Ohio Woodlands, Water, and Wildlife Newsletter

A Few Thoughts on Forest Health

Kathy L. Smith, Ohio DNR, Forestry, Bugwood.org

Forest Health is an interesting term. It is defined by the Dictionary of Forestry as “The perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigour, presence of unusually high levels of insects or disease, and resilience to disturbance.” I remember the old SAF bumper stickers that said “A Managed Forest is a Healthy Forest.” From my first day of Silviculture, I believed that proper forest management assured forest health. I think for many years this was the case. Sustainable timber production, wildlife habitat, multiple use, and all other forest benefits were the by-products of sound forest management.

However, forest health has evolved into much more than just management and needs to be looked at more on a landscape level, rather than the traditional stand level. Changes in the forest products industry and in private land ownerships have fragmented our forests more than ever. This fragmentation has resulted in more landowners, each with their own land management, goals, ideas, and activities. Added to that are climate change and invasive species which are climate change and invasive species which are perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigour, presence of unusually high levels of insects or disease, and resilience to disturbance.

Earthworms are generally considered beneficial organisms that improve and maintain soil quality by mixing organic and mineral layers, creating pore space for air and water, cycling nutrients, and reducing compacting. However, most of the state of Ohio has no native earthworm species. Non-native earthworms are found only in the southeastern portion of the state that was unglaciated during the last ice age. European earthworms such as common night crawlers have become ubiquitous throughout Ohio such that we forget they are indeed nonnative species!

Recently, a different group of earthworms have been reported in various parts of the state. Jumping worms, also known as banana worms, snake worms, or Alabama jumpers, are native to eastern Asia. The common names describe their behavior and come from the quick thrashing snake-like movements made by the worms when disturbed. Although Asian jumping worms have been documented on the west and east coasts of North America for decades, they have recently been reported in the Midwest US, including Ohio.

Although their jumping behavior can be used as an identifying character, these worms are brown to gray in color, and adults have a smooth milky white band (clitellum) that circles and is flush with the body. The clitellum is the reproductive structure where the eggs (eggs) are produced. Jumping worms produce small hardy cocoons in the late summer and fall, and it is this life stage that overwinters in the soil. Eggs hatch when surface soil temperatures warm, juveniles

Ohio Woodlands, Water, and Wildlife Newsletter

Upcoming Programs

October 13th  Fascinating Woodland Fungi OSU Mansfield
October 16th  Beginners Maple Boone County KY Extension Office
November 1st  The Secret Amenity: Impacts of Invasive Insects Warren County
November 29th  Living with Wildlife – Snakes, Vultures, & Canids – Oh, My! Warren County
December 8th  Value Added Maple Products Ashland University
December 9th  Ohio Maple Days Ashland University

Full Webinars

October 27  Managing Forests for Bats
December 1  How Does Ohio Get So Many Non-Native Insects?
Ohio Woodlands, Water, and Wildlife Newsletter
An Ohio Woodland Stewards Program Publication

Wild Turkey in Ohio
By: Patricia A. Mahaffy, School of Environment and Natural Resources

I am an insect ecologist who studies how disturbances affect the structure and function of communities in natural and urban forests. I grew up in Ashland, Ohio, and received my B.S. in Biology from Baldwin-Wallace College. As an undergrad, I had the opportunity to participate in a research program (REU) at the Rocky Mountain Biological Laboratory where I studied ant-aphid interactions. I received my Ph.D. in Entomology from the Ohio State University where I studied the responses of ground-dwelling insect communities to disturbances in forests and ecosystems. After graduation, I had several postdoctoral research positions focusing on urban insect ecology, invasive species, and insect decline, including at Kent State University. In August 2022, I became an Assistant Professor of Forest Entomology in the Department of Entomology at the Ohio State University where I have a split research, teaching, and extension appointment. My research program aims to understand how natural disturbances such as invasive species and windstorms impact forest health and management. My taxonomic expertise includes ground- and soil-dwelling arthropods, particularly ground beetles (Colleoptera: Carabidae). As part of my extension appointment, I work with a variety of stakeholder groups interested in forest insect ecology and management in response to invasive forest pests. My teaching responsibilities include insect ecology, entomological techniques and data analysis, and the nature and practice of science.

Meeting Dr. Kayla Perry
New Forest Entomologist

The wild turkey is a fascinating animal. The birds provide a variety of roles ranging from feeds to predators. You might think of the iconic gobbling males that must remain quiet or have feeling of excitement upon seeing a hen with pouls. For the wild turkey, this means having a backbone of fidelity to traditional hunting practices. In addition to the new regulations, a new study is underway that seeks to shed more light on the possible causes of the declining trend in turkey numbers.

The Ohio wildlife turkey project is a joint effort between the ODNR and Ohio State University. The project focuses on the main points of study. Current sites are in the vicinity of Watershed 18, Delaware State Forest and Appalachian Hills Wildlife Area. The team will then work to identify patterns, changes in soil structure and quality for plants and animals. Their feeding habits and their success in the environment is critical to disturbance in forests ecosystems. After the initial discovery, a team with the appropriate regulatory authorities worked with the appropriate regulatory authorities and monitored them closely, we were able to identify the species. Elm zigzag sawfly is an invasive insect native to Asia that was first found in Canada in 2020 and in multiple locations in states in 2021. We will be monitoring the status of the wild turkey in Ohio with more certainty.

In addition to the new regulations, a new study is underway that seeks to shed more light on the possible causes of the declining trend in turkey numbers. The Ohio wildlife turkey project is a joint effort between the ODNR and Ohio State University. The project focuses on the main points of study. Current sites are in the vicinity of Watershed 18, Delaware State Forest and Appalachian Hills Wildlife Area. The team will then work to identify patterns, changes in soil structure and quality for plants and animals. Their feeding habits and their success in the environment is critical to disturbance in forests ecosystems. After the initial discovery, a team with the appropriate regulatory authorities worked with the appropriate regulatory authorities and monitored them closely, we were able to identify the species. Elm zigzag sawfly is an invasive insect native to Asia that was first found in Canada in 2020 and in multiple locations in states in 2021. We will be monitoring the status of the wild turkey in Ohio with more certainty.

Elm zigzag sawfly is an invasive insect native to Asia that was first found in Canada in 2020 and in multiple locations in states in 2021. We will monitor the status of the wild turkey in Ohio with more certainty.

Lakes Early Detection Network App (GLEDN; http://gledn.osu.edu) can be downloaded to assist groups in monitoring and detecting early detection events (e.g., dragonfly pupation). If you find an elm zigzag sawfly or signs of its infestation, report them using the Great Lakes Early Detection Network (GLEDN) app. Download the app at http://gledn.osu.edu/glledn.
Wild Turkey in Ohio

Ohio Department of Natural Resources

Meet Dr. Kayla Perry
New Forest Entomologist

I am an insect ecologist who studies how disturbances influence other community functions and function of natural and urban forests. I grew up in Ashland, Ohio, and received a B.S. in Biology from Baldwin-Wallace College. As an undergrad, I had the opportunity to participate in a research program (REU) at the Rocky Mountain Biological Laboratory where I studied ant-aphid interactions. I received my Ph.D. in Entomology from the Ohio State University where I studied the responses of ground-dwelling insect communities to disturbance in forests ecosystems. After graduation, I studied postdoctoral research positions focusing on urban insect ecology, invasive species, and insect decline, including at Kent State University. In August 2021, I became the Assistant Professor of Forest Entomology in the Department of Entomology at the Ohio State University where I have a split research, teaching, and extension appointment. My research program aims to understand how natural disturbances such as insects and windstorms and human-induced disturbances such as invasive species, land use change, and climate change impact forest health and management. My taxonomic expertise includes ground- and soil-dwelling arthropod communities, particularly ground beetles (Carabidae). As part of my extension appointment, I work with a variety of stakeholder groups interested in forest insect ecology and management in response to invasive forest pests. My teaching responsibilities include insect ecology, entomological techniques and data analysis, and the nature and practices of science.

Welcome Kayla!

The wild turkey is a fascinating animal. The bird provides an index of the relative range of memories and moods you might have in the affective world. You might think of the iconic image of a turkey mantled with snow, or that feeling of excitement upon seeing a hen with pouls. For the bird, the same image might bring a childhood memory of finding a turkey track in the mud. No matter how you have interacted with a turkey, in addition to the new regulations, a new study is underway that seeks to shed more light on the possible cause of the declining trend in turkey numbers.

The Ohio wild turkey project is a joint effort between the ODNR and Ohio State University. Turkey reproduction is the main focus of the study. Current sites are in the vicinity of Waterford in eastern Harrison County, Ohio, in the Scioto and Wayne National Forests. The team will study the reproductive physiology of the wild turkey in Ohio. At the time of writing, the next nesting season is coming to an end. Even this early in the project, the team has found some interesting findings. Our average hen nested 2.1 miles from the site where they were trapped just a month or two previously. These changes in song and feeding habits of wild turkeys are parthenogenic, meaning they can self-fertilize and therefore, do not require a mate to reproduce. Do not purchase these earthworms for fishing bait or vermicomposting. Heat treatments or solarization of soil can be used for controlling them in small-scale because the worms and activities left behind castings (or earthworm waste) that look like used coffee grounds. In forest ecosystems, these changes in soil structure and quality cause an increase in erosion, reduce habitat, and/or alter plant establishment and growth. Therefore, jumping worms have the potential to cause direct and indirect ecological impacts in forests.

At this time, we do not have any research-based control strategies that can effectively reduce populations in forest settings. Therefore, preventing these invasive species in the first place is essential. Jumping worms are easily spread through the movement of soil, compost, wood chips, and plant material. The cocoons are easily transported in these materials, as well as on tools and shoes because of their small size and dark color. Stop the spread efforts are so important because movement of a single worm or cocoons can result in a new population. This can occur because jumping worms are parthenogenic, meaning they can self-fertilize and therefore, do not require a mate to reproduce. Do not purchase these earthworms for fishing bait or vermicomposting. Heat treatments or solarization of soil can be used for controlling them in small-scale because the worms and activities left behind castings (or earthworm waste) that look like used coffee grounds. In forest ecosystems, these changes in soil structure and quality cause an increase in erosion, reduce habitat, and/or alter plant establishment and growth. Therefore, jumping worms have the potential to cause direct and indirect ecological impacts in forests.

Unlike European earthworms, Asian jumping worms can self-fertilize and therefore, do not require a mate to reproduce. Do not purchase these earthworms for fishing bait or vermicomposting. Heat treatments or solarization of soil can be used for controlling them in small-scale because the worms and activities left behind castings (or earthworm waste) that look like used coffee grounds. In forest ecosystems, these changes in soil structure and quality cause an increase in erosion, reduce habitat, and/or alter plant establishment and growth. Therefore, jumping worms have the potential to cause direct and indirect ecological impacts in forests.

As an undergraduate, I had the opportunity to participate in a research program (REU) at the Rocky Mountain Biological Laboratory where I studied ant-aphid interactions. I received my Ph.D. in Entomology from the Ohio State University where I studied the responses of ground-dwelling insect communities to disturbance in forests ecosystems. After graduation, I studied postdoctoral research positions focusing on urban insect ecology, invasive species, and insect decline, including at Kent State University. In August 2021, I became the Assistant Professor of Forest Entomology in the Department of Entomology at the Ohio State University where I have a split research, teaching, and extension appointment. My research program aims to understand how natural disturbances such as insects and windstorms and human-induced disturbances such as invasive species, land use change, and climate change impact forest health and management. My taxonomic expertise includes ground- and soil-dwelling arthropod communities, particularly ground beetles (Carabidae). As part of my extension appointment, I work with a variety of stakeholder groups interested in forest insect ecology and management in response to invasive forest pests. My teaching responsibilities include insect ecology, entomological techniques and data analysis, and the nature and practices of science.

Welcome Kayla!

Meet Dr. Kayla Perry
New Forest Entomologist

Wild Turkey in Ohio

Ohio Department of Natural Resources

Meet Dr. Kayla Perry
New Forest Entomologist

I am an insect ecologist who studies how disturbances influence other community functions and function of natural and urban forests. I grew up in Ashland, Ohio, and received a B.S. in Biology from Baldwin-Wallace College. As an undergrad, I had the opportunity to participate in a research program (REU) at the Rocky Mountain Biological Laboratory where I studied ant-aphid interactions. I received my Ph.D. in Entomology from the Ohio State University where I studied the responses of ground-dwelling insect communities to disturbance in forests ecosystems. After graduation, I studied postdoctoral research positions focusing on urban insect ecology, invasive species, and insect decline, including at Kent State University. In August 2021, I became the Assistant Professor of Forest Entomology in the Department of Entomology at the Ohio State University where I have a split research, teaching, and extension appointment. My research program aims to understand how natural disturbances such as insects and windstorms and human-induced disturbances such as invasive species, land use change, and climate change impact forest health and management. My taxonomic expertise includes ground- and soil-dwelling arthropod communities, particularly ground beetles (Carabidae). As part of my extension appointment, I work with a variety of stakeholder groups interested in forest insect ecology and management in response to invasive forest pests. My teaching responsibilities include insect ecology, entomological techniques and data analysis, and the nature and practices of science.

Welcome Kayla!

Meet Dr. Kayla Perry
New Forest Entomologist

I am an insect ecologist who studies how disturbances influence other community functions and function of natural and urban forests. I grew up in Ashland, Ohio, and received a B.S. in Biology from Baldwin-Wallace College. As an undergrad, I had the opportunity to participate in a research program (REU) at the Rocky Mountain Biological Laboratory where I studied ant-aphid interactions. I received my Ph.D. in Entomology from the Ohio State University where I studied the responses of ground-dwelling insect communities to disturbance in forests ecosystems. After graduation, I studied postdoctoral research positions focusing on urban insect ecology, invasive species, and insect decline, including at Kent State University. In August 2021, I became the Assistant Professor of Forest Entomology in the Department of Entomology at the Ohio State University where I have a split research, teaching, and extension appointment. My research program aims to understand how natural disturbances such as insects and windstorms and human-induced disturbances such as invasive species, land use change, and climate change impact forest health and management. My taxonomic expertise includes ground- and soil-dwelling arthropod communities, particularly ground beetles (Carabidae). As part of my extension appointment, I work with a variety of stakeholder groups interested in forest insect ecology and management in response to invasive forest pests. My teaching responsibilities include insect ecology, entomological techniques and data analysis, and the nature and practices of science.

Welcome Kayla!

A New Pest for Your Radar: Elm Zigzag Sawfly

Recently, Kathleen Knight a researcher at the U.S. Department of Agriculture’s Forest Service Northern Research Station in Delaware and northern Franklin County found the elm zigzag sawfly infesting a research plot of elm trees. The zigzag sawfly infestation was reported by the U.S. Forest Service and the Ohio Department of Natural Resources (ODNR) Division of Forestry (Division of Forestry Management Online (DFMO) website):

“Elm zigzag sawfly is an invasive insect native to Asia that was first found in Canada in 2020 and in Ohio in 2021. A new study suggests that the zigzag sawfly is established in Ohio and is a threat to elm trees, whether it’s native or introduced.”

This is the first detection of the species in Ohio.

While this pest can significantly defoliate elm trees, the impact of this species in forest and urban areas is not currently known.

Elm zigzag sawfly larvae are typically one and a half inch long, they’re light green and resemble caterpillars. The larvae feed on elm trees, whether it’s native or introduced. Most notably, the larvae create a unique zigzag pattern through the leaves as they feed. Adults of this species are less likely to be observed but are small, shiny black, and winged.

“The Northern Research Station has conducted import inspections at the Delaware and elk at the Delaware lab for several decades. Because we manage multiple acres of elm plantations near the Delaware lab, we are well positioned to detect this infestation of elm zigzag sawfly,” Northern Research Station Entomologist Kathleen Knight said. “Northern Research Station scientists worked with the appropriate regulatory agencies to confirm the identification of the insect and identify infested areas.”

There is extensive research on Dutch elm disease in the Delaware lab for decades. These plantations are heavily monitored the sawfly was discovered in early July. They were well documented in the Delaware lab for decades, and this species was confirmed in 2020.

“The species was officially confirmed in Franklin County in 2022. If you find an elm zigzag sawfly or signs of its infestation, report them using the Great Lakes Early Detection Network App. Download the app at https://www.glendn.org/elmzigzag.
Meet Dr. Kayla Perry 
Forest Entomologist

I am an insect ecologist who studies how disturbances other than forest fires influence the distribution and function of insects in both natural and urban forests. I grew up in Ashkelton, Ohio, and received my B.S. in Biology from Baldwin-Wallace College. As an undergraduate, I had the opportunity to participate in a research program (REBS) at the Rocky Mountain Biological Laboratory where I studied ant-aphid interactions. I received my Ph.D. in Entomology from the Ohio State University where I studied the responses of ground-dwelling insect communities to disturbances in forests ecosystems. After graduation, I served a postdoctoral researcher position focusing on urban insect ecology, invasive species, and insect decline, including at Kent State University. In August 2022, I became an Assistant Professor of Forest Entomology in the Department of Entomology at the Ohio State University where I have a split research, teaching, and extension appointment. My research program aims to understand how natural disturbances such as native insects and wind-storms and human-induced disturbances such as invasive species, and use change, and climate change impact forest health and management. My taxonomic expertise includes ground- and soil-dwelling arthropod communities, particularly ground beetles (Coleoptera: Carabidae). As part of my extension appointment, I work with a variety of stakeholder groups interested in forest insect ecology and management in response to invasive forest pests. My teaching responsibilities include insect ecology, entomological techniques and data analysis, and the nature and practice of science.

Welcome Kayla!

Wild Turkey in Ohio
Ohio State, School of Environment and Natural Resources

The wild turkey is a fascinating animal. The bird provides a wide range of memories and emotions. You might think of the iconic image of a turkey on your family’s Thanksgiving menu or that feeling of excitement upon seeing a hen with pouls. For some, the bird may bring back a childhood memory of fishing in the woods with an old turkey stick in the mud.

Now that you’ve sampled my impression, let’s talk about the impressive role that turkeys play in the landscape.

In addition to the new regulations, a new study is underway that seeks to shed more light on the possible causes of the declining trend in turkey numbers. The ongoing Ohio wild turkey project is a joint effort between the ODNR and Ohio State University. Turkey reproduction and survival are the cornerstone of the study. Current sites are in the vicinity of Waterloo Wildlife Area, Ohio, and Appalachian Hills Wildlife Area. The team will be well informed of the ongoing changes in these forests. Data on nest sites, mortality rates, and causes of nest failure is obtained by tracking nests using telemetry devices. Early detection of any changes in the number of nests and nest success is critical.

At the time of writing, the first nesting season is underway and more data is gathered, coming to an end. Even this early in the project, the team has been able to see some interesting findings. Our average nest was 2 miles from the site where they were trapped just a month or two prior. The longest distance from nest to site was 5.9 miles as the turkey flies. Approximately 96% of tracked hens attempted to nest at least once. Some with birds reaching 3 attempts after nest failures. Of all nests detected 73% of nests were incubated, 89% of these nests had hens and 73% were third attempts. Nesting attempts occurred throughout the summer and winter, indicating the possibility of a recurred incubation happening on June 24th. Most of the confirmed poults came from second attempts. Out of the hens that successfully raised nestlings, 80% were adults. While checking on monitoring sites, researchers found tracks in the mud near some sort of corridor, such as a game trail, road or a stream, indicating movement to a new site and more data is gathered, we will ultimately be able to determine the status of the wild turkey in Ohio with more certainty.

Elm zigzag sawfly is an invasive insect native to Asia that was first found in Canada in 2020 and in multiple states in 2021. In 2021, the Ohio Department of Natural Resources Division of Forestry, Forest Health Program Manager Kenneth Clark said “This is the first detection of the species in Ohio.” While this pest can significantly defoliate elm trees, the impact of this species in forest and urban landscapes will be well documented but is currently under active research.

Elm zigzag sawfly larvae are typically one and a half inch long, they’re light green and resemble catterpillars. The larvae feed on leaves of elm trees, whether it’s native or introduced. Most noticeably, the larvae create a unique zigzag pattern through the leaves as they feed. Adults of this species are less likely to be observed but small, shiny black, and winged.

“The Northern Research Station has conducted important research and monitoring of E. leucopoda at elm at the Delaware lab for several decades. Because we manage multiple acers of elm plantations, we are in a good position to detect this infestation of elm zigzag sawfly,” Northern Research Station Entomologist Kenneth Clark said. “Northern Research Station scientists work with the appropriate regulatory agencies to confirm the identification of the insect and identify infested areas.”

There is extensive research on Dutch elm disease and the Delaware lab is the center of these plantations are heavily monitored the sawfly was discovered in early July. They were conducted by the Natural Resources Service of the United States Department of Agriculture’s Animal and Plant Health Inspection Service on July 21.

The species was officially confirmed in Franklin County, Ohio in early July. If you find an elm zigzag sawfly or signs of its infestation, report them using the Great Lakes Early Detection Network App or by calling 1-877-435-5867.

Download the app at http://go.osu.edu/GLEDN.

“Elm zigzag sawfly is an invasive insect native to Asia that was first found in Canada in 2020 and in multiple states in 2021. In 2021, the Ohio Department of Natural Resources Division of Forestry, Forest Health Program Manager Kenneth Clark said “This is the first detection of the species in Ohio.” While this pest can significantly defoliate elm trees, the impact of this species in forest and urban landscapes will be well documented but is currently under active research.

Elm zigzag sawfly larvae are typically one and a half inch long, they’re light green and resemble catterpillars. The larvae feed on leaves of elm trees, whether it’s native or introduced. Most noticeably, the larvae create a unique zigzag pattern through the leaves as they feed. Adults of this species are less likely to be observed but small, shiny black, and winged.

“The Northern Research Station has conducted important research and monitoring of E. leucopoda at elm at the Delaware lab for several decades. Because we manage multiple acers of elm plantations, we are in a good position to detect this infestation of elm zigzag sawfly,” Northern Research Station Entomologist Kenneth Clark said. “Northern Research Station scientists work with the appropriate regulatory agencies to confirm the identification of the insect and identify infested areas.”

There is extensive research on Dutch elm disease and the Delaware lab is the center of these plantations are heavily monitored the sawfly was discovered in early July. They were conducted by the Natural Resources Service of the United States Department of Agriculture’s Animal and Plant Health Inspection Service on July 21.

The species was officially confirmed in Franklin County, Ohio in early July. If you find an elm zigzag sawfly or signs of its infestation, report them using the Great Lakes Early Detection Network App or by calling 1-877-435-5867.

Download the app at http://go.osu.edu/GLEDN.
As Ohio Woodlands, Water, and Wildlife Newsletter

Ohio Woodlands, Water, and Wildlife Newsletter is published in part with funding from the Renewable Resource Extension Act (RREA).

Be on the Lookout for Asian Jumping Worms

Fall 2023

Earthworms are generally considered beneficial organisms that improve and maintain soil quality by mixing organic and mineral layers, creating pore space for air and water, cycling nutrients, and reducing compaction. However, most of the state of Ohio has no native earthworm species. Non-native earthworms are found only in the south-eastern portion of the state that was unglaciated during the last ice age. European earthworms such as common night crawlers have become ubiquitous throughout Ohio such that we forget they are indeed nonnative species!

Recently, a different group of earthworms have been reported in various parts of the state. Jumping worms, also known as Asian, snake worms, or Alabama jumpers, are native to eastern Asia. The common names describe their behavior and come from the quick thrashing snake-like movements made by the worms when disturbed. Although Asian jumping worms have been documented on the west and east coasts of North America for decades, they have recently been reported in the Midwestern US, including Ohio.

Although their jumping behavior can be used as an identifying character, these worms are brown to gray in color, and adults have a smooth milky white band (clitellum) that circles and is flush to gray in color, and adults have a smooth milky white band (clitellum) that circles and is flush with the body. The clitellum is the reproductive structure where the eggs (eggs) are produced. Jumping worms produce small hardly co- cos in the late summer and fall, and it is this life stage that overwinters in the soil. Eggs hatch when surface soil temperatures warm, juveniles

Earthworms are generally considered beneficial organisms that improve and maintain soil quality by mixing organic and mineral layers, creating pore space for air and water, cycling nutrients, and reducing compaction. However, most of the state of Ohio has no native earthworm species. Non-native earthworms are found only in the south-eastern portion of the state that was unglaciated during the last ice age. European earthworms such as common night crawlers have become ubiquitous throughout Ohio such that we forget they are indeed nonnative species!

Recently, a different group of earthworms have been reported in various parts of the state. Jumping worms, also known as Asian, snake worms, or Alabama jumpers, are native to eastern Asia. The common names describe their behavior and come from the quick thrashing snake-like movements made by the worms when disturbed. Although Asian jumping worms have been documented on the west and east coasts of North America for decades, they have recently been reported in the Midwestern US, including Ohio.

Although their jumping behavior can be used as an identifying character, these worms are brown to gray in color, and adults have a smooth milky white band (clitellum) that circles and is flush with the body. The clitellum is the reproductive structure where the eggs (eggs) are produced. Jumping worms produce small hardly co- cos in the late summer and fall, and it is this life stage that overwinters in the soil. Eggs hatch when surface soil temperatures warm, juveniles

Earthworms are generally considered beneficial organisms that improve and maintain soil quality by mixing organic and mineral layers, creating pore space for air and water, cycling nutrients, and reducing compaction. However, most of the state of Ohio has no native earthworm species. Non-native earthworms are found only in the south-eastern portion of the state that was unglaciated during the last ice age. European earthworms such as common night crawlers have become ubiquitous throughout Ohio such that we forget they are indeed nonnative species!

Recently, a different group of earthworms have been reported in various parts of the state. Jumping worms, also known as Asian, snake worms, or Alabama jumpers, are native to eastern Asia. The common names describe their behavior and come from the quick thrashing snake-like movements made by the worms when disturbed. Although Asian jumping worms have been documented on the west and east coasts of North America for decades, they have recently been reported in the Midwestern US, including Ohio.

Although their jumping behavior can be used as an identifying character, these worms are brown to gray in color, and adults have a smooth milky white band (clitellum) that circles and is flush with the body. The clitellum is the reproductive structure where the eggs (eggs) are produced. Jumping worms produce small hardly co-
A Few Thoughts on Forest Health

In Andy Land’s Estimate quote - Silviculture

Forest Health is an interesting term. It is defined by the dictionary of forestry as “The perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigor, presence of unusually levels of insects or disease, and resiliency to disturbance.” I remember the old SAF bumper stickers that said “A Managed Forest is a Healthy Forest.” From my first day of Silviculture, I believed that proper forest management assured forest health. And I think for many years this was the case. Sustainable timber production, wildlife habitat, multiple use, and all other forest benefits were the by-products of sound forest management. However, forest health has evolved into much more than just management and needs to be looked at more on a landscape level, rather than the traditional stand level. Changes in the forest products industry and in private land ownerships have fragmented our forests more than ever. This fragmentation has resulted in more landowners, each with their own land management, goals, ideas, and activities. Added to that are climate change and invasive species which all work together to create a perfect storm for forest health challenges.

It is important that landowners promote forest health on the forests of Ohio through the use of sound management practices. Whether that entails planting more trees, working to reduce our non-native invasive plant species or forest stand improvement practices we can all benefit from the effort. Ohio is 31% forested and 83% of that is privately owned. Ohio’s woodland owners play a critical role in the health of our forests across the landscape both today and into the future.

Forestry and Wildlife

Ohio’s Forestry and Wildlife have fragmented our forests more than ever. This fragmentation has resulted in more landowners, each with their own land management, goals, ideas, and activities. Added to that are climate change and invasive species which all work together to create a perfect storm for forest health challenges.

It is important that landowners promote forest health on the forests of Ohio through the use of sound management practices. Whether that entails planting more trees, working to reduce our non-native invasive plant species or forest stand improvement practices we can all benefit from the effort. Ohio is 31% forested and 83% of that is privately owned. Ohio’s woodland owners play a critical role in the health of our forests across the landscape both today and into the future.

Earthworms are generally considered beneficial organisms that improve and maintain soil quality by mixing organic and mineral layers, creating pore space for air and water, cycling nutrients, and reducing compaction. However, most of the state of Ohio has no native earthworm species. Native earthworms are found only in the southeastern portion of the state that was unglaciated during the last ice age. European earthworms such as common night crawlers have become ubiquitous throughout Ohio since we forgot they are indeed nonnative species!

Recently, a different group of earthworms have been reported in various parts of the state. Jumping worms, also known as Asian jumping worms, snake worms, or Alabama jumpers, are native to eastern Asia. The common names describe their behavior and come from the quick thrashing snake-like movements made by the worms when disturbed. Although Asian jumping worms have been documented on the west and east coasts of North America for decades, they have recently been reported in the Midwestern US, including Ohio.

Although their jumping behavior can be used as an identifying character, these worms are brown to gray in color, and adults have a smooth milky white head (clitellum) that circles and is flush with the body. The clitellum is the reproductive structure where the eggs (eggs) are produced. Jumping worms produce small hardy cocoons in the late summer and fall, and it is this life stage that overwinters in the soil. Eggs hatch when surface soil temperatures warm, juveniles

Ohio Woodlands, Water, & Wildlife Newsletter

Ohio Woodlands, Water, and Wildlife Newsletter is published in part with funding from the Renewable Resource Extension Act (RREA).