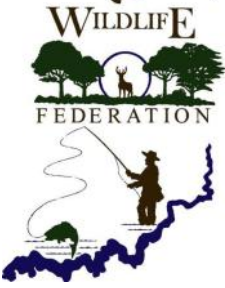


INDIANA

Indiana Wildlife Federation

COMMON SENSE CONSERVATION SINCE 1938

WILDLIFE FRIENDLY CERTIFICATION PROGRAM



The Indiana Wildlife Federation (IWF) has created a program to revitalize Indiana's struggling wildlife habitats. In neighborhoods or workplaces, or on developing areas, property owners and planners can follow the guidelines established by the Wildlife Friendly Certification Program to create the kind of viable and sustainable habitat currently disappearing from Indiana. With assistance from IWF, properties can attract birds, butterflies, and other wildlife, while providing valuable services to the property owner and local community. Successfully implemented projects will gain IWF's unique Wildlife Friendly certification, illustrating a commitment to defending Hoosier wildlife. IWF offers habitat certification programs for private land, public spaces, and areas under development.

PROGRAM GOALS

1. Promote the preservation, enhancement, and restoration of wildlife habitat in developing areas
2. Provide the habitat components needed by wildlife: food, water, and shelter
3. Preserve and/or enhance the natural diversity of Indiana habitats

ORGANIZATION DESCRIPTION

The IWF Vision is to create sustainable Indiana wildlife habitat as a source of inspiration, education and recreation.

WHAT IS THE INDIANA WILDLIFE FEDERATION?

Indiana Wildlife Federation (IWF) is one of Indiana's oldest conservation organizations, being founded in 1938. It is a statewide, non-profit organization made up of almost 2,000 individual and corporate members and over 50 Indiana conservation clubs affiliates who are dedicated to the wise use of our state's natural resources. IWF is committed to continuing Teddy Roosevelt's philosophy of wisely utilizing our country's natural resources: to use, but not abuse. As the state affiliate of the National Wildlife Federation, we are supported by the science and policy resources of one of the most respected conservation organizations in the country. IWF works closely with the Indiana Department of Natural Resources and other conservation organizations to provide a legislative and policy-making voice on conservation issues that affect all Hoosiers. IWF promotes hunting, fishing, wildlife watching and other outdoor activities, allowing Hoosiers to enjoy and benefit from nature while enhancing habitat and using science-based wildlife management techniques which maintain healthy and sustainable ecosystems. IWF's Wildlife-Friendly Certification Programs are available to both private and public landowners in residential, commercial,

IWF MISSION STATEMENT:

TO PROMOTE THE CONSERVATION, SOUND MANAGEMENT, AND SUSTAINABLE USE OF INDIANA’S WILDLIFE AND WILDLIFE HABITAT THROUGH EDUCATION, ADVOCACY AND ACTION.

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WHY DOES INDIANA NEED A PROGRAM FOR WILDLIFE-FRIENDLY CERTIFICATION?

In Indiana, industrial, agricultural, and residential development has drastically altered the once densely wooded landscape. Deforestation and the drainage of wetlands have left lands barren, stripped of diversity, and vulnerable to invasions



By D. Lipperd

by nonnative species. As a result, ecosystems can no longer provide many of the benefits on which people and wildlife depend, such as fertile soil and abundant clean water. Habitat degradation, fragmentation, low biodiversity, and invasive species present major threats to ecosystem integrity that property owners and developers have power to, and must, address.

HABITAT DEGRADATION

Many factors contribute to habitat degradation, or the simple loss or reduction in quality of the places wildlife live. For example, soil serves as the foundation, and largely affects the overall health, of any habitat. Indiana has been blessed with high-quality, fertile soil across much of the state. However, Indiana is losing this valuable resource faster than ever through the process of erosion. Soil erosion primarily results from a lack of vegetative cover; fewer plants mean fewer root systems to hold the soil in place and keep it from washing or blowing away. Native vegetation also acts to decrease the speed at which water washes across the ground after a rain event, reducing the amount of soil that gets washed away with runoff. With current land use practices, the U.S. is losing soil ten times faster than the natural rate, which causes productivity losses of \$37.6 billion each year.¹ With the loss of Indiana's precious soil resources, the quality of our native habitats will be extremely difficult to maintain or restore in the future.

Another factor commonly leading to habitat degradation is pollution, which contaminates soil and water making it difficult for native plants and animals to survive. Pollution comes in a wide variety of forms and also contributes to habitat degradation. Excessive or harmful sediment, fecal waste, pesticides, fertilizers, heat discharges,



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light, and noise can pollute terrestrial and aquatic habitats. Pollutants easily contaminate water systems, and studies show 40% of U.S. rivers and 45% of lakes are polluted.² In 2001 and 2002, 95% of rainwater from four sites in Indiana had unsafe levels of mercury.³ Increases in impervious surfaces, such as blacktop, only exacerbate these water quality issues. Water is unable to infiltrate these surfaces and instead flows across them, picking up speed, collecting sediment and toxic chemicals, and eventually depositing them in our lakes, streams, and rivers.⁴ The sediment and toxic chemicals degrade water quality, adding stress to wastewater treatment plants and reducing the quality of our natural aquatic habitats. Pollution and the loss of our soil resources are only two of the many factors reducing the quality of our natural habitat and limiting the benefits available to wildlife and people.

HABITAT FRAGMENTATION

The breaking up of large habitat areas into smaller pieces, or habitat fragmentation, also presents a serious problem for wildlife. Forests once covered over 80% of Indiana, and wetlands and prairie filled in the other open spaces. By the early 1900's, the agriculture and timber industries cleared a vast majority of Indiana; forests covered only 5 to 10% of the state; and over 85% of Indiana's natural wetlands were drained. Since then, certain rural areas have been retired from production, and the forest has grown back to cover 20% of Indiana. Unfortunately, much of the state's natural wetlands have not returned.⁵



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This drastic change in land use around the state has fragmented a continuous network of natural lands, and agricultural, commercial, industrial and residential developments continue to disconnect wildlife habitats.⁶ The U.S. contains an estimated 40 million acres of lawn, almost twice the size of our Hoosier state. The lower forty-eight states use 54% of their land for cities and suburbs and 41% for agriculture, leaving 95% of the total land unsuitable for many wildlife species.⁷

When a development splits large habitats into smaller pieces, the overall area usable by wildlife decreases, often reducing an ecosystem's health and biodiversity. These fragments become increasingly isolated, causing species distribution and reproduction to decline significantly. This type of isolation

makes it difficult to find mates or appropriate areas to reproduce. Resources such as food, water, and shelter become limited, resulting in lower survival rates among many species. Though the habitat's area decreases, its perimeter increases as the small pieces of habitat become more and more exposed. Wildlife living in perimeter, or edge, habitats are especially vulnerable to problems such as brood parasitism and invasive species. Property development creates problems for wildlife not only by clearing large pieces of habitat but also by fragmenting the leftover habitat and leaving it exposed to other ecological dangers.

LOW BIODIVERSITY

The variety of plant and animal species, or biodiversity, is important to a healthy, functioning ecosystem and essential for successful agriculture. Species manage ecosystems by fulfilling various interconnected roles. For example, species often work as natural pesticides and herbicides, keeping plants healthy. It takes a variety of species to perform the wide array of services required for a sustainable ecosystem. Species depend on each other and their respective ecosystems for mutual survival, and the loss of a single species can yield disastrous results



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for entire ecosystems as food chains and other natural systems fail. If 95% of America is largely unsuitable as wildlife habitat, as mentioned above, then 95% of native species may likely disappear.⁸ Earth needs all native species, and therefore all natural habitats, in order to function properly.

The interaction between crops and pollinators illustrates how ecosystems depend on biodiversity. Approximately \$30 billion in forty crops in the United States depend on pollination from a diverse population of insects.⁹ In turn, these pollinators depend on native plant diversity to provide food and shelter. Without this range of plant species, our pollinators will start to disappear and the nation's crops will not be able to produce the food products on which our country relies. Thirty billion dollars in crops equates to a loss of one out of every three to four bites of food or sips of a drink.

If nothing else, biodiversity adds aesthetic appeal to a landscape. An environment with only a few species pales in comparison to a vastly diverse landscape. Biodiversity must be maintained to preserve agricultural, economic, and aesthetic rewards for Indiana's citizens and wildlife.

INVASIVE SPECIES

IWF emphasizes the need to increase biodiversity, but some species should be avoided or removed from Indiana's habitats. Invasive species displace native plants and animals, negatively affecting local biodiversity and ecosystem function. These "non-native species[.]...whose introduction does or is likely to cause economic or environmental harm or harm to human, animal or plant health,"¹⁰ can ravage habitats of all sizes by crowding out native species or outcompeting them for resources.

Invasive species threaten almost 1 out of every 3 species protected by the Endangered Species Act through predation and competition.¹¹ The invasive sea lamprey, introduced to the Great Lakes in the early 1900s, has reduced the amount of lake trout caught annually from 15 million to only 300,000 pounds



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by the 1960s.¹² A study of Midwestern birds found species that nest in exotic plants may have lower nesting success due to a lack of thorns in some exotic plants. The nests in these plants are not as tall as those in native plants.¹³ These inadequate nesting sites expose wildlife to predators.

In addition to polluting and destroying ecosystems, property development facilitates invasive species introductions. Increased traffic near a development helps exotic plants invade at alarming rates. Private homeowners, commercial property owners, and industrial parks even install invasive species in gardens and plantings, without considering the harm they can cause to native ecosystems. The old proverb, "An ounce of prevention is worth a pound of cure" applies to how one should handle invasive species. It is much easier and more cost effective to prevent invasions than to react to them after a species becomes established.

Knowing that exotic plants can disrupt natural habitats, property owners should landscape with native plants as much as possible. Ninety percent of all plant-eating insects need native plants in order to develop completely.¹⁴ It takes years

for insects or other wildlife to adapt to alien species. Each introduction of invasive plants forces native wildlife to confront huge problems such as competition and limited resource availability. Native plants serve as excellent alternatives to problematic invasives and will establish a solid foundation for any Indiana habitat.

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WHAT DOES THE CERTIFICATION PROGRAM OFFER?

- Recommendations and guidance in developing a successful Wildlife Habitat Plan that achieves certification
- Assistance in acquiring materials or services to implement and maintain your Wildlife Habitat Plan
- Assistance in finding funding sources for implementation and maintenance of your Wildlife Habitat Plan
- Public recognition and media opportunities upon application acceptance and certification
- Assistance in organizing educational workshops and events
- Continued access to technical advice and resources



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PROGRAM REQUIREMENTS

This program's requirements help ensure that participants fulfill the goals of the Wildlife Friendly Certification Program. The requirements below will act as guidelines for developing the required Wildlife Habitat Plan and Wildlife Friendly Certification Application and will help explain how your property can combat the problems highlighted in previous sections.

The guidelines will be followed with the help of a Habitat Team consisting of various stakeholders chosen by the landowner and IWF who are dedicated to the project and will provide oversight of project planning and implementation.¹ IWF will provide recommendations and guidance to the Habitat Team as they develop a Wildlife Habitat Plan for the property that fully satisfies the program goals and requirements. The Wildlife Habitat Plan should clearly explain: historic and existing conditions, goals or objectives of the project, actions to satisfy these goals, and how these actions will be implemented and sustained. It will be the primary responsibility of the Habitat Team to oversee the implementation and maintenance of the Wildlife Habitat Plan.

All certified properties will supply food, water, and shelter for wildlife throughout all four seasons.

1. Avoid, Minimize, and Mitigate

To reduce negative impacts on natural ecosystems, participants must avoid disturbing fragile or resource-rich areas, minimize the damage to any affected resources, and mitigate unavoidable habitat destruction. Participants who plan and design their sites responsibly will likely accomplish this requirement. By reducing the amount of impervious cover, clustering developed areas, and fencing off sensitive areas during construction, natural habitats can be preserved and wildlife can flourish.

2. Plant with Natives

Installing native plants replenishes natural ecosystem diversity and provides the food chain with a base of native species. A variety of native plants provide year-round food and shelter for native insects and animals, which in turn supply food for larger species. Additionally, native plants can supply ecosystems with natural buffers to help prevent the invasion of exotic plants and to control invasive populations while promoting rich biodiversity.

¹ Private landowners may enlist the help of a Habitat Team or choose to work alone toward certification.



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3. Control Invasives

Invasive species crowd out natives and cause billions of dollars in damage to human property. They can greatly degrade native habitats by removing quality food sources and disturbing habitat structure. Once established, invasive species become very expensive to control, but addressing the problem early can save money over the long term and will allow a diverse ecosystem to emerge. Therefore, preventative maintenance constitutes the most practical and cost-effective way to combat exotic invasives.

Landowners will be required to have an Invasive Species Management Plan, which outlines preventative and control actions that will be implemented on-site.

4. Connect Habitat Areas

In order to protect and promote natural animal movement on a local and regional scale and to alleviate some of the problems of habitat fragmentation, properties must connect habitat elements. Strategically arranging native plantings between existing natural elements will provide wildlife with natural corridors through which to travel. Connecting habitat areas will actually begin to reverse the effects of habitat fragmentation by supporting the natural ecosystem and reconnecting isolated habitat pieces. Also, connecting habitats will increase pollination and reproduction rates, speeding the revitalization process and amplifying the positive effects of native plantings.

PROCESS OF CERTIFICATION

PHASE 1

- IWF will meet with interested parties and discuss certification.
- The property owners will form a Habitat Team of 3 or more members who represent various project stakeholders such as administration, building/grounds maintenance, and education. If necessary, IWF may also provide team members through their Habitat Stewards Program.
- IWF will meet with the designated Habitat Team to discuss project objectives and the desired end product.



D. Lippert

PHASE 2

- Once the decision is made to develop a Wildlife Habitat Plan, the property owners and Habitat Team will sign a Letter of Agreement that outlines the responsibilities of each party and pay the Certification Fees.
- IWF will assist the designated Habitat Team with developing a Wildlife Habitat Plan that meets program requirements. The Habitat Team will then submit the proposed Wildlife Habitat Plan and Wildlife Friendly Certification Application to IWF for review.
- The Habitat Team will be responsible for monitoring the implementation of the Wildlife Habitat Plan and will meet quarterly with IWF until habitat areas are installed and established. Any necessary project changes must be discussed with and approved by IWF.

PHASE 3

- After the Habitat Team establishes its wildlife areas, they will conduct a final site review with IWF. The review will include an evaluation of the wildlife habitat area's establishment success. At this time, the official certification will go into effect.
- IWF will provide a sign signifying successful certification and the respective certification level.

POST-CERTIFICATION

- Annual progress meetings will be held between IWF and the Habitat Team to discuss maintenance activities and desired changes to the project goals. If habitats are not maintained according to procedures outlined in the Wildlife Habitat Plan, IWF may revoke certification and signage.
- Participants in the program will have the option to recertify every five years, which will require an IWF review of the property with the Habitat Team and completed recertification documents. A property's certification level may change at this time if a Habitat Team achieves additional, or fails to meet basic, program requirements.



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CERTIFICATION LEVELS

Three different certification levels will serve as a grading system for the certification program. These levels are based upon the number of program requirements met.

Certification levels in order from highest to lowest:

- ECOSYSTEM STEWARD
- CONSERVATION ADVOCATE
- WILDLIFE PARTNER

Program Requirements:

1. Avoid, Minimize Mitigate
2. Plant with Natives
3. Control Invasives
4. Connect Habitat Areas



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Ecosystem Steward—This property satisfies all four requirements of the program. The Habitat Team is doing everything possible to ensure the highest quality wildlife habitat.

Conservation Advocate—To gain this certification the property must satisfy three of the four requirements. The Habitat Team strives to create a wildlife habitat worthy of native wildlife.

Wildlife Partner—Satisfying two of the four requirements will grant a Habitat Team this certification. This property has a wildlife habitat for the enjoyment of many native species.



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Other good sources of information:

- Indiana Wildlife Federation, www.indianawildlife.org
- Indiana Department of Natural Resources, <http://www.in.gov/dnr/>
- Indiana Native Plant and Wildflower Society, www.inpaws.org
- Midwest Invasive Plant Network, www.mipn.org
- Sustainable Sites Initiative, <http://www.sustainablesites.org/>
- Millenium Ecosystem Assessment
<http://www.millenniumassessment.org/en/index.aspx>
- EPA Greenscapes Program
<http://www.epa.gov/waste/consERVE/rrr/greenscapes/index.htm>
- Global Restoration Network, www.globalrestorationnetwork.org
- NatureServe, www.natureserve.org
- The Conservation Fund, <http://www.conservationfund.org/>
- USDA - Natural Resources Conservation Service, <http://www.nrcs.usda.gov/>
- USGBC Leadership in Energy and Environmental Design (LEED)
<http://www.usgbc.org/Default.aspx>
- U.S. Forest Service, www.fs.fed.us
- World Resources Institute, www.wri.org
- 1000 Friends of Florida, www.floridahabitat.org

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