting bees can build their homes.
- **Leave "weeds":** A few dandelions and clovers in a lawn can go a long way in making the area hospitable for pollinators.

## GIVING POLLINATORS A LEG UP

Many delicious fruits, vegetables, nuts and seeds require pollinators, but their numbers are declining. Here's how you can help!

Incorporate a range of **diverse native plants** in your yard. Pick plants that bloom in the **early spring** and **late fall** when flowers are scarce. Look for plants with a **variety of bloom sizes** and shapes to attract different kinds of pollinators.



New England aster blooms  
in October

*Photo Credit: E. Campbell*



MSU Extension's Smart Gardening series  
has more: [bit.ly/44lr6Aq](https://bit.ly/44lr6Aq)

For more on plants native to the region, see  
Planting a Native Meridian: [bit.ly/430uFRk](https://bit.ly/430uFRk)



# POLLINATORS



New England Aster  
Blooms in October  
*Photo Credit: E. Campbell*



© M. Demmon  
Wild Lupine  
Blooms in April

Be a pollinator hero!  
Cultivate a vibrant yard  
with **native plants**  
blooming in **every**  
**season** to entice many  
different pollinators.

# RAIN GARDENS



Harmony between rain,  
plants and wildlife



A thriving rain garden  
*Photo Credit: S. Fleckenstein*

## MANY BENEFITS OF RAIN GARDENS

- **Mow ruts:** Soaking up water in the low spots of your yard prevents ruts from forming while mowing.
- **Clean groundwater:** Rain gardens catch fertilizer, pesticides, motor oil and more before it gets into waterways and aquifers.
- **Fewer mosquitos:** Mosquitos love standing water, so by soaking rain up, rain gardens prevent them from breeding.



For more on rain gardens, visit the Clinton River Watershed Council: [bit.ly/44U8UnJ](https://bit.ly/44U8UnJ)

## NATURE'S RAINBARRELS

When the sky opens, the rain needs somewhere to go. Instead of pooling or running into the street, a rain garden turns it into a beautiful bed of native plants!

When choosing plants, look for: **different bloom times** for a long blooming season; **diverse heights and shapes** to give your garden depth; a **mix of plant types** to keep each other in balance.



Rain garden expansion  
*Photo Credit: College of DuPage Horticulture Program on Flickr*

For more on plants native to the region, see Planting a Native Meridian: [bit.ly/430uFRk](https://bit.ly/430uFRk)



# RAIN GARDENS



Rain gardens bloom with purpose! Embrace native plants to **reduce mow ruts, clean groundwater, and create a mosquito-free haven.**



Rain garden expansion  
*Photo Credit: College of DuPage Horticulture Program on Flickr*



A thriving rain garden  
*Photo Credit: S. Fleckenstein*

# HARMONY WITH WILDLIFE

Helping local shoreline  
critters thrive



## STEWARDED SHORELINES FOR WILDLIFE



Turtle sunning on a log  
*Photo Credit: Watts on Flickr*

All kinds of animals rely on natural vegetation in lakes and along shorelines: waterfowl find food and shelter, fish eat insects that live in mucky bottoms, turtles rest on trees that have fallen into the water.

How can you help? If you own shoreline, **leave existing native plants** and consider **planting more!** A variety of vegetation will provide wildlife with the habitat to thrive.

## OTHER BENEFITS OF NATURAL VEGETATION

- **Goose repellent:** Geese love the safety of wide open lawns, so some taller vegetation will help keep them away.
- **Erosion control:** The deep roots of native plants help keep soil where it is, preserving habitat for years to come.
- **Help threatened species:** Many threatened species rely on native plants to survive, so lend them a hand with what you plant.



Common loon on vegetation  
*Photo Credit: M. Master on Flickr*



Visit Michigan Natural Shoreline  
Partnership to learn more: [bit.ly/43hi4cG](https://bit.ly/43hi4cG)

For more on plants native to the region, see  
Planting a Native Meridian: [bit.ly/430uFRk](https://bit.ly/430uFRk)



# HARMONY WITH WILDLIFE



Turtle sunning on a log  
*Photo Credit: Watts on Flickr*



Marsh Blazing Flower  
*Photo Credit: M. Master on Flickr*

Want to make a difference for native wildlife? If you own a shoreline, add **native plants** and leave **downed trees** in the water to provide a haven for aquatic animals!



# INVASIVE SPECIES



Taking action to protect native ecosystems



Invasive zebra mussels  
Photo Credit: T. Britt on Flickr

## HOW CAN YOU HELP MICHIGAN'S LAKES AND SHORELINES THRIVE?

Invasive species spread quickly and out-compete native species, throwing ecosystems out of balance.

Prevent the spread of invasive species by **thoroughly cleaning** your boats, canoes, and kayaks after each use, and being careful about **not releasing animals** into new habitats. This includes everything from fresh caught carp to pet goldfish!

## HOW TO KEEP INVASIVES FROM SPREADING

*A Michigan Boater's Guide to Selected Invasive Aquatic Plants* from MSU Extension is a great tool for identification and reporting. To help monitor invasive species, you can:

- **Learn** what species are invasive.
- **Identify** them in the wild.
- **Report** your sightings.



Careful boat cleaning  
Photo Credit: Adirondack Watershed Institute on Flickr



MSU's indispensable guidebook can be found here: [bit.ly/44wFE6f](https://bit.ly/44wFE6f)

For more on plants native to the region, see *Planting a Native Meridian*: [bit.ly/430uFRk](https://bit.ly/430uFRk)



# INVASIVE SPECIES



Careful boat cleaning  
Photo Credit: Adirondack  
Watershed Institute on Flickr



Invasive zebra mussels  
Photo Credit: T. Britt on Flickr

Prevent the spread of aquatic invasive species with three simple steps:

- **Learn** what species are invasive
- **Identify** in the wild
- **Report** any sightings

# LAWNS & HOME LANDSCAPES



The surprisingly long reach of fertilizer

## FERTILIZER: GOOD FOR LAWNS, BAD FOR WATERSHEDS



Harmful algal bloom  
*Photo Credit: N. Souza on Flickr*

Fertilizer can keep your lawn lush, but did you know that it can harm local watersheds? When phosphorus from fertilizer gets into waterways, harmful algal blooms can occur, absorbing all the oxygen in the water and increasing toxicity.

To keep watersheds healthy, go **phosphorus free**, only apply the **amount the bag calls for**, and stay at least **20 feet from streams, shorelines and drains**.

## OTHER WAYS TO HELP PREVENT FERTILIZER RUNOFF

- **Sweep up:** Move excess fertilizer and grass clippings back onto your lawn to prevent them from washing into storm drains.
- **Mow high:** Taller grass has deeper, healthier roots, so keep your grass at least three inches tall.
- **Choose natives:** Native plants take less work, water, and fertilizer to keep them looking beautiful.



Grass clippings  
*Photo Credit: Dan4th Nicholas on Flickr*



Greater Lansing Regional Committee for Stormwater Management has more!  
[bit.ly/3JSs9py](https://bit.ly/3JSs9py)

For more on plants native to the region, see Planting a Native Meridian: [bit.ly/430uFRk](https://bit.ly/430uFRk)



# LAWNS & HOME LANDSCAPES



Harmful algal bloom  
*Photo Credit: N. Souza on Flickr*



Grass clippings  
*Photo Credit: Dan4th Nicholas on Flickr*

Protect your watershed with careful lawn maintenance! Choose fertilizer **without phosphorus** and closely **read pesticide labels.**

# NATURAL SHORELINES



Vital for maintaining healthy waters



Lake Lansing shoreline restoration  
Photo Credit: Meridian Township on Flickr

## HELPING WILDLIFE THRIVE

Natural shorelines are essential for fish and other shoreline wildlife. They provide places to hide from predators, insects and other invertebrates for food, and spawning areas.

If you own shoreline, you can help by **minimizing sandy beach** size, opting for **sloped, vegetated shoreline** instead of seawalls, and by **preserving native shoreline vegetation!**

## OTHER BENEFITS OF NATURAL SHORELINES

- **Fewer geese:** Geese like open lawns and can't see well enough over taller plants to feel safe.
- **Filter runoff:** Native plants have deep roots that filter pollutants from storm water.
- **Erosion control:** Natural shorelines absorb waves before they can strike the shore.



Northern pike in vegetation  
Photo Credit: R. Hagerty, USFWS



Visit Michigan Natural Shoreline Partnership for more: [bit.ly/3XLSceH](https://bit.ly/3XLSceH)

For more on plants native to the region, see Planting a Native Meridian: [bit.ly/430uFRk](https://bit.ly/430uFRk)



# NATURAL SHORELINES



Lake Lansing shoreline restoration  
*Photo Credit: Meridian Township on Flickr*



Northern Pike in vegetation  
*Photo Credit: R. Hagerty, USFWS*

Healthy waters need  
natural shorelines!  
**Shelter for wildlife, food  
for fish, and nature's  
shield against erosion.**

# POLLINATORS



## Butterflies and the shoreline



Swamp milkweed  
*Photo Credit: E. Campbell*

### MORE BUTTERFLY FAVORITES

Beyond milkweed, butterflies love a variety of native plants:

- Joe-Pye weed
- Cardinal flower
- Common boneset

### MILKWEED AND MONARCHS

Bees aren't the only pollinators around, butterflies also play an essential role. With declining habitats worldwide, monarchs could use some help.

Monarchs lay their eggs on milkweed, which their caterpillars then eat. There are many native species of milkweed in Michigan that thrive near water: swamp milkweed, butterfly milkweed and common milkweed, to name a few.



Monarch caterpillar  
*Photo Credit: K. Schulz  
on Flickr*



Michigan Natural Shoreline Partnership  
has more on pollinator friendly plants:  
[bit.ly/3ryBgp9](http://bit.ly/3ryBgp9)

For more on plants native to the region, see  
Planting a Native Meridian: [bit.ly/430uFRk](http://bit.ly/430uFRk)



# POLLINATORS



Butterflies are in need!  
Beautify shorelines with  
**native milkweed species**  
to **support monarch** on  
their long migrations.



Monarch caterpillar  
*Photo Credit: K. Schulz on Flickr*



Swamp Milkweed  
*Photo Credit: E.  
Campbell*



# RAIN GARDENS



Safeguarding waterways  
with native plants



Heavy rain on impervious surfaces  
Photo Credit: M. Spiske on RawPixel

## THE POWER OF RAINGARDENS

As rain runs off roofs and paved surfaces, it picks up pollutants like fertilizer, pesticides, motor oil, posing a danger for the local lakes and shorelines that the rain washes into.

But rain gardens can help! They offer benefits like **filtering** out these pollutants, **slowing runoff** flow, and increasing the amount of rainwater reaching **watersheds**.

## CHOOSING PLANTS FOR A RAIN GARDEN

- **Right conditions:** Ensure the plants you choose will do well in your soil, sun, and moisture conditions.
- **Choose native:** Native plants are well adapted to thriving in local conditions.
- **Sized properly:** Be mindful of how large plants will grow and how aggressively they'll spread.



Downspout entering a rain garden  
Photo Credit: B. Ash on Wikipedia



Our neighbors in Washtenaw County have more on rain gardens: [bit.ly/3pZ7CJ2](https://bit.ly/3pZ7CJ2)

For more on plants native to the region, see Planting a Native Meridian: [bit.ly/430uFRk](https://bit.ly/430uFRk)



# RAIN GARDENS



Heavy rain on impervious surfaces  
*Photo Credit: M. Spiske on RawPixel*



Downspout entering a rain garden  
*Photo Credit: B. Ash on Wikipedia*

Raingardens, our aquatic allies! With native plants, they **tackle pollution**, **control runoff**, and **protect our watersheds**.