



Save Maumee Grassroots Organization Riparian Buffer Initiative

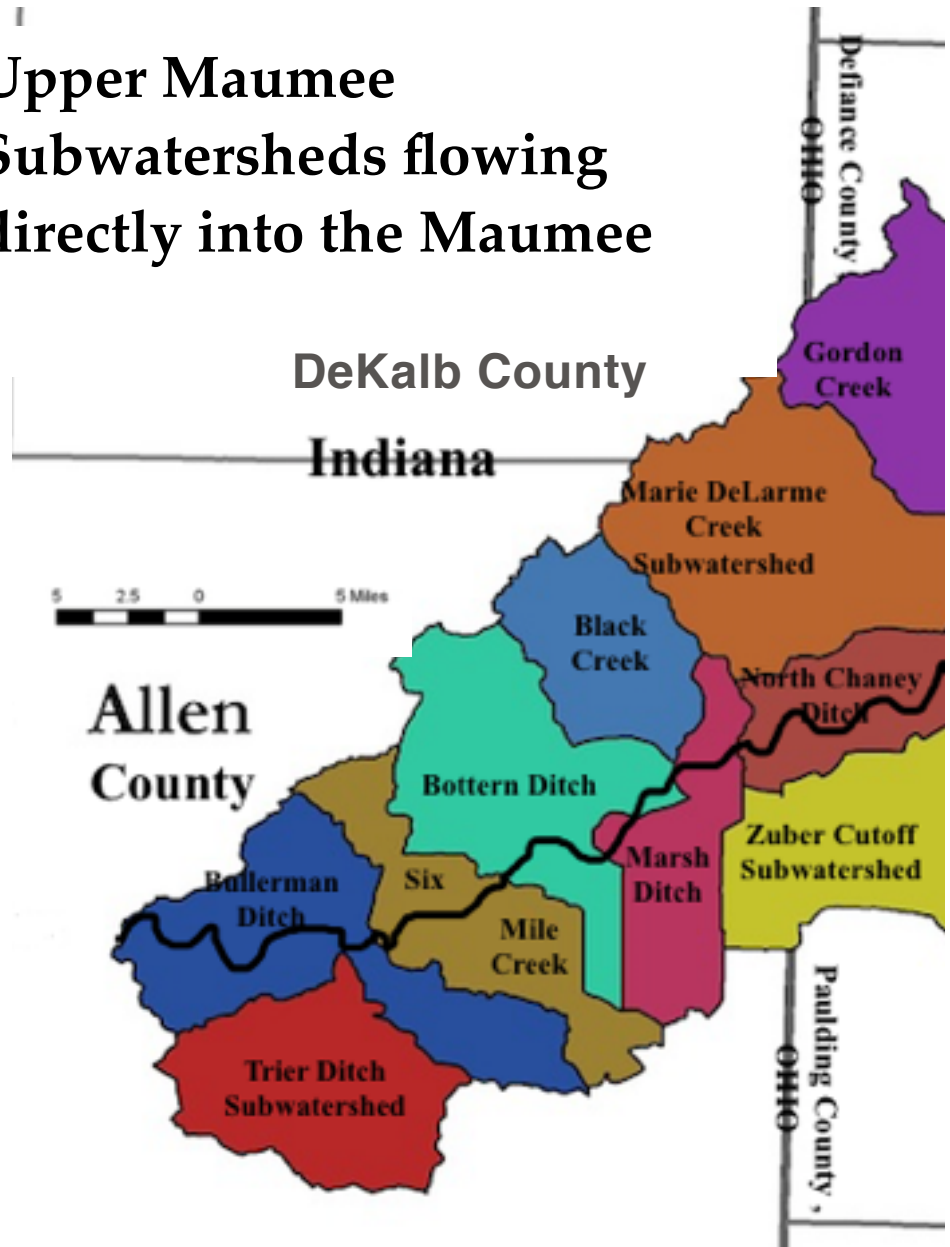
Revegetating ditches, to make them streams once again.

Our three project areas are **within the most critical areas** of the Upper Maumee River. **Bullerman Ditch, Six-Mile Creek and Trier Ditch** remain on the federal 303 (d) list of impaired waterways, as reported by IDEM.

You are part of the solution.

Our locations for the *Riparian Buffer Initiative* are on “violent” streams that are *flashy*. The water will rise quickly when it rains and then drop quickly to average stream-height after a few days. When the trees are able to withstand the streams’ velocity as the water rises, it shows our restoration efforts are working. Save Maumee reforestation efforts are looking for you to help remove invasive plant life and replace them with native trees and shrubs!

Upper Maumee Subwatersheds flowing directly into the Maumee



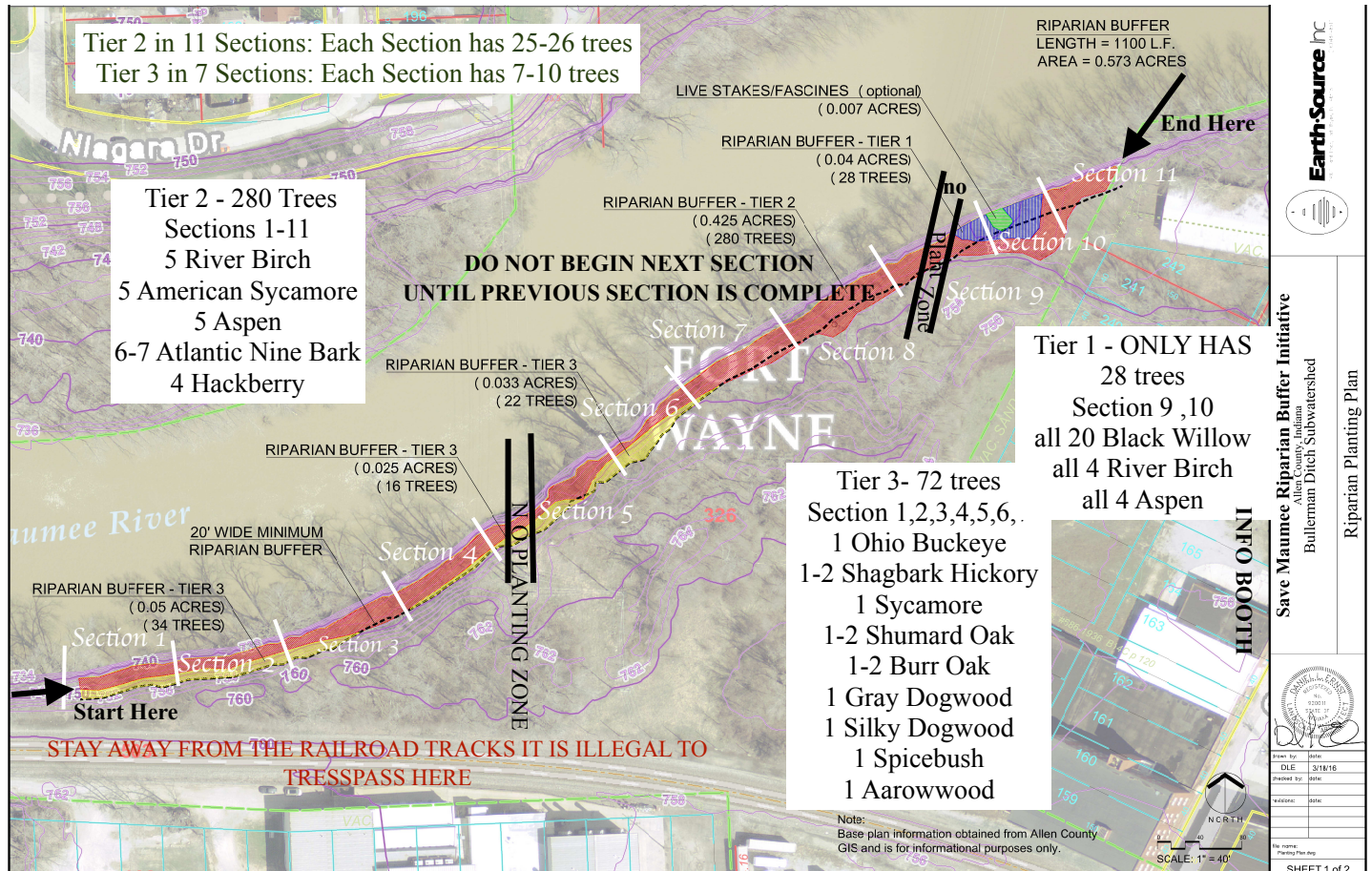
Research for *Save Maumee's Riparian Buffer Initiative* was conducted in cooperation with the USDA Forest Service through Great Lakes Restoration Initiative (GLRI) federal funding.

Grant recipients of the USDA Forest Service have responsibilities to conduct their programs according to USDA's nondiscrimination policy. Save Maumee and the USDA are equal opportunity providers, employers, and lenders.

April 17, 2016 installation COMPLETE
Bullerman Ditch Subwatershed Project Area
380 Trees installed, including 14 tree species



Installation of over 1,000 linear feet of riparian buffer, with a width no less than 25 feet, yields approximately .573 acre of additional forest along one of the (three) most critical areas of the Upper Maumee River's sub watersheds, due to lack of riparian buffers, urban land-use, CSO's and septic tank failures.



- Adding 380 trees will capture 22,440 gallons of water / year to reduce flooding elsewhere
 - Sediment load reduction to yield 190 tons of soil retained / year
 - Nitrogen load reduction to yield 320 pounds / year
 - Phosphorus load reduction to yield 320 pounds / year
 - over 700 volunteer hours were logged by over 268 volunteers for this site
- *Preparation of site included removal of over 800 Asian Honeysuckle bushes



Plant Six-Mile Creek Subwatershed 2016 JOIN US AT THIS SITE

460 trees on location: 10930 Stellhorn Rd. New Haven, IN 46774

Installation of over 1,200 linear feet of riparian buffer, with a width no less than 25 feet, yields approximately .68 acre of additional forest along one of the (three) most degraded sub-watersheds to the Upper Maumee River. This is a priority area due to lack of riverbank buffers, urban land-use, impaired biotic communities, PCB's, CSO's, septic tank failures, DRP, sediment and exceeding Total Suspended Solids 100% of the time. *TSS is soil and all pollutants carried with that sediment.



2 Day Invasive Removal
4pm-9pm
Thursday July 21
&
Friday July 22

3 Day Tree Planting
Friday Oct. 21
&
Saturday Oct. 22
&
Sunday Oct. 23

**ALL EVENTS ARE
RAIN OR SHINE**

- Adding 460 trees will capture 27,140 gallons of water year to reduce flooding elsewhere
- Sediment load reduction to yield 216 tons of soil retained / year
- Nitrogen load reduction to yield 384 pounds / year
- Phosphorus load reduction to yield 228 pounds / year
- Gain resident volunteer participation in reforestation efforts

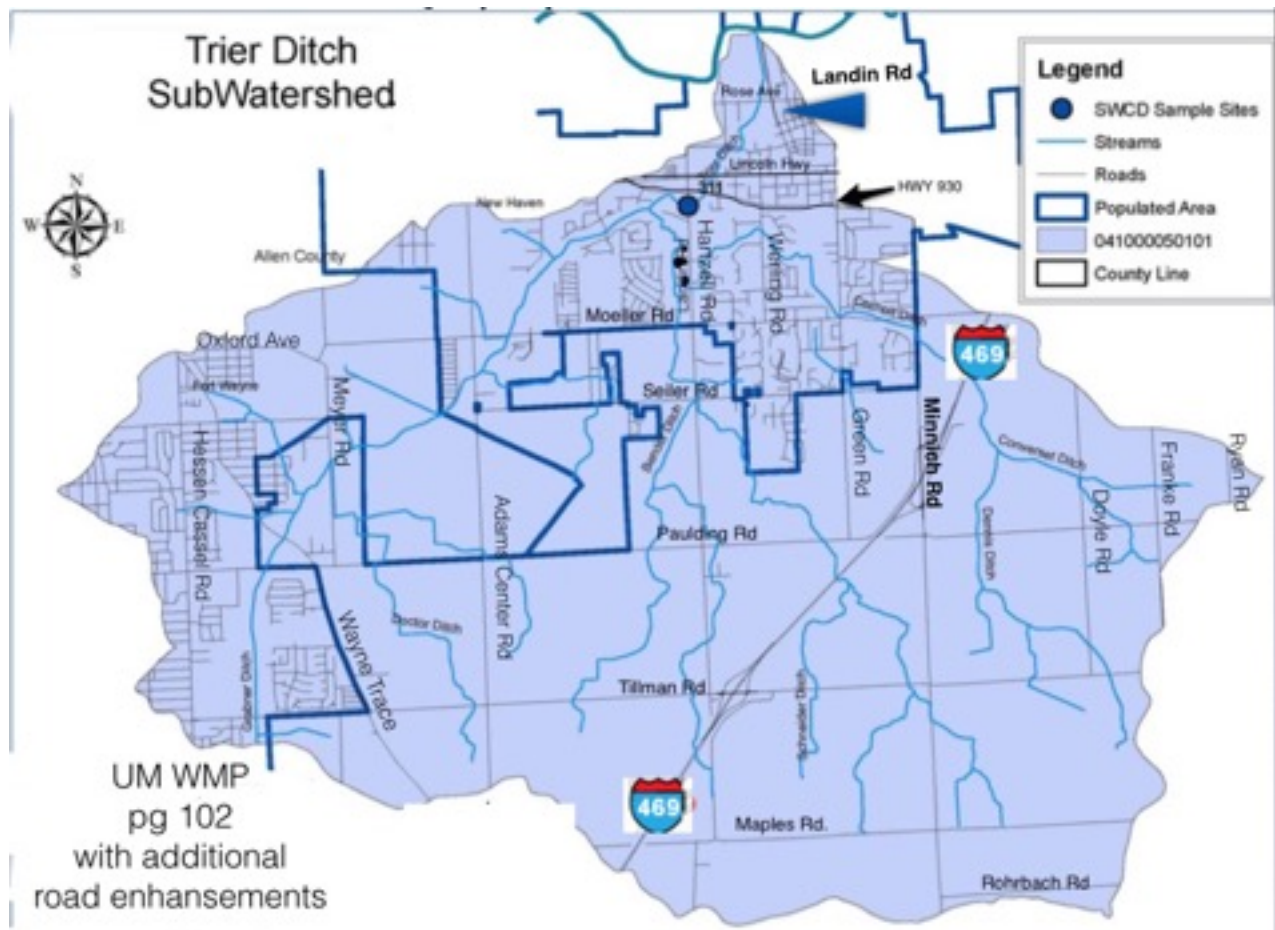
Currently Seeking our Largest Area for Restoration

scheduled for April 2017

Trier Ditch Subwatershed

550 Trees to be planted for this project

Installation of over 1,400 linear feet of riparian buffer, with a width no less than 20 feet, will yield approximately .8 acre of additional forest. Degraded status: Priority 1 due to lack of riparian buffers, urban land-use, CSO's, septic tank failures, Dissolved Reactive Phosphorus (DRP) and sediment.

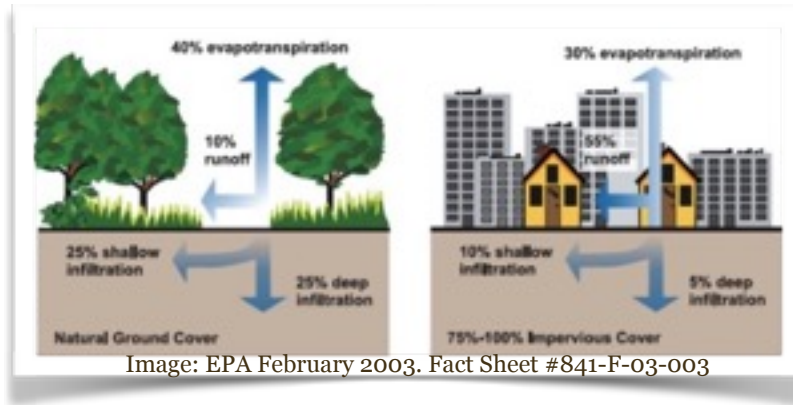


- Adding 550 trees would capture 32,450 gallons of water / year to reduce flooding elsewhere
- Sediment load reduction to yield 253.43 tons of soil retained / year
- Nitrogen load reduction to yield 426.66 pounds / year
- Phosphorus load reduction to yield 253.32 pounds / year
- Gain resident volunteer participation in reforestation efforts

How Trees and Plants Help to Improve Water Quality

Vegetation

- holds soil in place during rain and flooding so it does not float down the river or stream
- slows water down, by filtering it deep into the soil through the roots, naturally eliminating runoff, retaining the water for a longer period of time, so the sediment / silt settles instead of eroding and causing sedimentation
- absorbs fertilizers and waste materials, removing excess nitrogen, nutrients, phosphorous, organic waste and toxins
- produce enzymes which break down toxic chemicals and also “eat” bacteria; improving water quality by using or retaining nutrients before it passes downstream which cause excessive algae blooms and bacterial growth
- alleviates flooding since vegetation & trees capture, store and slowly release water, all while slowing destructive energy from fast moving, rising water, protecting stream banks and shore lines
- recharges groundwater, potentially reducing water shortages during dry spells
- reduces pools of standing, stagnant water that create breeding grounds for mosquitos to carry West Nile Virus to humans
- creates habitat for wildlife, providing food, breeding grounds and resting areas
- increases opportunities for recreation equating to economic dollars—bird watching, waterfowl hunting, fishing, photography—and outdoor education.



Mowing these areas would be inappropriate. Native plants are adapted to climate & soil, while the animals in the region are adapted to those plants; Natives meaning previous to European decent.

SEDIMENTATION remains the #1 pollutant in *surface waters* (i.e. rivers, tributaries, streams).

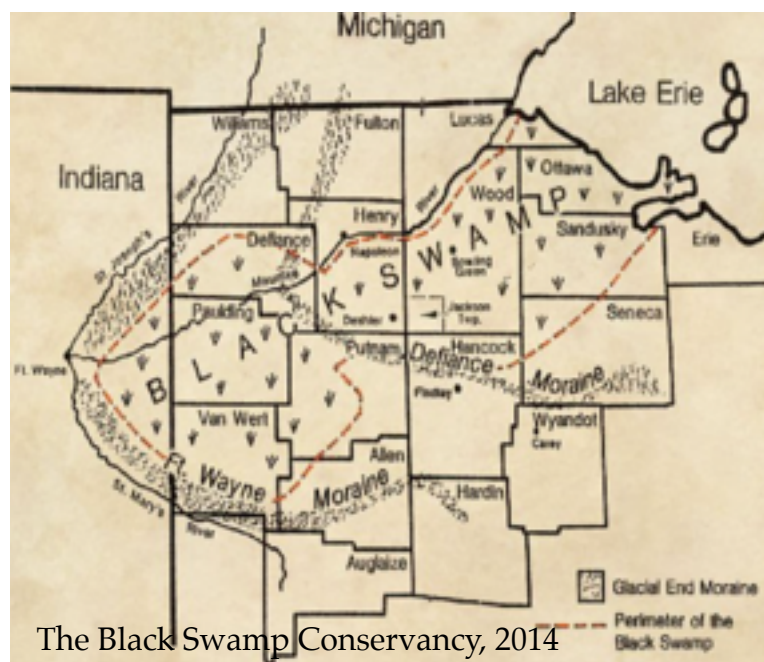
The Great Lakes Restoration Initiative (GLRI)

Since 2010, GLRI programs have helped fund projects that are targeted to improve some of the most degraded tributaries in the Great Lakes watersheds. The Western Lake Erie Basin has been identified as an Area Of Concern (AOC). From removing invasive species, reducing nutrient and sediment runoff, and restoring native species ~ the initiative has provided resources in several states in the Great Lakes Region, including Indiana.

In February of 2016, SMGO traveled to Washington D.C. to lobby our legislators to continue to fund GLRI projects that are continuing to make a positive impact on the Great Lakes Ecosystems. One of these projects is the Save Maumee Riparian Buffer Initiative, which has been funded by the United States Department of Agriculture's Forest Service.

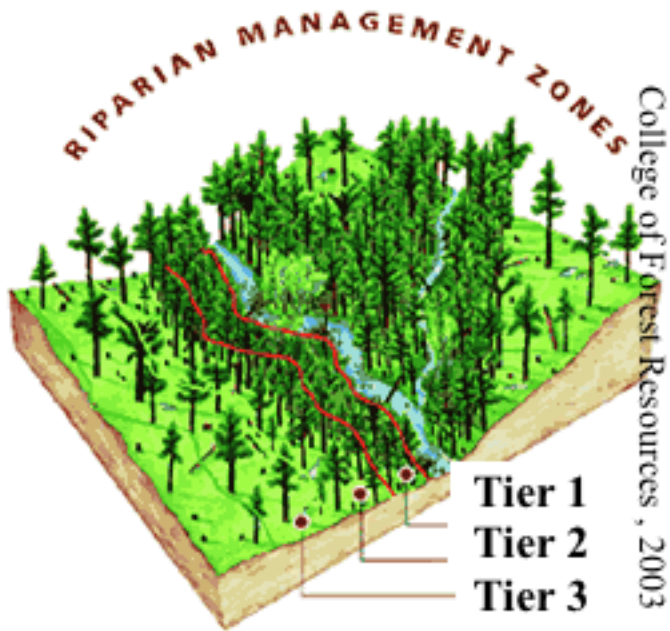
The Save Maumee Riparian Buffer Initiative is working to increase the quality of three of the most degraded subwatersheds in the Western Lake Erie Basin: Bullerman Ditch (April 2016) and Trier Ditch & Sixmile Creek from 2016-2017. The plan includes removing invasive species (such as Asian Honeysuckle), reducing non-point source pollution through the use of riparian buffer plantings (trees, shrubs, and perennial seeding), and restoring native species and ecosystems in the watershed through the use of plantings. We are working to implement the Upper Maumee Watershed Management Plan to increase necessary vegetation along rivers and streams.

Allen County, Indiana is not considered a priority area in the Indiana Statewide Forest Strategy, that would "restore and connect forests, especially in riparian areas." The land in Allen County is 8% forest, but an increase in forested area through the implementation of riparian buffers would provide much-needed wildlife habitat and increase the surface water health of the tributaries. These restoration practices will increase the health of the Maumee River and its shared waters.



The Great Black Swamp mirrors the Maumee Basin

Riparian Buffer Zones



The term **riparian** applies to any land surrounding or abutting surface waters. Riparian areas provide many attributes while filtering out a significant portion of potentially harmful pollutants.

Our natural filtration devices are being replaced with concrete and rooftops, so we are working to compensate, and set the example, for managing loss of these natural spaces! We have a unique “problem.” Our area sheds water as fast as possible, where other parts of the U.S.A. try to capture and utilize every drop. We are *water-rich*, so improving water quality begins with improvements in land use, like retaining water on land for a longer period of time.

Reforest the ditches, to make them streams once again!

Tier 1 - Stream Side Zone - This is the closest zone to the stream. The trees and other types of plants physically protect the stream from runoff & erosion, and provide shade to the cool the water keeping it rich in dissolved oxygen (DO). A mature wooded forest and dense shrubs are preferred to hold the soil together and provide suitable habitat for fish.

Tier 2 - Middle Zone - This is the zone that filters, slows down and absorbs runoff before it enters the stream. Wetlands or wooded forest capture and store sediment, nutrients and other pollutants.

Tier 3 - Outer Zone - This is the “buffer” of the buffer. It is the farthest zone from the stream and the closest to roads, farmland and towns. Trees, shrubs and even grass will absorb and filter surface runoff into the soil.

After speaking to many professionals and land managers, one problem is significant, **“WE MUST REMOVE THE INVASIVES!”**

Removing invasive species is extremely important to the health of our riparian areas. Please, before you plant anything, remove Asian Honeysuckle, Purple Loose Strife, Tree of Heaven and Garlic Mustard from the area. Bullerman Ditch project area is prolifically covered in Asian Honeysuckle and we would like you to **IDENTIFY IT PROPERLY and REMOVE IT WHEREVER YOU SEE IT**
~ ALL THE WAY TO THE DUMPSTER

Asian Honeysuckle

(20 ft. high)

WHY?

= INVASIVE & EXOTIC



***Competitive advantage over native plants for sunlight, moisture, space and nutrients in the soil.**

*** Spreads by roots and seed, resulting in ability to further dominate an area. Competes with native plants for pollinators, resulting in fewer seeds set on native species.**

***Suspected that honeysuckles may produce allelopathic chemicals that enter the soil and inhibit the growth of other plants.**

Exotic plants like these are not from this area, so they are not suitable to our local adapted wildlife. The fruit is carbohydrate-rich and does not provide migrating birds the high-fat content needed for long flights. So native species of birds can starve to death with a full belly. It would be comparable to humans eating lawn-grass. We cannot metabolize lawn-grass for vitamins and nutrients our bodies need.