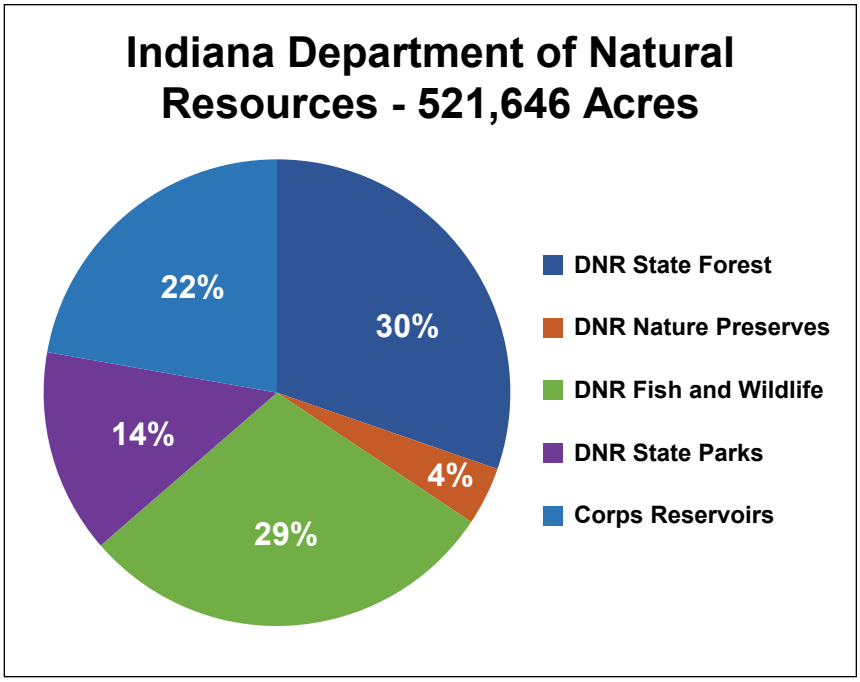
# 2017
# Division of Forestry
# Annual Report

DNR
Indiana Department
of Natural Resources

dnr.IN.gov/forestry

Forestry DNR

# STATE FOREST PROPERTIES




The DNR State Forest system is one part of the broader DNR land-conservation portfolio, which includes state parks, fish & wildlife areas, reservoirs, state recreation areas and nature preserves. State Forests are uniquely managed under the principle of multiple-use, multiple-benefit, providing for wood products, wildlife, recreation and the conservation of unique resources. This multiple-use system includes the sustainable management and growth of "green certified" timber. It also includes the dedication and management of unique areas and, in partnership with the State Nature Preserves system, has set aside and dedicated more than 3,000 acres of nature preserves, including nearly 1,000 acres since January 2017. This conservation management, based on science, provides combined benefits offered by no other lands in Indiana.

## New State Forest Preserves

| Property | New Nature Preserve | Acres |
|---|---|---|
| Harrison-Crawford SF | Greenbrier Knob | 110.8 |
| Harrison-Crawford SF | Glade South | 51.0 |
| Harrison-Crawford SF | Glade North | 33.6 |
| Harrison-Crawford SF | River Ledge | 33.4 |
| Owen-Putnam SF | Pleasant Grove Valley | 64.2 |
| Owen-Putnam SF | Jordan Creek Seep Spring | 46.72 |
| Morgan-Monroe SF | Ravinia Seeps Spring | 52.4 |
| Yellowwood SF | Lucas Hollow | 42.78 |
| Clark SF | Outbrook Ravine | 518.57 |
| **Totals** | | **953.47** |

## CAMPING OPPORTUNITIES

***Rent-a-Camp Cabin Offerings Increase***

Three New Cabins at Deam Lake
State Recreation Area

Five New Cabins at Starve Hollow
State Recreation Area

## *State Forest Trail Improvements*


The Knobstone Trail's southern starting point (mile marker 0) has been relocated to inside the main recreation area at Deam Lake State Recreation Area. This location improves trail access and provides a more secure parking area for trail users.

Forestry trail crews and many hard-working trail volunteers help improve trail experiences. Special thanks to the Indiana Trail Riders Association, Hoosier Hikers Council, Knobstone Hiking Trail Association and others for their dedicated trail work.

## *State Forest Facility Improvements*

Birding and Forest Observation Deck
Ferdinand State Forest

Accessibility Improvements at
Yellowwood Lake Shelter House

The Gambill Lake restoration at Greene-Sullivan State Forest was done in cooperation with the DNR Division of Reclamation to address dangerous highwall conditions from mining activity done the mid-1900s.

**STATE FOREST RESOURCE MANAGEMENT**

The 158,300-acre State Forest system has been certified by the Sustainable Forestry Initiative® and the Forest Stewardship Council® (FSC®-C012858) "green certification" programs since 2007. Independent third-party audits are conducted annually to assess compliance with the rigorous certification standards. Audits in 2017 were conducted by Scientific Certification Systems and NSF International Strategic Registrations (NSF-ISR) and successfully completed with high marks and one minor corrective action requiring the use of the trademark symbol ™ in conjunction with the "FSC" or "Forest Stewardship Council" in certain situations.

Forest certification independently confirms the State Forest system as "well managed forests" and allows wood products from State Forests to participate in the national and global market of "green certified" wood products.

Audit commendations include:

- *The Indiana Division of Forestry has an exceptional program to retain stand-level wildlife habitat elements in accordance with scientific information.*
- *The BMP (best management practices) monitoring program is the most robust known to the audit team.*
- *The Indiana Division of Forestry has a remarkable continuous forest inventory system.*

SUSTAINABLE FORESTRY INITIATIVE
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The mark of responsible forestry

In 2017, many miles and thousands of acres of forest restoration, trail, boundary and forest improvement work was completed or contracted. This work positions these forests for continued health and productivity, the providing of jobs, and other forest benefits for current and future Hoosiers. Primary work included control of invasive plant species (494 acres), trail maintenance and improvement (266 miles), forest and timber stand improvements (2,500 plus acres), and 115 miles of boundary work.

Sustainable "green certified" wood products from State Forests in FY 2016-2017 totaled 10,298,000 board feet equivalent, made up of 7.66 million board feet timber and 5,283 cords with gross revenues of $1,803,518. These managed harvests were spread over 4,027 acres of the 158,300-acre State Forest system. Single-tree select cuts were the predominant harvest strategy. DNR Forestry sends 15% of timber-sale proceeds to county governments to help support volunteer fire departments—this amounted to $343,276 in FY 2016-17. The annual timber harvest prescription for the State Forest system for FY 2017-18 is 10 million board feet.

**Timber Sale Volume And Sale Prices the Last 10 Years**

| Fiscal Year | Timber Sale Volume (BFE) | Sale Prices | Revenue to Counties |
|---|---|---|---|
| 2007-2008 | 11,302,104 | $2,899,907 | $366,871 |
| 2008-2009 | 12,154,436 | $2,330,511 | $349,728 |
| 2009-2010 | 10,253,981 | $2,368,521 | $289,342 |
| 2010-2011 | 14,065,864 | $2,720,629 | $283,412 |
| 2011-2012 | 14,435,135 | $2,686,672 | $381,441 |
| 2012-2013 | 11,995,721 | $1,887,726 | $314,149 |
| 2013-2014 | 17,148,568 | $4,036,782 | $333,540 |
| 2014-2015 | 12,198,010 | $2,988,047 | $441,977 |
| 2015-2016 | 7,145,779 | $1,588,188 | $397,399 |
| 2016-2017 | 10,298,000 | $1,803,518 | $343,276 |
| **TOTAL** | **120,099,760** | **$25,310,501** | **$3,501,135** |

Emerald ash borer (EAB), first confirmed in Indiana in 2004, continued its spread across the state and is now found on nearly all DNR properties that have ash trees, including all State Forests. Considerable work has been undertaken to salvage usable timber ash trees, and remove ash trees from campgrounds and along main roads for the safety of visitors.

Family Cabins at Covered Bridge Retreat in Parke County; and
Cherry Lake Lodge at Morgan-Monroe State Forest.
dnr.IN.gov/forestry/7694.htm

**State Forest Recreation**
**-Camping, Fishing, Cabins and Trails**

State Forest recreation facilities include three gated properties, and more than 150,000 acres of land and water to enjoy and explore. The scale of operations provides significant recreation opportunities within the DNR portfolio of recreational opportunities.

Scale of Forestry Recreation Opportunities

- 19 family campgrounds (650 sites)
- 6 equestrian campgrounds (200 sites)
- 47 camping cabins
- 2 family lodges
- 300 miles of hiking trails
- 41 miles of bike trails
- 270 miles of horse trails
- 140-plus lakes
- 3 backcountry-style trails
- 1 shooting range
- 2 archery ranges
- 2 forest education centers
- 3 swimming beaches
- 30 picnic shelters

State Forest camping cabins and the fully furnished retreat cabins at Morgan-Monroe State Forest and covered Bridge State Forest continue to be popular with guests. Additional camping cabins have been added at Deam Lake SRA and Starve Hollow SRA. See more at dnr.IN.gov/forestry/7694.htm.

Significant campground improvement projects are underway at Clark State Forest and Greene-Sullivan State Forest and are expected to come on line in 2019-20, with modern restrooms and improved camping facilities. State Forests will also continue to offer primitive camping experiences. Camping at Deam Lake and Starve Hollow and at Greene-Sullivan can be reserved at indianastateparks.reserveamerica.com.

Annual recreation revenue was $1.5 million in FY 2017. These revenues have doubled since 2010, under increased recreation opportunities, enhanced facilities and an improving economy.

Trail maintenance and improvement projects were undertaken at several properties with more than 250 miles of trails receiving attention. The Knobstone Trail (KT) dedicated its new Deam Lake trailhead to mark the official southern gate for the KT.

A new comprehensive trail map for Deam Lake/Clark State Forest is now available for purchase from either office for $10. This waterproof map is designed for the active trail and property user. It shows all property trails and topographic features for the Deam Lake/Clark State Forest area. The map was made possible by a grant from the Emma L. Snyder Charitable Foundation.

**State Forest Community Involvement**

State Forests hosted 36 special events in 2017, with an estimated 5,065 participants. Organized hikes, trail runs and equestrian events are the most common sponsored events. Other events include the Deam Lake and Ferdinand State Forest polar bear dips, which raise funds for local and statewide charities.


Annual open house and public comment events were held across the system to invite the public to view operations, meet property personnel and comment on property projects and concerns. Some events featured a tour of facilities, short hikes and talks on forestry and other natural resource topics of interest.

Volunteer opportunities on State Forests continue to expand, ranging from one-time projects to long-term efforts such as serving as campground hosts and other efforts and contributions by individuals and groups. Significant improvement projects were accomplished at Salamonie River State Forest by friends of the forest and the Indiana Trail Riders Association. Other projects included Scout projects at Ferdinand State Forest, horse trail work at Clark State Forest, hiking trail work along the Knobstone and Tecumseh trails by individual volunteers who adopted trail sections, or other groups with efforts led by the Hoosier Hikers Council and the Knobstone Hiking Trail Association. Campground host opportunities continue at several State Forests and can be found at stateparks.IN.gov/files/sp-Campground-Host-Summaries.pdf.

**STATE FOREST FACILITIES**

Repair, renovation and updating of facilities is an ongoing part of State Forest operations. Many facilities received facelifts and new construction in 2017.

State Forest facility improvements and construction projects rely heavily on in-house labor, skills and wood materials. This has kept costs down and allowed for significant accomplishments over the last several years. Partnerships with the Indiana Department of Correction also have been instrumental in these accomplishments as has valued assistance from many volunteers.

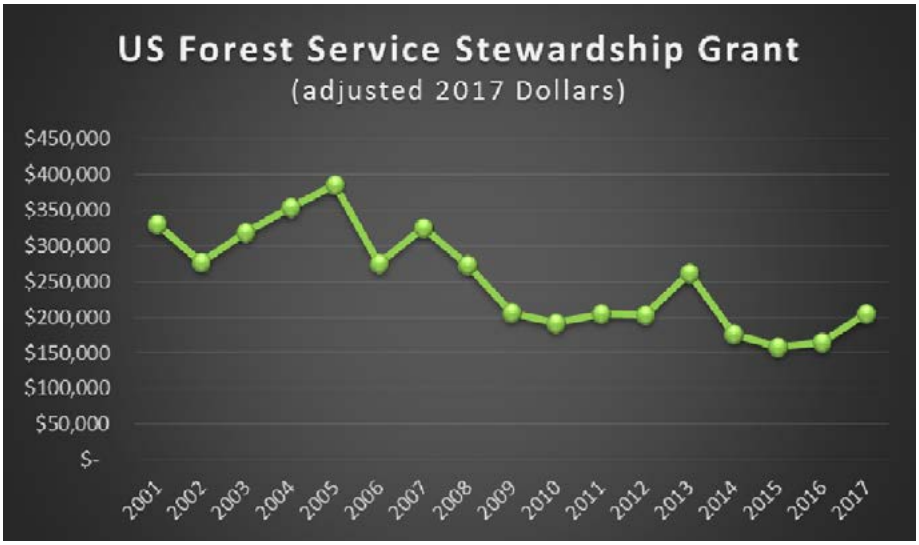
Below are select photos of additional facility improvement projects underway:


Work on roofs, toilets, shelters, campgrounds and playgrounds infrastructure and facility improvements keep the crews hopping. Many thanks to the volunteers who helped make these projects successful.

# Private Lands

The mission of the Cooperative Forest Management (CFM) section is to promote forest stewardship on Indiana's privately owned forest lands by providing forest management information and technical assistance to owners, and others to ensure continued forest benefits, both tangible and intangible, for present and future generations.

The CFM budget is $2.1 million (81% salaries/ fringe; 19% supplies and technology). Primary funding comes from state appropriations and revenue generated on State Forests. Additional funding comes from grants from the U.S. Forest Service. Stewardship grant funding is on a downward trend, although Indiana did receive a small increase for 2017.




## Tim Eizinger retires after 40-plus years of service

Tim Eizinger had a long career serving the citizens of Indiana. He started with the Division of Forestry as a forester at Yellowwood State Forest in 1975. A year later, he moved north to Rochester to become an agricultural conservation program forester. Since 1981, as a district forester, he has helped northern Indiana private forest landowners.

At the end of 2017, Tim retired to spend time with his grandchildren and devote more time to his favorite hobbies of pottery and rock hounding.

The state is divided into 20 districts. Each district includes between two and 10 counties. District sizes are based on the amount of forested acreage in each county and the number of tracts in each county enrolled in the Classified Forest & Wildlands Program (CFW). A district forester is assigned to each district. District foresters work one-on-one with landowners and are perceived by the public as an unbiased provider of forestry information.

# New CFM Faces

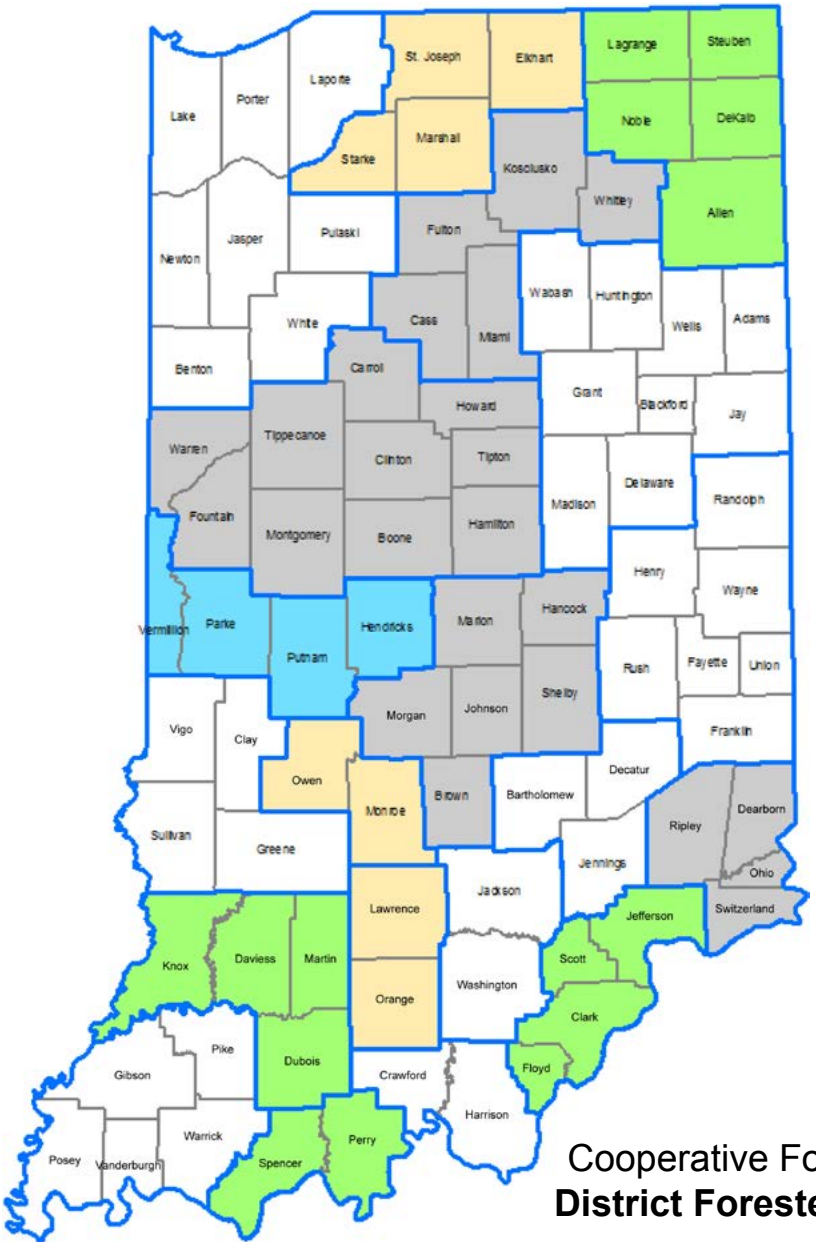
**Maddie Westbrook**
***District 8***
Clark, Floyd, Jefferson, and Scott counties

**Kristina Kusel**
***District 10***
Perry and Spencer counties

**Sam Kaiser**
***District 11***
Daviess, Dubois, Knox and Martin counties

**Jack Cearley**
***Assistant District Forester / Resource Specialist Greene-Sullivan State Forest***
Southwestern Indiana

**Jennifer Sobecki**
***Assistant District Forester / BMP Forester***
Statewide




**Legend**

- Eligible for Retirement
- Working <2 years
- Retiring in 2018
- Vacancy

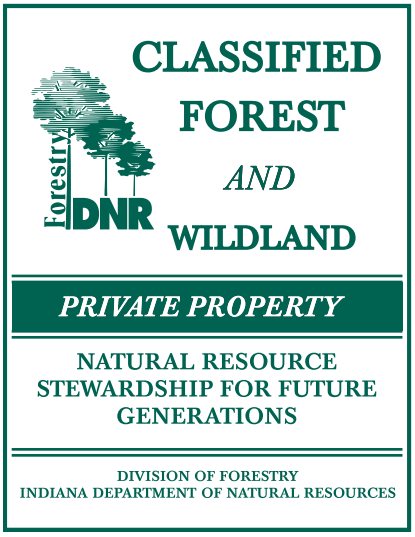
Cooperative Forest Management Section
**District Forester Status as of 12/31/2017**

Full staffing includes 20 district foresters, two assistant district foresters, two CFM staff, and an assistant state forester. At the beginning of 2017, four district forester positions (districts 10, 11, 14 and 17), an assistant district forester, and the assistant state forester position remained unfilled. During the course of the year, two district foresters (districts 8 and 13) resigned to relocate to another state. In addition, the District 2 forester retired. Teams of district foresters and staff are covering open districts. In 2017, three new district foresters started, as did two assistant district foresters who each have additional duties outside of CFM.

CFM performs the following duties related to private lands forest management:

- Provides technical forestry assistance to private forest land owners.
- Administers the CFW, which includes:
  - Preparing stewardship plans for people interested in enrolling acreage in CFW.
  - Enrolling acreage in CFW.
  - Performing re-inspections on CFW parcels as required by law.
  - Performing all necessary duties required by Forest Stewardship Council® (FSC-C071226) third-party certification.
  - Withdrawing property from the program when requested or required by law.
- Serves as a technical service provider to the Natural Resources Conservation Service concerning the management of the Conservation Reserve Program (CRP) and the Environmental Quality Incentives Program (EQIP).
- Provides forestry education opportunities to landowners and other interested parties on a wide variety of forestry activities.

District forester Allen Royer shows off a purple coneflower in a pollinator habitat planting.

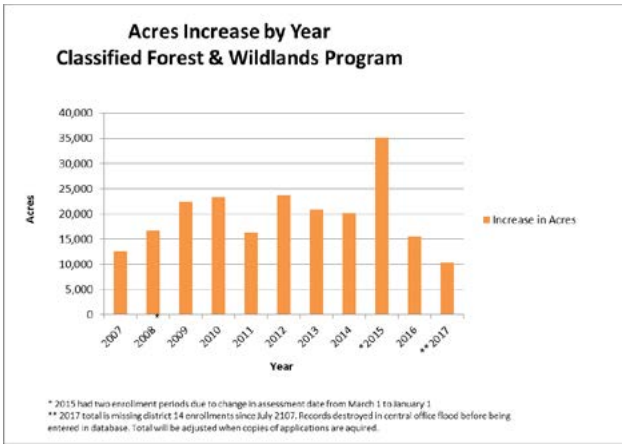


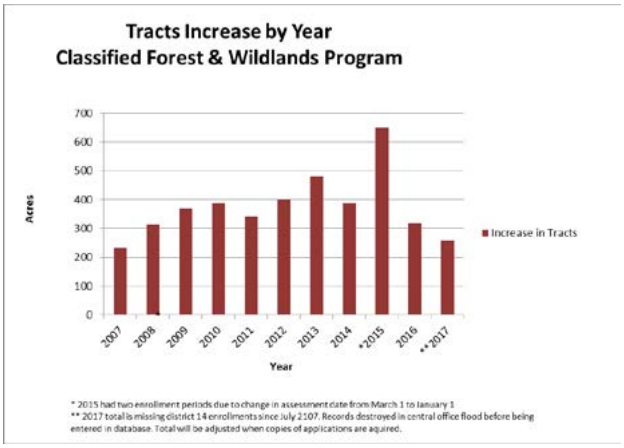

**Classified Forest & Wildland Program**

CFW is one of the nation's oldest and most successful conservation programs. The purpose of the program is to encourage private landowners to manage their property for timber, wildlife habitat and water quality. In return, the property tax on enrolled land is reduced.

**Program Enrollment**

2017 was the third year that landowners had to turn in their completed applications by Jan. 1 to ensure they received the property tax break for that tax year. The net increase for 2017 was 257 tracts, totaling 10,276 acres.




CFW is a voluntary program. Landowners can withdraw or revise their amount of enrolled land at will. In 2017, a total of 50 tracts were completely withdrawn, and 166 applications were revised. A total of 1,307 acres were withdrawn.

The Division of Forestry has an online application, Indiana Forest Resource Management System (INFRMS, dnr.IN.gov/forestryexchange/default.aspx), to keep track of land enrolled in CFW. Landowners with land in the program can also log into the program to file their required annual report, submit completed management activities, and view maps of their property. County offices can request access to the application to review classified lands in their counties.


District forester Rob McGriff reviews trees marked for sale with landowners.

**CFW Reinspections**

CFW tracts have to be visited once every seven years by the Division of Forestry (IC 6-1.1-6-19). At the re-inspection, the district forester makes sure the land is meeting the program requirements. The landowner can walk with the forester and ask questions specific to their property. CFW inspected 2,776 tracts totaling 123,943 acres in 2017.

**Indiana Classified Forest Certified Group**

Landowners with at least 10 acres of classified forest can choose to have their land certified through the Forest Stewardship Council (FSC - CO71226) by joining the Indiana Classified Forest Certified Group. This is a free benefit of CFW. Certification provides recognition that the forest is being managed in a way to that provides forest products while protecting water, soil, plant, wildlife and special features. It also allows timber from classified forests to be sold as being FSC certified.

In fall, certification auditors come to Indiana to review the program. They visit properties, talk with landowners, and review program records to determine if the Forest Stewardship Council standards are being followed. The auditors then provide a report on what is going well and areas where improvement is needed. The full 2017 Classified Forest FSC audit report is at dnr.IN.gov/forestry/files/fo-FSC_CFW_2017_Audit_Report.pdf.

District foresters visit timber harvests (pre-harvest, active harvest, post-harvest) occurring on certified classified forests. The purpose of the visits is to ensure that harvest is occurring in a manner that will have the least long-term impact to the property. In 2017, district foresters made 370 timber harvest inspections.

**General CFM**

**Assists and Referrals**

District foresters not only work with CFW landowners, but also provide forestry assistance and education to the general public and refer landowners to private-sector foresters for services not provided by the Division of Forestry. In 2017, the following assists and referrals were made:

- Referrals to private professional foresters: 1,947 referrals.
- Outreach/Education: 115 events, 4,014 participants.
- Incidental Assists (emails, phone calls, etc.): 4,287 assists. No acreage figures are kept.

**FOREST WILDLIFE MANAGEMENT**

In 2017 Division of Forestry (DoF) staff completed the first comprehensive draft of its Indiana bat habitat conservation plan (HCP) for State Forests; the next step will be for the U.S. Fish and Wildlife Service (USFWS) to complete its review of the plan and the supporting documents and materials. The Environmental Impact Statement (EIS) that accompanies the HCP still needs to be completed and will be among the top priorities for 2018. The HCP is a necessary component in the application for an Incidental Take Permit, which authorizes limited incidental take of Indiana bats during regular State Forest management activities. The HCP will direct the DoF's Indiana bat conservation program for State Forests over the next 20 years. It includes strategies to minimize risk of incidental take on State Forests, programs to increase awareness of Indiana bat conservation on privately owned forest in Indiana, measures to fully mitigate the impacts of unavoidable incidental take, and a monitoring program designed to evaluate the effectiveness of impact-minimization measures and mitigation activities. Once approved, this HCP and the accompanying Incidental Take Permit will be among the first ever granted to a state forest management agency for the conservation of the Indiana bat. The DoF takes great pride in its leadership role on this important issue and believes its HCP will serve as a model for other forest-management agencies.

In late 2017 the USFWS announced it is reviewing the status of another resident bat species for possible federal listing. The tricolored bat was once commonly found on State Forests; however, it is affected by white-nose syndrome (WNS), which has decimated its populations throughout the East and Midwest. In Indiana, recent bat hibernacula surveys indicate the species has declined by nearly 90%, compared to pre-WNS population estimates. Since this species roosts in trees during the summer, like the Indiana bat and Northern long-eared bat, it can be affected by forest-management activities. Depending on whether the USFWS decides to federally list the species, it may need to be included in the State Forest HCP, which would likely delay the plan's completion and approval by at least several months. A decision on the listing is expected by the end of 2018.

Courtesy of U.S. Fish & Wildlife Service

Indiana bat *(Myotis sodalis)* (Adam Mann)

The DoF continues to manage the federally threatened Northern long-eared bat on State Forests under guidance provided by the USFWS and conservation measures detailed in its final 4(d) rule for the species. By following this guidance, the DoF can fully avoid prohibited incidental take of Northern long-eared bats, as specified by the 4(d) ruling. A key conservation measure is avoidance of known maternity roosts during summer management activities. To date, 185 Northern long-eared bat maternity roosts have been identified on Morgan-Monroe and Yellowwood.

**Wildlife Research Support and Output**

In 2017, the DoF provided direct support to 15 research projects investigating the ecological effects of forest management on State Forests. All of this support went to researchers involved with the Hardwood Ecosystem Experiment (HEE, heeforeststudy.org/), a long-term project based at Morgan-Monroe and Yellowwood.

DoF, in 2017, provided support to 10 graduate/ postgraduate researchers working on questions related to forest management and ecological impacts.

DNR Forestry-supported researchers published nine articles in peer-reviewed scientific journals in 2017. HEE accomplishments since 2006 include 51 peer-reviewed research articles, 24 theses and dissertations, and five peer-reviewed extension publications and technical report collections.

In 2017, two new extension videos were produced featuring HEE research. All HEE videos are available for free viewing at the Purdue Extension Education Store: https://mdc.itap.purdue.edu/ or linked through the HEE website (https://heeforeststudy.org/videos/)

- Sustaining Our Oak-Hickory Forests (FNR-542-WV).
- Wildlife Responses to Timber Harvesting (FNR-543-WV).

**Recent Select Hardwood Ecological Experiment Project Summaries:**

In 2017, research on the use of clearcuts by bird species that breed within mature forest concluded. Publications reporting the findings of this project are expected in the coming year. Several species associated with mature forests were captured using early successional areas during summer, including worm-eating warbler, cerulean warbler, scarlet tanager, wood thrush and ovenbird.

A recently completed bat study found that recent shelter-wood establishment cuts at Morgan-Monroe and Yellowwood were among the areas used most by species such as Indiana bat, Northern long-eared bat, red bat, and tricolored bat. Similar to earlier HEE studies, no evidence was found showing any bat species avoided harvested areas.

State-of-the-art genetic sequencing techniques are being used at HEE to identify prey consumed by Indiana bats and Northern long-eared bats. The goal of the study is to learn how these bat species contribute to the control of forest and agricultural pests. Insects can be identified to family or genus, although species-level capabilities are also expected as the research progresses. To date, nearly 500 prey items have been identified as being consumed by both bat species.

Radio-tracked Indiana bats and Northern long-eared bats continue to use recently harvested sites and forest openings for roosting during the summer maternity period. Ongoing research focuses on multiple Indiana bat maternity colonies at Morgan-Monroe and Yellowwood. Findings indicate female Indiana bats select maternity roosts located in canopy gaps, edges and openings. Radio-tracked Indiana bats and Northern long-eared bats appear to preferentially forage in recently harvested patch cuts and thinned hardwood stands.

Long-term studies of the state-endangered cerulean warbler continued at HEE research units. Since 2007, researchers have found that average relative abundance of males in unharvested control units (3.8 km2) has been consistently lower than in even-age (7.33 males/km$^2$) and uneven-age (7.67 males/km$^2$) experimental harvest units. This time period includes two years of no harvesting and nine post-harvest years in even-age and uneven-age treatments.

# Forest Health

The 2017 growing season's forest health problems and concerns included March windstorms that downed trees across several southern Indiana counties, expansion and increased ash mortality from emerald ash borer (EAB), the confirmation of the second detection of walnut twig beetle from a 2016 trap at a veneer mill in Johnson County, the detection of additional areas of chestnut oak mortality in the Knobs area of Indiana, and the first occurrences of shingle oak defoliation and bur oak blight.

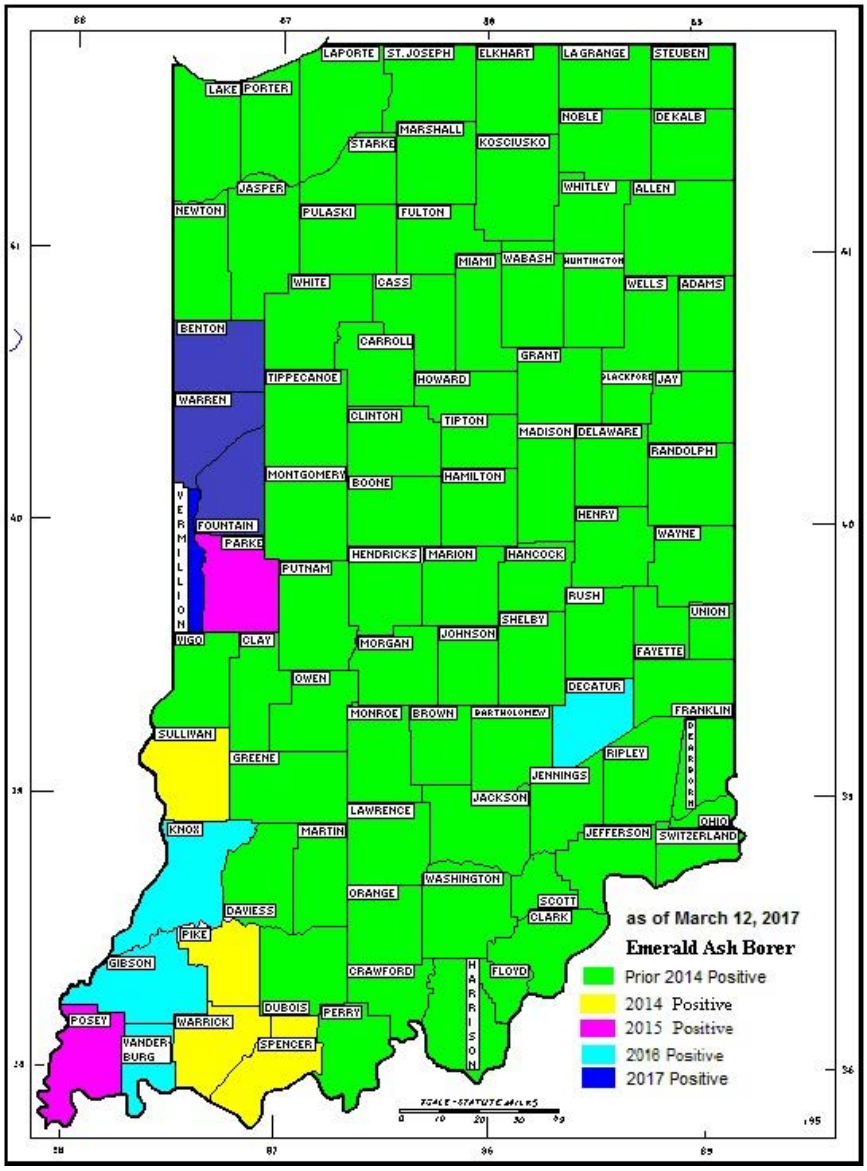
The recurring forest health issues include gypsy moth management, oak wilt, butternut canker, EAB and mortality/decline in aging hardwood forests.

Future forest pests of concern not present in Indiana for 2017 included these exotic pests: sudden oak death, Asian longhorned beetle, hemlock woolly adelgid, beech bark disease, gold spotted oak borer and other *Agrilus spp.,* spotted lantern fly and red bay wilt.

Also of concern is thousand cankers disease of black walnut. The components of the disease — walnut twig beetle and *Geosmithia morbida*—have been detected in Indiana through the trapping survey and research work. However, the disease has not been detected in or killed a black walnut tree in Indiana.

Invasive plants that have potential to affect and are affecting Indiana forest regeneration and biodiversity are also of concern. These include kudzu, *Pueraria montana,* tree of heaven, *Ailanthus altissima,* bush honeysuckle, *Lonicera spp.,* Japanese stilt grass, *Microstegium vimineum,* garlic mustard, *Alliaria petiolate,* and others. The kudzu eradication program continued in Indiana. Through 2017, there are 182 confirmed sites in 43 counties totaling 186.94 acres. The goal is to move kudzu to the Ohio River and eventually out of Indiana.

To help manage and prevent invasive plants, 28 aquatic invasive plant species are prohibited from sale, barter, trade, distribution or transport in Indiana. The DNR Division of Entomology & Plant Pathology is developing a rule to prohibit or restrict 44 terrestrial invasive plant species.




**Map 1:** Positive EAB counties from 2004 through 2017 showing counties detected from 2014 to 2017.

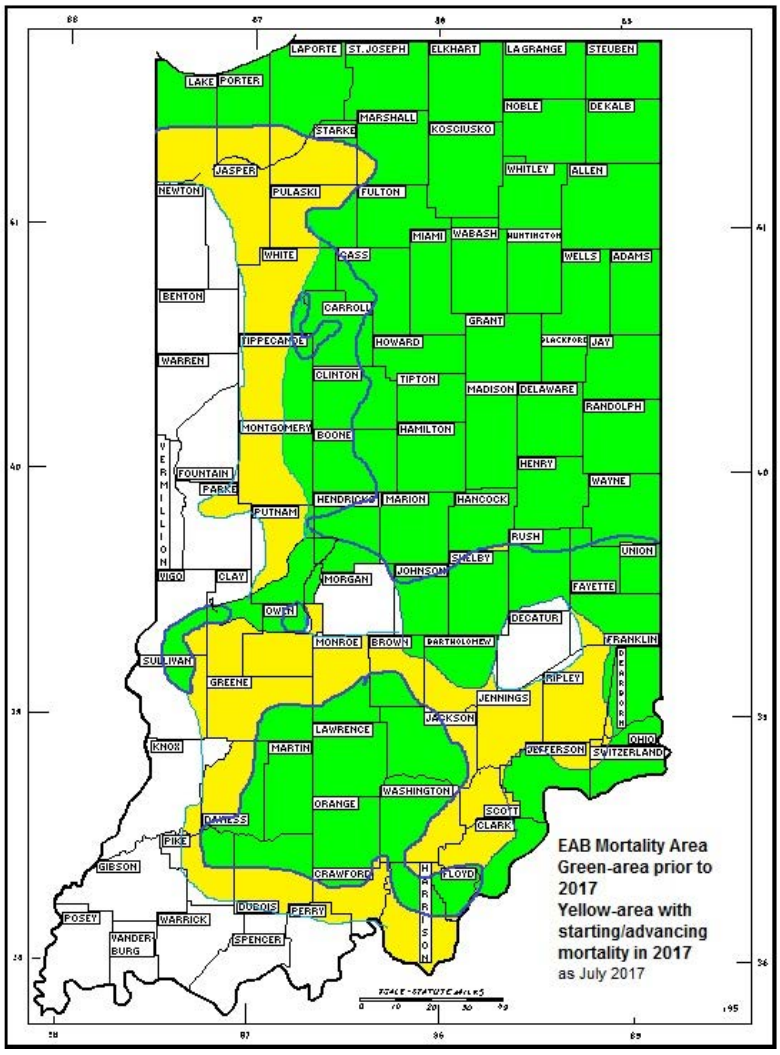
**Exotic Insect Pests of Indiana**

Two exotic major insects of concern—gypsy moth and EAB—continued to dominate the state resources for monitoring and management activities in 2017. Added in 2016 to these pests was thousand cankers disease of walnut. Other species that affected survey work and awareness efforts in 2017 were Asian longhorned beetle, hemlock woolly adelgid, sudden oak death, spotted lantern fly and laurel wilt.

Map 1 shows the counties confirmed positive since 2014.

Although first confirmed in 2004 and likely in Indiana between 2000 and 2004, EAB took more than 14 years to spread from Steuben/LaGrange counties through Indiana.

Aerial survey found the western edge of ash mortality is almost to the Illinois border in northwestern Indiana and to the Illinois border in central Indiana (*Map 2*). In southwestern Indiana, EAB is in the early years of killing ash. The killing wave is expected to be through southwestern Indiana by 2022.




**Map 2:** EAB mortality from 2004 to 2016 shaded green. Dark line inside green shaded area indicates extent of mortality in 2015. Yellow shaded area is mortality just becoming noticeable through survey in 2017.

A total of 3,391 forested acres of EAB mortality was detected in 2017, bringing the total forested acres with EAB mortality to 155,676 since 2009. This is only what was detected through aerial survey. The actual acreage would be much more because the survey does not record all acres, just the acres "farthest" from the prior year's survey. It could be said that mortality will occur on more than four million acres of Indiana rural forest and all of the urban forest acres. Indiana's EAB quarantine was repealed in October 2016.

**EAB Parasitoid Release Program**

The Division of Entomology & Plant Pathology initiated release of four EAB parasitoids in 2016 and continued releases in 2017. The egg parasitoid *Oobius agrili* and three larval parasitoids, *Tetrastichus planipennisi, Spathius galinae* and *S. agrili* (*photos 1, 2, 3*), were received from the USDA Lab at Brighton, Michigan.

Release began in late April and continued for 22 weeks through the end of September 2017. Between 2,200 and 12,200 insects were released weekly. More than 138,985 *Tetrastichus,* more than 34,900 *Oobius* and nearly 6,950 *Spathius* were released during the summer. Release occurred at the same 2016 locations for a total of 13 sites in five locations in southeast Indiana—Brookville Lake (*5*), Crosley Fish & Wildlife Area (*1*), Hardy Lake State Recreation Area (*2*), Austin Bottoms (*4*) and Atterbury Fish & Wildlife Area (*1*). Counties with release sites are Franklin, Union, Jennings, Scott, Jackson, Washington and Johnson counties.

For the two years, a total of 314,835 parasitoids have been released. In 2019, surveys will be conducted to re-capture any of the parasitoids to determine if they have established.

| Number of EAB parasitoids released in 2016 and 2017 by species/genus | | | | |
|---|---|---|---|---|
| **Year** | ***Oobius agrili*** | ***Tetrastichus planipennisi*** | ***Spathius*** | **Total** |
| 2016 | 52,000 | 77,000 | 5,000 | 134,000 |
| 2017 | 34,900 | 138,985 | 6,950 | 180,835 |
| **Total** | **86,900** | **215,985** | **11,950** | **314,835** |

*Compiled from 2016 and 2017 Division of Entomology & Plant Pathology annual reports, EAB Parasitoid Release Program report by Jared Spokowsky*

**Photo 1**


Courtesy of Bugwood

*Oobius agrili* (Houping Lui Michigan State)

**Photo 2**

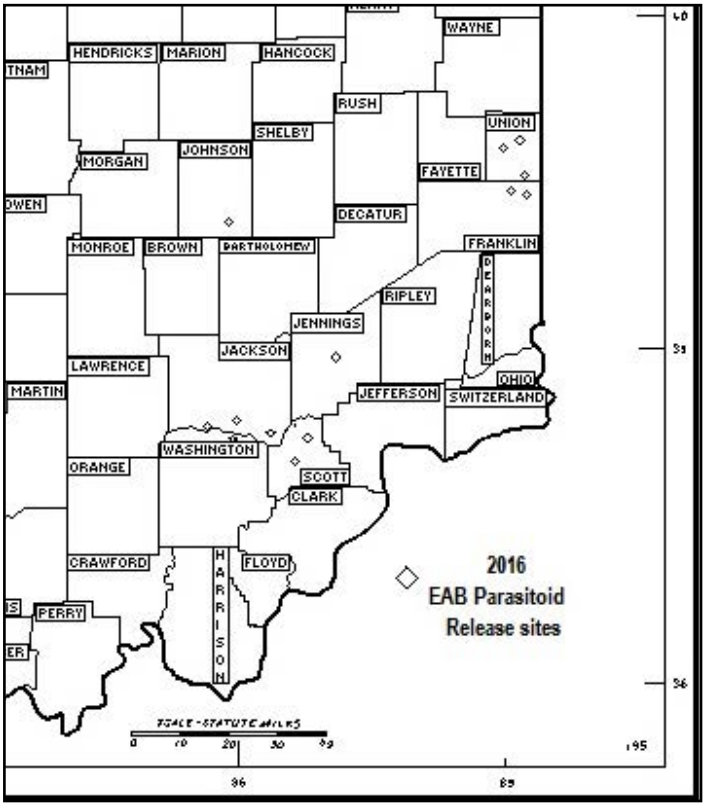

Courtesy of Bugwood

*Spathius spp.* (David Cappaert)

**Photo 3**


Courtesy of Bugwood

*S. agrili* (David Cappaert)




**Map 3**

**Emerald Ash Borer - *Agrilus planipennis***

Fairmaire Emerald ash borer (EAB) was discovered in northeast Indiana in June of 2004. In 2017, the last of Indiana's 92 counties had EAB detected in those counties - Vermillion, Fountain, Warren and Benton *(Map 1)*.

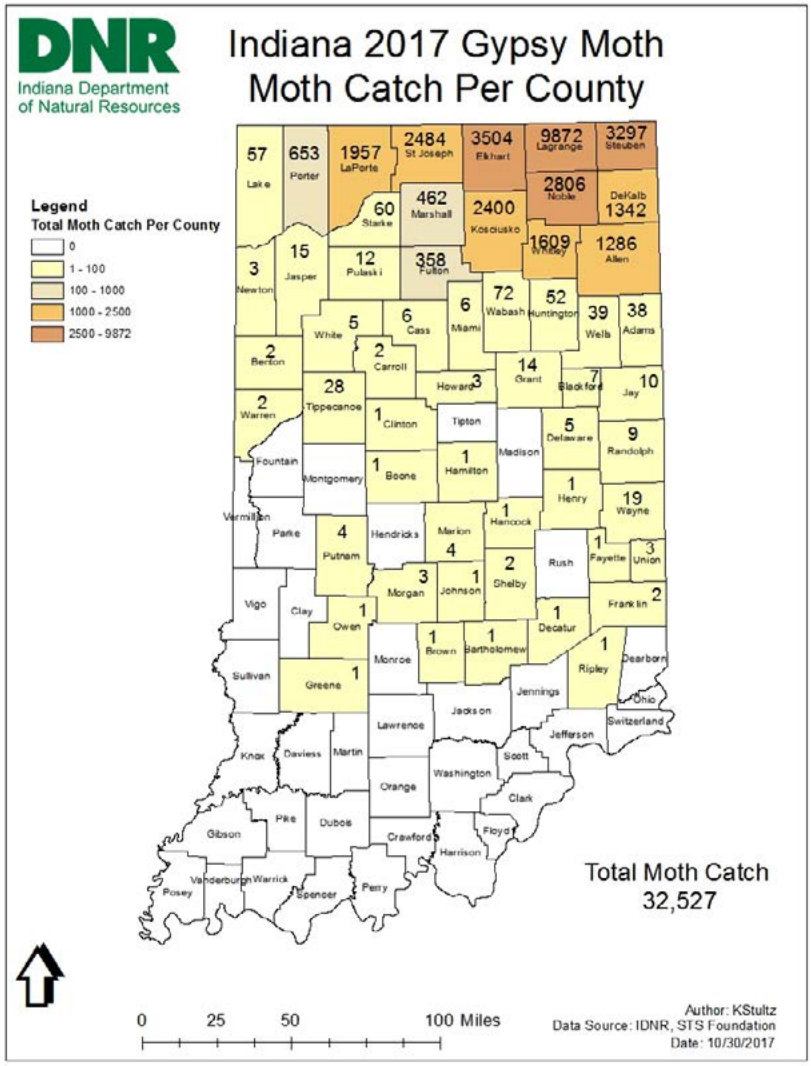
**Gypsy Moth – *Lymantria dispar***

The 2017 Cooperative Gypsy Moth Survey completed its 30th year of the statewide survey. The survey is part

of the Slow-the-Spread (STS) program and uses the STS protocol for its design and operation, dividing the state into three zones: the STS Evaluation Zone, the STS Action Zone, and the State Area (*Map 4*). The survey design used fixed 5K, fixed 3K, and fixed 2K grid survey points for the three zones. Across all zones, the survey deployed 11,998 traps, each referenced by GPS. The number of traps per county varied by zone. Four counties in the state area were not trapped in 2017, compared to six counties not trapped in 2016. Areas are not trapped mostly for economic reasons, but also because of negative trap catches in previous years. The areas of the state that are not trapped change each year so that no areas are left without traps in subsequent years.

The survey detected 32,527 moths from 55 counties ranging from one to 9,872 moths per county (*Map 5*). The number of moths caught in 2017, a total of 32,527, was nearly identical to the number caught in 2016, due mostly to two random traps placed in the evaluation zones. Moth counts in the evaluation areas are expected to be high, so adding traps can alter expected results. Without those two additional random traps, the 2017 moth catch would have been 24,707, which would have been 7,820 moths fewer than in 2016, and would have been in-line with expectations of a lower moth capture (because other states reported a lower moth catch).


**Map 3:** 017 Gypsy Moth survey zones. White counties not surveyed.




**Map 5:** 2017 Gypsy Moth catch showing numbers of moths in each county.

# Forest Resource Information

Provided 1,972 technical assists upon request to various customers on topics of marketing, utilization, various training opportunities, efficiency, forest industry certification, best management practices, and forest resource and industry data.

Managed a Forest Stewardship Council Chain of Custody group consisting of 67 small-to-medium forest-industry companies, conducted 28 internal audits and coordinated six external audits by the certifying body (Scientific Certification Systems). Estimated economic impact of this group is more than $40 million.

Completed four documents highlighting log pricing, logging costs, residue costs, custom costs, and lumber pricing.

- 2017 Indiana Forest Products Price Report and Trend Analysis (spring 2017), dnr.IN.gov/forestry/files/fo-spring_2017_Timber_Price_Report.pdf
- 2017 Indiana Forest Products Price Report and Trend Analysis (fall 2017) is completed and is available at http://www.in.gov/dnr/forestry/files/fo-fall_2017_Timber_Price_Report.pdf
- The Indiana Hardwood Report – 2016 in review, dnr.IN.gov/forestry/files/fo-hardwoodreport2016.pdf
- 2017 Indiana Maple Syrup report, dnr.IN.gov/forestry/files/fo-Maple_Syrup_Report_2017.pdf
- Green Lumber Prices 2006-2016, report documenting the changes and trends dnr.IN.gov/forestry/files/fo-Green_Lumber_Prices_2006-2016.pdf

Created graphs depicting economic impact with regard to Indiana's forest products exports and standing timber values (*See tables 1-4 below*).

Created PowerPoint comparing green lumber prices over the past two years.

Provided various training opportunities (log, lumber, tree grade workshops, chainsaw and skidder training (16 days with 251 attendees), BMPs (nine days with 124 attendees), SFI, etc. were provided to 225 attendees for 3,050 contact hours. Attendees included professional natural resources personnel and forest industry professionals.

Coordinated four field days/demonstrations for forest industry professionals.

- Sawmill tour (Crone Lumber Company) for Ball State students (21 attendees). Architectural students were given a tour of Crone's log yard, sawmill and dry kiln operations.
- Forest Industry Tour for DoF personnel (28 attendees), with many new foresters in DoF. This was an opportunity to see four different types (veneer mill, sawmill, flooring manufacturer, and a stave mill).
- Mechanical Harvester Demo/Field Day (75 attendees). The use of mechanical harvesters is increasing significantly in Indiana. Foresters, loggers and landowners attended this field day/demo to see, first-hand, how these machines operate, as well as hear from companies who use the machines and how they benefit their company

- Forest Industry tour for IDOA interns (seven attendees), interns were able to see a veneer mill and sawmill operation as part of this tour.

54 harvest sites on State Forests and 35 harvest sites on Classified Forest and Wildland (CLF&W) lands, a total of 89 harvest sites, were monitored for BMPs for application/effectiveness. BMP monitoring reports were produced for the monitoring completed on the State properties, which can be found at dnr.IN.gov/forestry/files/fo-1996-2016_State_Forest_BMP_Report.pdf, and for the CLF&W program carried out in 2016, which can be found at dnr.IN.gov/forestry/files/fo-Classified_Forest_BMP-1996-2015.pdf.

Also, a comprehensive BMP monitoring report was released in 2017 that covered the results of all BMP monitoring from 1996 through 2016, which can be found at dnr.IN.gov/forestry/files/fo-1996_2016_State_Forest_BMP_Report.pdf.

The three reports written in 2017 are posted on our website. One logged-area analysis study was conducted in 2017. It was part of a five-year study to increase knowledge of harvest efficiencies, improve estimates of residual volume left in the woods after a harvest, and improve tree taper equations, among other things. Graduate students from Purdue FNR and Indiana University SPEA are using CFI data for research papers and classroom projects.

State employee field staff collected forest inventory data from 194 FIA plots across the state. Collected annually, the information provides an excellent picture of the forest resource in Indiana. Some highlights from this research show Indiana has 4.858 million acres of forestland (0.6% increase since 2011), 2.1 billion live trees or 438 trees/acre on average, and that net volume (10.69 billion cubic feet) experienced a 5.3% increase and averages 2,200 cubic feet/acre. The latest annual update can be found at https://www.fs.fed.us/nrs/pubs/ru/ru_fs127.pdf while the latest full five-year analytical report can be found at dnr.IN.gov/forestry/files/fo-IN_Forests_2013.pdf.

The Forest Resources Information (FRI) section concluded its 10th year (fifth year of re-measurements) of the Continuous Forest Inventory (CFI) program this year. CFI, which closely resembles the U.S. Department of Agriculture Forest Inventory & Analysis Program, provides an up-close view and valuable, timely and current data regarding the forest resource on State Forest properties. Data were collected from 780 plots. The latest property report can be found at dnr.IN.gov/forestry/files/fo-State_Forest_CFI_Report_2012_2016.pdf. Another inventory program coordinated by FRI concluded its 6th year and first year of plot re-measurements on private lands enrolled in the Classified Forest & Wildlands program. These 660 plots are measured in identical fashion to the property plots. Findings can be found at dnr.IN.gov/forestry/files/fo-Continuous_Forest_Inventory_Classified_Report_20122016.pdf.

Working in conjunction with the American Hardwood Export Council (AHEC) and the Hardwood States Export Group (HSEG) ISDA's hardwood economic development program manager, Mike Seidl attended multiple international trade shows throughout the world. In 2017 more than 300 trade leads were generated from attendance at these trade shows in growing and emerging markets, including China, the Middle East, Vietnam and Mexico. These trade leads are directed via email and/or visits to Indiana's primary hardwood exporting companies. More than 1,300 qualified trade leads have been collected from 2011 to 2017 alone. These leads have resulted in an overall increase in market share for the hardwood community with approximately $700,000 of new business in veneer, lumber and log sales in 2017 alone.

***Note:*** *Additionally, through our association with AHEC, most funding for the international trips came from federal dollars.*

Moreover, the hardwood program manager hosted four importers from Italy, Turkey and China on site visits and more than 70 email requests by importers and manufacturers in 2017 to purchase hardwood products. A number of these importer or manufacturer visits and/or inquiries resulted in first-time purchases.

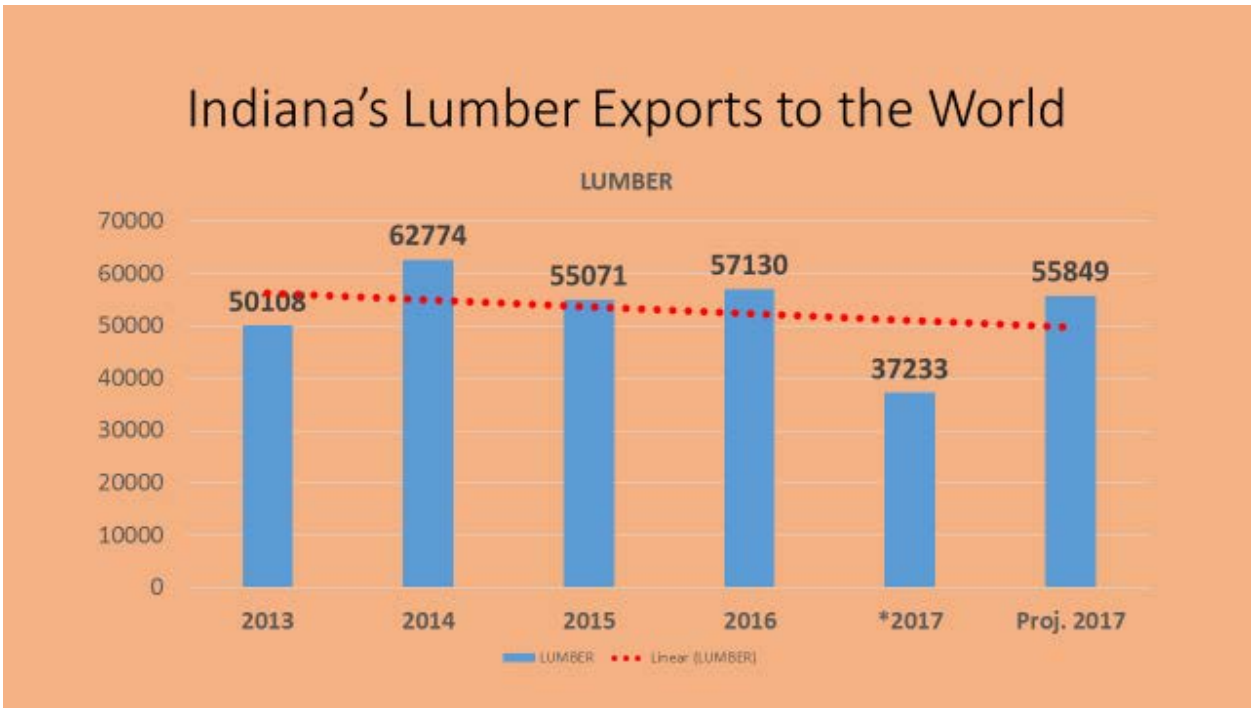



**Table 1**

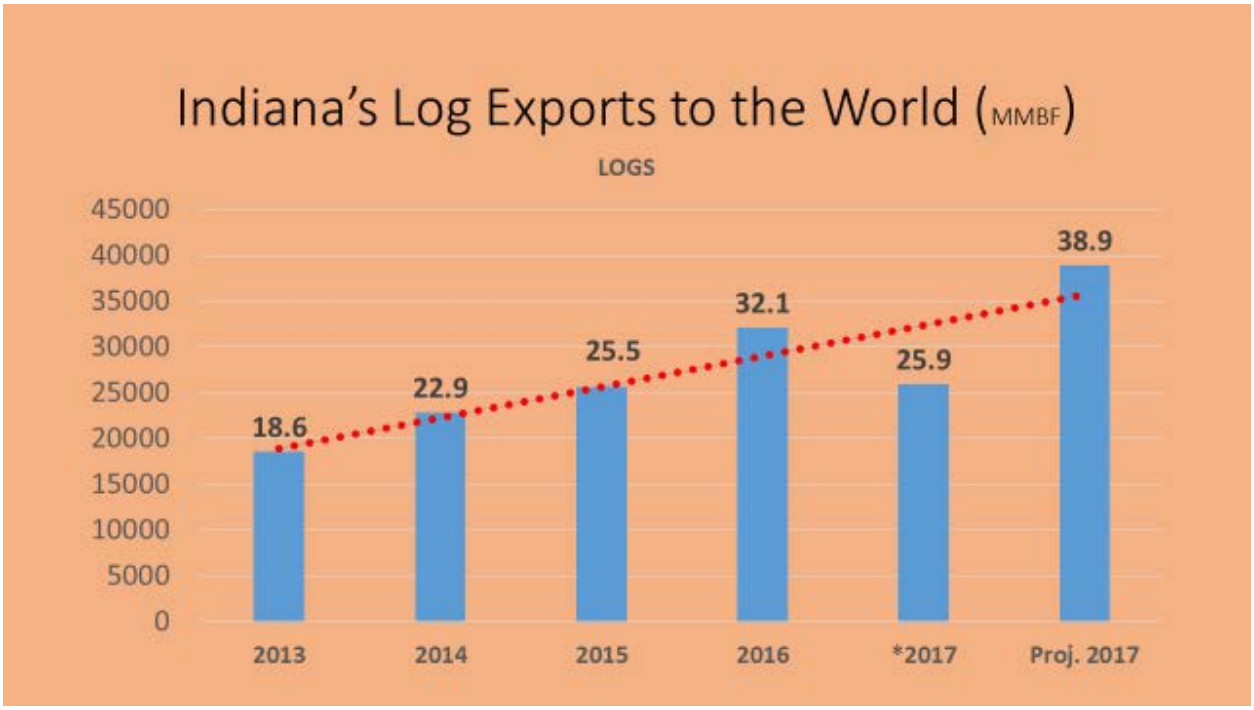



**Table 2**

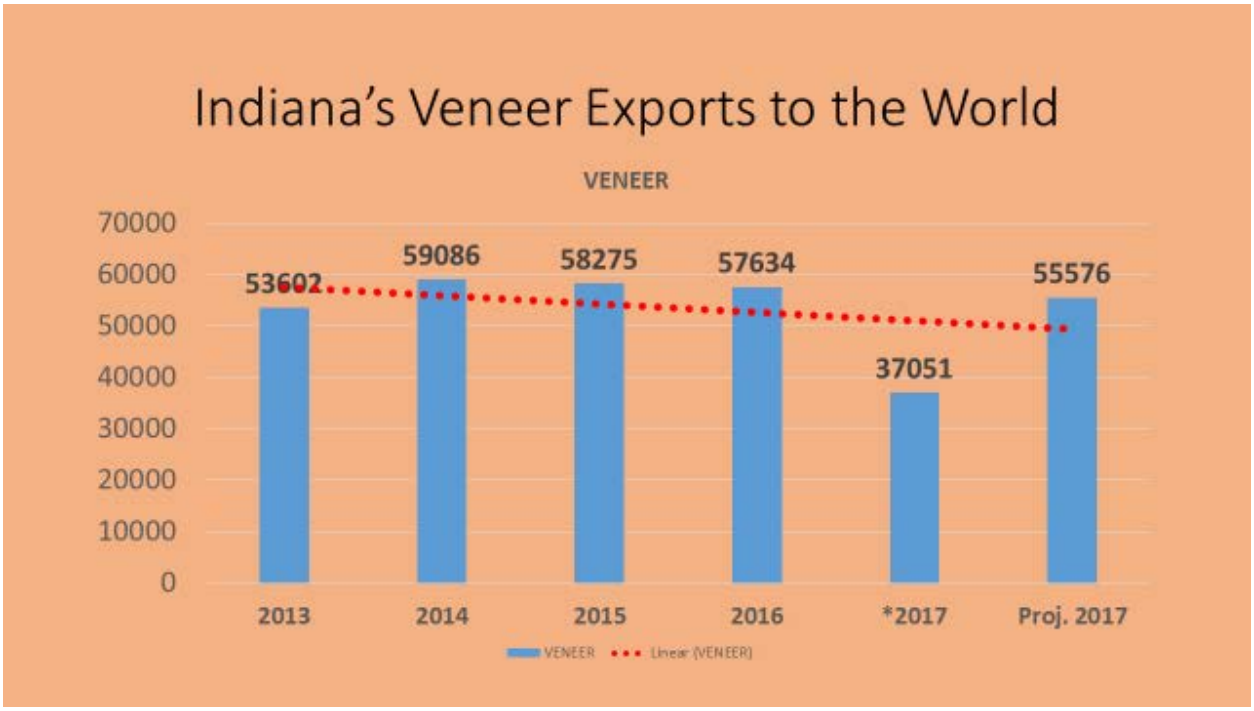



**Table 3**


**Table 4**

# Fire

Fire Headquarters is located at Morgan-Monroe. The primary program focus for Fire Headquarters is wildland fire prevention and fire suppression for Indiana, as well as fire training. Our other program areas include Federal Excess Personal Property, State Fire Assistance and Volunteer Fire Assistance. We also continue cooperative work with Indiana's rural and volunteer fire departments, providing training for fire personnel, managing our grant-assistance program, and providing wildland fire-prevention education throughout the state.

Other duties include constructing the Morgan-Monroe office (a major rehabilitation project), coordination of the Rental Cabin Project for State Forest properties, cutting hazard trees along property roadways, campgrounds and shelter houses (compounded by EAB infestation), cutting, skidding and hauling 150,000 board feet of timber for local projects, and logging-road construction/maintenance on all State Forest properties.

**Fire Season Weather Conditions**

The spring of 2017 was wet, with most of Indiana being 3-4 inches above normal in rainfall. July through September was a drying-out period, which began to place the state into the area of concern on the drought index. The month of October brought moisture, which proceeded throughout fall.

Unlike in many parts of the country, 2017 was exceptionally wet with above normal temperatures in Indiana. Prescribed burns, mainly in grasses and light fuels, were accomplished between rainfalls. Very few days were conducive to burning in the woodlands due to the need for longer drying periods.

The above-normal rainfall in Indiana reduced the number and severity of Indiana wildland fires, but the same was not true in other parts of the country. Indiana assisted in national mobility by sending qualified resources to Arizona, Colorado, Georgia, Idaho, New Mexico, Oklahoma, Oregon, Utah, Minnesota and Montana.

**Fire Operations**

Use of prescribed fire was scattered and confined mainly to the grass-fuel model. Few days were available to burn in the woods due to longer drying periods needed to cure shaded and protected fuels.

**Fire Suppression Operations**

- 10 wildfires burned 469 acres in Indiana.
- Largest fire of the season was 397 acres, in Greene County.
- No personnel injuries or losses of equipment.
- Fire Headquarters mobilized two- to 20-person Type 2IA hand crews to Montana.
- 30 single resources were sent to 10 states to aid in fire suppression.
- 1 Engine (Type 6) and three resources mobilized to Minnesota.

**Prescribed Fire Management**

- 8 prescribed fires managing 604 acres.
- Few days were available to burn because of longer drying periods needed to cure shaded and protected fuels.

**Training and Personnel Management**

Fire Headquarters staff presently tracks the training, experience and qualifications for 2,170 wildland fire-qualified personnel in Indiana within the Incident Qualification System. In 2017, staff conducted 22 classes ranging from one to five days long, providing instruction to 467 students at the Forestry Training Center. The majority of students were affiliated with rural volunteer fire departments or with the DNR.

**Federal Excess Property Program**

The Federal Excess Property Program (FEPP) enables the DoF to screen and acquire excess federal property for distribution and service. While this particular program provides rural departments with four-wheel-drive vehicles that are typically used as brush rigs, many other items essential to rural fire protection (i.e., generators, tankers, pumps, etc.) are also available.

Acquisition value of $1.7 million in non-consumable items were obtained and distributed to rural fire departments across the state.

A large quantity of consumable items, including small tools, disposable (i.e., one-time-use) items, and miscellaneous equipment also were acquired and distributed to the rural fire service.

**Volunteer Fire Assistance Grants**

The Volunteer Fire Assistance (VFA) program, formerly called the Rural Community Fire Protection program, is a federally funded matching grant program. VFA is a cooperative program between the DoF, the U.S. Department of Agriculture Forest Service, and state and private forestry partners.


VFA is a matching grant program created to assist in organizing, training and equipping rural and volunteer fire departments. Grants are matched 50/50 up to a maximum of $5,000.

Rural departments and city departments with a population base of less than 10,000 may apply for a VFA grant. Interested departments must complete an application and return it by March 1 each year. Applications received after March 1 are considered for the next year's grant cycle. Certain restrictions apply to grant funds.

In FY 2017, a total of 65 rural and volunteer fire departments in Indiana had projects approved to fulfill a total funding request of $294,756.

**Fire Prevention**

Fire danger in Indiana was low to moderate during most of the 2017 fire season. In contrast, Western states experienced the most devastating losses of life and property in recent history. Past incidents tell us that awareness increases greatly during high fire activity.

The Ad Council continues its campaign through billboards, newspapers and television and radio advertising. The goal is not only to create fire-safety awareness, but also to maintain it when conditions and circumstances are good, not just when they go horribly wrong.


The Story of Smokey Bear

Our vast, unique partnerships over the years have been key to our success, which has included high-profile events and personnel by promoting wildfire safety messages through posters, trading cards, calendars and multitudes of marketing.

The need to heighten public awareness about wildland fire has led DoF to adopt innovative methods to keep citizens and the fire-response community educated and informed. Through webinars and education, precisely targeted fire-prevention, safety and informational topics can be distributed. DoF continues to be involved in communities by presenting Smokey's wildfire-prevention message to local schools, county fairs, safety fairs, youth groups, Indiana State Fair, and Riley Children's Hospital.

Smokey Bear appeared 31 times with audiences of more than 24,500 attending fire prevention programs. The program's success is largely due to partnerships with other agencies and units of government, both public and private. One of the goals is providing co-operators, fire departments, and DNR properties the tools to expand the message.

Seven special programs were presented, reaching 1,800 citizens. One successful education program on fire safety and burn prevention was through a partnership with McAxe & The Fire Crew™ and special guest Kasey the Fire & Life Safety Dog™. The group comprises professional firefighters and public safety personnel who used an energetic blend of music, comedy and audience participation to deliver more than four million fire-prevention tips for inside and outside of the home, in Indiana and across the country.

We had 39 Non-Government Organization contacts.

Smokey Bear's image comes in different forms. The iconic Smokey Bear costume, an inflatable walk-about (i.e., an individual gets inside the costume and controls movements from within), stand-alone 13- and 8-foot inflatables, Smokey Bear robot (a remote-controlled miniature Smokey in a firetruck with red lights, sirens and squirting water) and 6-foot cardboard cutouts are part of the tool kit. Having these options available enhances and reinforces the fire-prevention message that has been instrumental in teaching wildfire safety to tens of thousands of Hoosier children.

Wildfire-prevention methods, materials, approach and delivery have evolved over the years and will continue with changes in culture, technology, educational mandates and human behavior. But, one thing will never change…

ONLY YOU CAN PREVENT WILDFIRES.

www.smokeybear.com

# Nursery

This was the first complete season using a new online tree ordering system with real-time inventory. The old system was run simultaneously as a check-and-balance in case inventory problem arose. Usage was much higher than expected and made inventory available for ordering at any time. Real-time inventory made it easy for customers to view our inventory at will.

A 10-foot x 60-foot gravel bed for growing stock for Urban Forestry settings was constructed. The idea was to install 400 to 500 seedlings to be grown in this environment to enhance fine-root development, achieve a larger plant, and therefore increase planting success in these harsh urban settings. Care was given to ensure timely watering, weeding and proper fertilization throughout the growing season. These trees were planted in various communities across the state.

An article for Tree Planter Notes on the development and construction of a small acorn seeder for use in sowing seed for seedling production was written and submitted. The article was published in the spring 2017 volume. The planter is capable of precisely sowing a number of different species of seed, assuring a high and proper germination rate.

State nurseries procured, tested and sowed 3.25 million tree seeds from Indiana seed collectors for production of next season's seedling crop. Another 1.6 million seeds were gathered through in-house collections. An additional one million seeds were procured from commercial vendors in order to obtain all of our seeding needs. These seeds were mostly sown in the fall, in approximately 28 acres of seedbed space. Approximately 50 different species were collected and sown for seedling production.

A fabric hoop structure for straw and equipment storage was rebuilt due to a strong spring storm that demolished the existing structure. Several hundred large round bales of straw can be stored in this structure for use over the seedbeds to provide protection from extreme cold temperatures as well as cut down on animal predation.

Corn, wheat and soybeans were grown on approximately 70 acres of fallow seedbed area to suppress weed growth and to build organic matter in the soil for future seedling production areas. All crops were harvested, and the wheat straw was baled for our use as winter protection to the seedbeds.

One million seedlings were safely shipped to the Jasper-Pulaski Nursery in northern Indiana. Customers from the northern part of the state could pick up their tree orders there instead of having to travel to the Vallonia Nursery in southern Indiana.


A total of 55,000 trees were provided and shipped to third-grade students across Indiana to celebrate Arbor Day. Each participating school also received a tree to plant on school grounds to help promote awareness of the environmental benefits of planting trees.

A total of 12 different varieties of wildflowers were sowed and produced for use in a pollinators project for the monarch butterfly. Various wildlife biologists collected seed from these plants for planting on other state-owned properties. Additional plants were transplanted to other planting sites in projects across the state within various municipalities.

Between 2,000 and 4,000 extra-large bare-root seedlings were produced for planting in urban landscapes through an Urban Forestry grant. These large seedlings were packaged and transported to several urban communities for spring planting. This grant will also continue through 2018.

Red oak seedlings were produced and shipped to 60 deer-browse-study participants in association with the Indiana Forest Woodland Owners Association. This is a multi-year study on the effects of deer browse on newly planted red oak seedlings. Some trees were planted inside fencing confines while others were planted outside the enclosure.

An article titled "Pawpaw Propagation Protocol" was written and provided for the Native Plants Journal. This publication is available semi-annually and produced by the U.S. Forest Service. The article explains the proper technique to grow Pawpaw, how to handle and plant the seed, its common uses and planting sites, as well as its benefits to humans and animals.

Last winter conditions were extremely favorable for Nursery-seedling harvesting, as mild temperatures allowed for the lifting of seedlings throughout the winter. Temperatures were above normal, allowing for field work the entire winter because the ground never froze. Typically, the ground is frozen in late December through the end of January, which halts seedling harvesting during this time period.

A typical work day can produce up to 100,000 seedlings from the fields, resulting in as many as 50,000 being processed and packaged each day.

The partnership between the DoF and the Department of Correction (DOC) continued. The nursery is provided with up to 36 offenders daily during its lifting season and about 18 during the summer growing season. This partnership provides a labor force to the DoF while, ideally, teaching offenders a work ethic and imparting knowledge they might use upon re-entry to society. These offenders are involved in all aspects of nursery production—weeding, sowing, harvesting and processing.

A chapter on "Seedbed Densities and Sowing" was written and submitted for the Hardwood Nurseryman's Guide. This publication is being revised with updated nursery practices, sowing techniques and various cultural-practice methods used by today's nursery workers. This field guide is being revised through the cooperation of Auburn University and various state-employed nursery workers.

Staff participated in the federal review of New York state's nursery system. The U.S. Forest Service provides insight from a group of peers to monitor and provide technical support for state nursery system updates. These reviews are held each year, and each individual nursery is federally reviewed once every five years. All findings are presented to that particular state's State Forester.

Staff attended the NE Area Nurserymen's conference in Walker, Minnesota. This annual meeting addresses common problems dealt with by many nursery workers as well as providing insight about various methods that are used in all facets of seedling production.

| Year | Total Seedlings Sold | Revenues | Expenditures | % Recovery |
|---|---|---|---|---|
| 14-15 | 1,840,644 | $637,665 | $721,900 | 88% |
| 15-16 | 2,361,687 | $895,156 | $770,362 | 116% |
| 16-17 | 2,328,770 | $853,830 | $1,090,073 | 78% |
| 17-18* | 2,500,000 | $900,000 | $1,000,000 | 90% |

* *Projected*

# Community & Urban Forestry

In 2017 the program continued to provide direct technical assistance or education programs for 122 unique cities and towns, serving the approximately 3.1 million Hoosiers who live in the communities receiving technical/financial assistance and educational programs. (Assists are counted only once per community, per federal reporting definitions. Continued assistance within the same community is tracked but not reported as a metric.) The Community & Urban Forestry (CUF) program consists of the program coordinator, outreach coordinator (position vacant Oct. 17) and an intermittent grants administrator.

Annual CUF programming includes Tree City USA application review and awards, attendance at Arbor Day events across the state, serving as administrator for the DoF and the Indiana Community Tree Stewards Facebook pages, giving presentations for green industry and nontraditional audiences upon invitation, and holding three Indiana Community Tree Steward training programs, as well as managing grants and responding to municipal and homeowner questions.

The following are unique or notable program events from 2017

**Arbor Day Poster Contest**

The Indiana Arbor Day Poster Contest (ADPC) was taken over by a committee lead by CUF staff. The committee worked in 2017 to grow participation and awareness of the competition. In total, 1,126 posters were made, and 65 school finalists were submitted. The top 12 posters were selected for public voting. CUF included the top 12 poster artists' work in the inaugural ADPC calendar. Each participant's classroom received 100 native seedlings from the Vallonia State Nursery. The top three winners received STEM-themed prize packages for the student and their classroom and a tree was planted in their community in their honor.


District Forester Rob McGriff plants Prize Tree With Contest Winner

**Tree Planting at the State Capitol**

CUF plated 45 native trees on the State Capitol grounds as part of the state's bicentennial campaign. In late 2016, CUF helped the Bicentennial Commission develop a plan that was accepted by Ricker's for a $25,000 grant to fund the plating, signage and monitoring of a significant tree-planting project. As part of the project, a map of the grounds was updated, including the planting and existing notable trees. The Ricker family, along with Lt. Gov. Suzanne Crouch, DNR director Cameron Clark and State Forester John Seifert attended the dedication of the planting in April 2017. A plaque noting the planting was placed on the grounds during the ceremony.

**Tree Risk Assessment Training for DNR Staff**

CUF coordinated Division of Forestry and State Parks staff to hold Tree Risk Assessment training for DNR property staff. This training was led by Lindsey Purcell, the Purdue University Urban Forestry Extension Specialist and International Society of Arboriculture (ISA), Tree Risk Assessment Qualification (TRAQ) instructor. The program was held at two state-park locations with 62 staff trained. The goal was to provide a systematic way for staff to assess and prioritize tree work based on an internationally recognized protocol developed by ISA. After the training, property managers indicated on surveys that they felt more confidant that they could better prioritize work using budget dollars for tree removals and pruning to best reduce risk to visitors and property facilities.

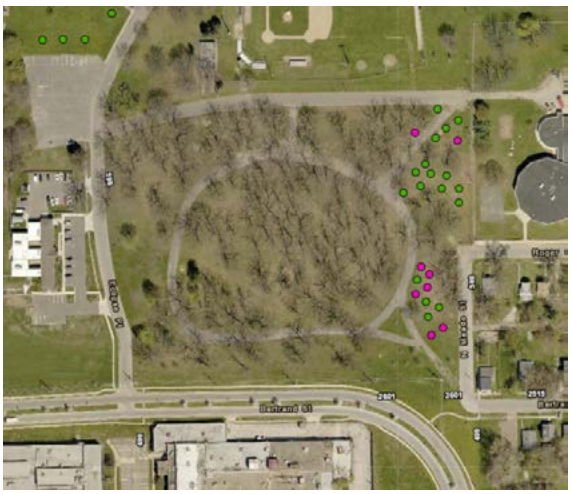
Field Training:  inspecting tree for defects, identifying potential targets.

**Great Lakes Restoration Initiative (GLRI)**

CUF applied for and was awarded $60,500 to providing communities and not-for-profit organizations with select-grade two-year bare-root seedlings. GLRI aims to plant trees with the focus on recovery from the loss of hundreds of thousands of ash trees to the emerald ash borer (EAB), an invasive forest pest. Partners received 2,300 seedlings for planting in 2017. The program goal is to plant 5,000 trees across the Great Lakes basin in Indiana by spring 2019.

A Michigan City arborist (center) plants a GLRI tree with students.

South Bend Parks staff plant GLRI trees.




Seedlings mapped and in full leaf during Year 1.

**Grants Programs**

In 2017, CUF awarded a total of $100,000 in sub-grants to communities and not-for-profit originations across the state. Sub-grants were awarded for community tree inventories and management planning, tree planting, and education programs with nine communities and other groups in Indiana.

**Urban Forest Symposium**

CUF hosted an urban forest symposium in September at the Morgan-Monroe State Forest training center. The event was offered at no cost to participants. Even with heavy road construction surrounding the site, the conference brought 50 partners from across the state for education and networking. Because of the facilities, overnight capacity partners were offered the option to stay on site to avoid additional travel costs.


Beth Corrigan of the Morton Arboretum Community Tree Program presents at the IN Urban Forestry Symposium

**Saluting Branches**

CUF staff helped coordinate the Indiana site for the National Saluting Branches day of service at the Indiana Veterans' Home and cemetery in West Lafayette. Professional arborists and volunteers from across the state provided more than $30,000 in tree care and removal services on Sept. 20, 2017. Crews worked to reduce the number of dead and dying trees on the site that posed the greatest risk to on-site residents, staff and visitors. Climbing arborists also provided necessary pruning to improve safety for visitors and maintain the vitality of large mature trees in the veterans' cemetery on site. Part of this work included removing a 90-foot-tall oak tree that had been dead for several years from the main entrance road to the site. Volunteers from West Lafayette Tree Friends provided structural pruning of young trees on the main lawn of the property and mulching to protect trees from mower damage that would indefinitely shorten their lifespan.


Volunteers and removal of a 90-foot dead oak tree at the entrance to the IVH.


West Lafayette Tree Friends volunteers

Large dead ash removed from along the main road at the Indiana Veterans' Home.

**Indiana Arborists Association**

CUF will partner with the IAA to host an urban forestry day as part of the IAA annual conference in 2018. CUF also works with IAA to hold professional education/training programs throughout the year. This training helps ensure that there are more and better-trained municipal staff and practitioners available for communities to employ and hire as contractors to help manage urban trees.

Healthy Urban Forests = Jobs.

**Indiana Tree Climbing Competition**

In September 2017, CUF participated in the IAA Tree Climbing Competition, helping coordinate the small arbor fair and a kids climb. A total of 42 children participated in the kids climb. Each family received a copy of the children's book produced by the U.S. Forest Service "Why Would Anyone Cut a Tree Down?" Motivation for participation in this event included growing exposure for CUF as well as promoting the field of arboriculture as a career path for young children.

Kids Climb participant.

Volunteers prep for climbing competition.


First-place award made from urban tree in Bloomington.

Future climbing arborist

**RETREET Kokomo**

After almost a year of planning, the first of three RETREET events occurred in Kokomo. CUF and RETREET, along with Keep Indianapolis Beautiful and local partners, planted 120 trees for homeowners affected by two tornados that hit the same area of Kokomo twice between 2012 and 2015.


Kokomo RETREET volunteers plant trees in resident back yard

# Education/Information Section

**Project Learning Tree**

A total of 22 educator workshops were conducted by 17 facilitators across the state; 348 participants were trained. Included were Natural Resources Teacher Institute in which 18 educators completed week-long immersion workshop in Indiana forests and forest management.

- Conducted four facilitator trainings; trained 5 new facilitators and conducted a refresher for 1 facilitator.
- Awarded Facilitator of the Year to Amy Hamann, science methods instructor at Purdue Northwest.

**Informational Signage for State Forests**

- Completed and installed five signs for Clark State Forest CCC project.
- Completed two signs for Ferdinand State Forest
- Completed one Young Forest Demonstration Area sign to be installed on State Forests with openings visible to public.
- Made numerous site trips to Clark, Ferdinand-Pike, Harrison-Crawford, Jackson-Washington, and Knobstone Trail trailheads.


**National FFA Forestry Career Development Event**

- Led planning for field practicum portion of event. Developed and implemented activities, including tree ID, timber cruising, equipment ID, forestry business problem, group activity, and team issues interview.
- A total of 41 state teams participated in Oct. 26.

**Informational Videos**

Made video request to Communications for short videos on harvesting practices on State Forests.