

### Invasive Species: Japanese Barberry

J apanese barberry is a deciduous shrub, 2-4.5' tall. It has ovate leaves with small yellowish flowers that bloom in May in clusters of 2-4. It prefers well drained soils in semi-shade and often occurrs in forest, roadsides, and open fields. Japanese barberry reproduces from prolific seeds, rhizomes, or layering. Seeds have germination rate as high as 90% and are distributed by birds including ruffed grouse, bobwhite, pheasant, and wild turkey.

Because barberry is shade tolerant, an extensive population can become established in a short time under a closed forest canopy. Severe drought or extreme winters have little effect on overall mortality or seem production. Deer avoid barberry while often browsing surrounding vegetation, which may effectively increase barberry's competitive advantage.

Forested/woodland sites invaded by Japanese barberry tend to have higher occurrences of ticks than those habitats not yet invaded.

Japanese Barberry impacts and invades communities by displaces native shrubs and causes changes in soil properties. Japanese Barberry persistence in invaded stands may also alter successional patterns by altering soil microbial composition and increase nitrate concentrations. High nitrate concentrations may result in high nitrogen losses due to leaching or might make these sites more susceptible to invasion by other weedy plants. The researchers suggest that even if Japanese barberry is removed, it is very likely that differences in the soils will persist for a prolonged period after that, which might significantly impede the restoration of native flora in the cleared sites.

One study also provides evidence that invaded sites support more biomass in the shrub layer than uninvaded sites. There is concern that additional biomass in invaded stands may increase the likelihood of fires in those stands.

To control Japanese barberry, remove small immature plants by hand. Dig larger plants with a garden spade or remove mechanically. Cut stems at base or control with a herbicide treatment.

Source: Department of Agriculture









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# **Pollinator Display**







A Dubois County SWCD pollinator display was put in place in the entrance of the Ferdinand Library for several weeks this spring.

The display was next moved to Jasper's library and will be moving to the Dubois and Huntingburg libraries later this summer.

Dubois County's SWCD's Display at the Jasper Home Expo held at St. Joseph's Learning Center in March.



Dubois County SWCD again co-sponsors the well received Family Nature Fest held at the Ferdinand State Forest in May.

Mark Booth with a Red Tail Hawk.

Jill Knies with the Hope Garden helping others make paper flower pots.





# Envirothon and Urban Nutrient Runoff Information

his year's Indiana Envirothon Competition was held at the end of April at the Beck Agricultural Center at Purdue University. Seventeen teams from around the state who placed 1st, 2nd, and possibly 3rd during their local regional Envirothon contests competed for the honor of representing Indiana at the NCF Envirothon competition to be held in late July at Idaho University, Pocatello, Idaho.

The Envirothon gives high school students the opportunity to prove their knowledge of various environmental issues and one current issue. Areas of analyses included soils, water, forestry, and wildlife. This year's current issue dealt with Rangeland. The goal is to build awareness and the contest helps show tomorrow's leaders the positive and negative effects that individual actions have on the environment. Students understand the difference between renewable and nonrenewable resources, realize environmental interactions and interdependcies and know who to turn to concerning environmental matters.



Melissa Ruschau, Dubois County SWCD staff, gives an Aquatic Ecology presentation at the local SW Envirothon held at SIPAC.

Students compete for awards in three areas: written, oral, and overall. There is a hands-on portion of the contest included in the written scores. This year's winners in the Written Divisions included Gibson Southern with a 2nd place winner and 3rd place in the oral presentations. Gibson Southern also won 3rd place in the Overall Division.

### **Urban Nutrient Runoff**

U rbanization is characterized by an increase in impervious surface cover (ISC) as residential, industrial, and commercial areas are developed. Combined with vegetation removal and land grading, the increases in ISC have the potential to affect regional hydrology and water quality. These landscape alterations impair stormwater infiltration and ground water recharge and significantly increase surface runoff during storm events. Urban stormwater runoff also carries excess nutrients; as well, as other pollutants (trash, sediments, oil and grease, metal, bacteria, and pesticides).

Nutrient sources in urban catchments include home septic systems, leaky sewer lines, and lawn fertilizers. These nutrients can be mobilized and delivered to aquatic ecosystems; such as, streams and riparian wetlands during storm events. In more highly urbanized watersheds, stormwater management infrastructure redirects runoff captures by artificial channels; such as, road culverts, curb and gutter systems into stormwater retention and detention facilities. While this helps decrease peak stream flow and associated negative effects on stream integrity, the toxins and excess nutrients carried in urban runoff are not necessarily retained by these stormwater management facilities before the release of stormwaters into streams.

By directing urban runoff toward stormwater management facilities and away from natural wetlands, stormwater management infrastructure can also affect wetland hydrologic and nutrient loads exported from more urbanized watersheds.

Stormwater management was originally designed solely for flood control. More recently, the negative effects of increased pollutant levels in urban stormwater runoff have been recognized. A variety of techniques have been developed to manage urban stormwater runoff, including the use of large diameter pipes, porous pavement, subsurface storage (concrete or plastic underground chambers), infiltration trenches (basins, depressions, dry wells, rain gardens, and grass filter/swales), rain barrels and surface basins (retention ponds, wet or dry detention basin), two stage ponds, and natural or constructed wetlands.

Source: Best Management Practices for Nutrient and Sediment Retention in Urban Stormwater Runoff, Diana M. Hogan and Mark R Walbridge

# ISAC Wildflower Hike and Patoka Lake Dam Tour



Carla Streigel-Winner leading an ISAC Wildflower Hike. Dubois County SWCD co-sponsored this event.

A large group of interested people came to the Patoka Lake Dam Tour. Dubois County SWCD co-sponsored this tour.





Knox County SWCD Invasive Species Specialist, Will Drews inspects a young native plant at the CISMA Knox County greenhouse

Lot. Governor Suzanne Crouch announced that Jordan Seger has been appointed deputy directory of the Indiana State Department of Agriculture (ISDA). Seger has been with the department since 2011 and previously served as Division of Soil Conservation Director.

Seger grew up in Jasper, Indiana, and was involved with his family's poultry operation. He graduated from Indiana University with a bachelor's degree in Public Affairs and previously worked for National Park Service in Maine and Alaska; as well as, the Department of Defense in Washington DC.



In 2011, Seger joined ISDA as a field technician, He was promoted a year later to Agriculture and Environmental Affairs program manager and then Division of Soil Conservation Director. In that role, he managed ISDA's field technicians, the Clean Water Indiana Program and supported the co-ordinated activities of Indiana's conservation partners.

As Deputy Director, Seger will support the director in achieving ISDA's mission and strategies. Among many responsibilities, he will oversee the day-to-day operations of the department, represent ISDA in committees, engage with producer organizations and identify opportunities to grow the state's agriculture sector. Seger currently resides in Indianapolis.

Visit www.isda.in.gov to learn more about ISDA.

L certainly didn't expect the blessed amount of rain that has fallen on most of Indiana in the last month. In some areas, the amount could be considered more of a curse than blessing; especially on cropland. It certainly has made making dry hay a challenge. My pasture was getting fairly dry before the rains started; dry enough that growth was slowing down. I had already slowed down the speed of the livestock to allow a little extra rest and now have picked up momentum again. I'm delighted to see good regrowth of forage in paddocks not far behind where livestock had just been. With more vegetation now and new growth still coming, it is not hard to maintain excellent cover and let the livestock take the best and leave and/or trample the rest. Measure soil temperatures under these conditions have been very good, usually in the upper 70's at two inches of depth. This amazes me, especially with some of the extremely hot weather we have had lately. This temperature is very important. At soil temperatures in the 70's, 100% of moisture is usable for plant growth. Highly disturbed pastures or overgrazed thin pastures usually have higher soil temperature. If those temperatures reach 95-100 degrees, only about 15% of the moisture is now able to be utilized for plant growth, the rest is lost through evaporation and transpiration. It is not difficult to maintain cover and optimize all the vegetative growth and production we can get.

By maintaining ground cover and the vegetative solar panel, with adequate moisture, production should be very good wit the only other two main contributing factors being fertility and management. If grazing livestock are managed where they are moved to fresh forage on a regular basis and not allowed to continuously graze or take multiple bites on the same plant before being moved forward, maintaining cover is not difficult at all. They don't have to be moved everyday, but the more often they are given new fresh forage, the more content they will be and also the less likely they will overgraze individual plants. I am a huge fan of utilizing long, fairly linear fields for pasture and using temporary fence to allocate new forage to the livestock. Generally especially when new growth is limited, I recommend to use a back fence to prevent livestock from going bac and regrazing forages that need to be resting for later use. If you don't move them quick enough and they run out of fresh forage, they will go back to take a second or third bite and/or graze regrowth which will retard future growth and grazing. This kind of system is very feasible and workable on fields where water is not readily available across the field. As long as the walking distance isn't too far, generally no more than 1,200 feet, AND they are not in the field more than seven to ten days, this progressive forward moving will prevent most problems. Longer grazing periods or walking distances will promote backgrazing, trailing and movement of nutrients from outer reaches being grazed closer to the water source.

If you have any warm season grasses and you haven't already started grazing them now is a good time to start. These warm season forages can include switchgrass, big bluestem, and Indian grass. Switchgrass comes on the earliest, almost too early here in the Midwest because it is ready to graze about the same time cool season forages are also at peak. It can be taken as hay and then grazed later in July or August. You don't want switch grass to mature because quality will drop quickly. The same thing is pretty much true for big bluestem ad Indiangrass. The best grazing and quality will be I the vegetative stage. If you've not started grazing it yet and see the beginnings of any see heads, it is time to stat. Big Bluestem Indiangrass should be 24 to 30 inches tall prior to grazing and then grazed ideally no shorter than about 12-15 inches. At these stop grazing heights, they will rebound quickly and provide a lot more growth. If taken down short, they will take longer to grow back. They rarely should be taken down less than 6 inches. These warm season forages absolutely love the weather we have been having. When grazing these forages, all of the cool season forages get a break and continue to grow to provide future grazing. As I've said many times before, more grazing days means less inputs and less work; remember, the cows are supposed to be working for you, not you for them!

Lastly, I want to talk about clipping just a bit. Everyone things that clipping pastures is always needed. I hear all kinds of reasons and same are valid. Weed control is certainly a good reason. The threshold for weed control is usually when weeds are reaching 30% canopy. At 30% canopy, weeds are blocking enough sunlight to really start impacting production. A noxious wee threshold is a lot less. Removed of seed heads is the next reason I hear and generally with the fear of pinkeye. Lastly, and probably the most common reason is aesthetics.

(For pasture information and past issues of Grazing Bits—http://www.nrcs.usda.gov/wps/portal/nrcs/main/in/technical/landuse/pasture)

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Dubois County Soil & Water Conservation District

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### The Conservation Conversation

OFFICE HOURS: MON-FRI 8 AM TO 4 PM OFFICIAL BUSINESS NEWSLETTER NON PROFIT ORG US POSTAGE PAID JASPER IN 47546 PERMIT NO. 191

For address corrections or to be taken off the list, please contact the office by email at patti.schroeder@in.nacdnet.net or call 812-817-3447





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#### SWCD 2018 Cover Crop Cost Share Program

• \$15 per acre, 75 acres cap

• Required 'bundling' of conservation practices—the cover cropped acres MUST be no-tilled in spring of 2019

- Provide a map with tract and field information
- Applications must be received by close of business day September 5th, 2018
- Applications will be funded in order of the date received