Managing Ohio’s Forest Resources
Impact Statement

Investigators
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SUMMARY
Ohio’s forests are abnormally changing due in part to changes in natural disturbance regimes, including introduction of invasive species and the lack of fire. The increasing age of forests has caused young forest habitat to disappear. Re-introducing natural disturbance and reducing forest canopies along agricultural fields have been used to mitigate these problems. The Ohio Woodland Stewards Program produced and delivered a variety of programs to help private landowners, agencies and NGOs manage their forestlands.

SITUATION
Ohio has approximately 8.1 million acres of forest land, of which 86% is in private ownership and the remaining 14% in state and federal ownership. These forests have been undergoing abnormal changes in species composition and structure as a result of changes in the natural disturbance regimes. Changes in disturbance regimes include the presence of non-native insects, diseases and plants, and the absence of natural wildfires. In addition, Ohio’s forests overall are getting older which is causing younger forests to become less available for wildlife dependent on these forests for necessary habitat. It therefore has become necessary to study these changes and how to reverse them, including restoring these ecosystems; how to develop “soft” habitat edges such as maturing woodlots adjacent to open lands for conservation of edge- and early succession-dependent wildlife; and educating private landowners how to manage forests under these conditions.

RESPONSE
Long-term studies have determined that oak forests are undergoing transitions to forests dominated by uncharacteristic species. Disturbances have been re-introduced into oak forests that mimic natural disturbances to reverse this trend, such as partial removal of the forest canopy and the use of prescribed fire. The seedling canopy layer has been evaluated to determine the success and what more may be needed. The opening of the canopy also enhances early successional wildlife habitat which has been declining in Ohio. The Ohio Woodland Stewards Program has addressed the educational needs of Ohio’s private woodland owners, agencies and NGO managers in regard to these and other issues. These issues are being addressed from woodlot edges...
on agricultural lands to the heavily forested regions of the state. Programs and fact sheets have been created to identify the threats caused by disturbance changes, including invasive species, and propose management options for landowners and managers.

**IMPACT**

Our work has contributed to local, state and federal initiatives to manage forests and natural resources. We have provided information to develop wildlife habitat initiatives for private-woodland owners in southwestern Ohio as part of the National Bobwhite Conservation Initiative. Working in collaboration with US Forest Service and others we are developing strategies to sustain oak forests. This work has created an up-to-date compilation of understory plants for forest managers. This information helps to identify and anticipate changes in forest composition and non-native invasive species encroachment patterns. The work examines forest canopy regeneration in oak forests to better understand the relationships between disturbances and forest regeneration. This provides better guidance on the appropriate timing, frequency and severity of introduced disturbance to restore oak forests. The focus of the Woodland Stewards program on non-native invasive species has led to collaboration with colleagues in Indiana, Kentucky, Pennsylvania and Michigan to deliver hundreds of workshops for landowners and land managers. Since the expansion of the program, 1,500 natural resource professionals and over 7,500 landowners have been to a Woodland Stewards class. A smart phone app was created to help identify and report invasive species, and the app has been downloaded more than 8,000 times in Ohio with several hundred reports a year since it went live in late 2013.