



Corporate Commitment to Biodiversity

Executive Summary

Duke Energy's approach to protecting and enhancing biodiversity benefits is guided by our Corporate Commitment to Biodiversity, [Natural Resource Conservation Vision Statement](#), Corporate [Environmental and Health & Safety \(EHS\) Management System](#) and associated procedures, mitigation hierarchy process, [stewardship and conservation projects](#) and [Avian Protection Plan](#). We are committed to continue supporting biodiversity through the additional development and implementation of protective corporate policies, investment in conservation projects, environmental initiatives and research, and through relationships that will conserve biodiversity and important local, regional and national ecosystems and habitats.

Introduction

To us, biodiversity is the variety of life on earth, and within our service area, from species to ecosystems. It is the foundation that supports communities and our customers producing a range of processes and services that benefit these entities and help sustain their health.

As a corporation:

- We will include natural resource conservation measures and best management practices as an integral part of our project planning, siting, construction, operations and maintenance decisions.
- We commit to following the established mitigation hierarchy of avoidance, minimization, restoration/rehabilitation and finally offsets on project-related impacts to World Heritage areas, International Union for Conservation of Nature (IUCN) Category I-VI protected areas and areas of important global, national, regional and local biodiversity.
- We will foster constructive working relationships with agencies, tribes, non-governmental organizations, suppliers and others to meet our commitments.



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Approach

The Duke Energy [EHS Management System](#), policies and procedures require all business units and contractors to protect and responsibly manage natural resources. This helps minimize the impact of our construction, operations and maintenance on natural ecosystems and biodiversity. This includes direct, indirect and cumulative impacts. The [EHS Policy](#) establishes the business case for biodiversity and states that Duke Energy shall “use natural resources efficiently to reduce consumption, waste, discharges and emissions” and “integrate environmental considerations into planning, design, construction and operational decisions.” The EHS Management System helps ensure consistency and effectiveness of our activities including:

- Continually improving EHS risk management
- Preventing and detecting noncompliance regarding the Endangered Species Act, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Clean Water Act and National Environmental Policy Act
- Avoiding and reducing adverse impacts to the environment
- Enhancing the company’s relationships with external stakeholders

The EHS Management System is designed to be consistent with relevant international standards, such as the International Organization for Standardization guidelines and industry standards. However, it has been customized to apply to Duke Energy’s unique operating environment, risk profile and culture. With this EHS Management System, we follow the “Plan, Do, Check and Adjust” model. Annual, independent audits (and associated risk registers) are conducted to confirm adherence to our EHS Management System. These audits occur at the facility and site levels, as well as the business unit level.

Nearly all construction and operation permitting processes for our major facilities involve assessing potential impacts on natural resources and biodiversity, and the incorporation of protections into our facilities and operations. Risks to the environment and natural resources, including impacts to biodiversity, are identified as part of our environmental due diligence review on proposed projects and associated permit applications.

We apply the standard mitigation hierarchy strategy of avoidance, minimization, restoration/rehabilitation and offset to our projects.

We are committed to avoiding new construction within World Heritage areas, [International Union for Conservation of Nature](#) (IUCN) Category I-VI protected areas, and areas of global, national, regional and locally important biodiversity and to minimize impacts already occurring in areas of national, regional and local importance. IUCN Category I-VI protected areas include:

- **Ia – Strict Nature Reserve:** Category Ia areas are set aside to protect biodiversity and also possible geological/geomorphic features, where human visitation, use and impacts are strictly controlled and limited to confirm protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring.
- **Ib – Wilderness Area:** Category Ib areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed to help preserve their natural condition.
- **II – National Park:** Category II areas are large natural or near-natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational and visitor opportunities.
- **III – Natural Monument or Feature:** Category III areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature, such as a cave or even a living feature such as an ancient grove. They are typically small protected areas and often have high visitor value.
- **IV – Habitat/Species Management Area:** Category IV areas aim to protect particular species or habitats and their management reflects this priority. Many Category IV areas will need regular, active intervention to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.
- **V – Protected Landscape/Seascape:** Category V areas are where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value – where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.
- **VI – Protected Area With Sustainable Use of Natural Resources:** Category VI areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems. They are usually large, with most of the area in a natural condition, where a portion is under sustainable natural resource management with low-level non-industrial use of natural resources.

Duke Energy currently has existing infrastructure and facilities (e.g., transmission line rights of way) in IUCN Categories IV, V and VI. Within these areas, we will minimize our operations and maintenance through established best management practices, procedures, habitat enhancement and monitoring. We will help restore, rehabilitate and offset (preserve) habitats where it is not possible to avoid and minimize impacts.

Baseline assessments and protection measures are incorporated directly into the planning, siting and construction of any project, and we frequently work closely with federal and tribal agencies (e.g., U.S. Fish and Wildlife Service, National Park Service, Bureau of Land Management, U.S. Forest Service, National Marine Fisheries Service, Department of Defense facilities, Eastern Band of the Cherokee Indians) and state natural resource agencies (e.g., Florida Fish and Wildlife Conservation Commission, South Carolina Department of Natural Resources, North Carolina Wildlife Resources Commission, North Carolina Natural Heritage Program, Indiana Department of Natural Resources, Ohio Department of Natural Resources, Kentucky Department of Fish and Wildlife, Pennsylvania Game Commission, California Department of Fish and Wildlife) before and during construction, and during operations and maintenance. Duke Energy also often involves non-governmental organizations, such as The Nature Conservancy, National Audubon Society, several state chapters of the National Wildlife Federation, NatureServe, and numerous land trusts.

We have assessed and monitored sites and project lands to determine biodiversity importance, known natural resources, and the effects of operations on these lands. The assessments are conducted for both our regulated assets (e.g., transmission, distribution and generation) and commercial renewables business units. Examples of Duke Energy's use of mitigation hierarchy for avoiding, minimizing and restoring or offsetting biodiversity are discussed in the next section.

Avoidance

Within Duke Energy's Geographic Information System (GIS), we have developed a viewer database (EHS Viewer) for protected species, significant habitats and protected and public lands. This database is available to all of our internal business units and associated staff. The database is used to enhance and inform the corporate GIS system regarding sensitive resources and natural heritage information in association with the regulated service territory and infrastructure. The EHS Viewer uses acquired natural heritage data (i.e., user agreements with state natural heritage programs and NatureServe) to provide updated information that can be applied to project planning, siting, construction and operations and maintenance. It includes color-coded flags and warnings where sensitive resources and public lands are located within our facilities (e.g., powerline rights of way, facility boundaries). Notification requirements, best management practices and special considerations (e.g., no mowing from April 1-Nov. 15) are also entered into the system with specific resources (e.g., endangered bat zones, significant aquatic protection areas).

Through environmental due diligence reviews, robust project siting analyses, assessment efforts and coordination

with agencies, we strive to avoid natural resource and biodiversity impacts. One example of this includes preparing a nest management plan and associated nest protective buffer around all bald and golden eagle nests within and adjacent to a Duke Energy infrastructure. We have an avian risk analysis and associated proactive distribution line structure retrofit program to help avoid impacts to avian species, such as raptors.

Another example is avoiding impacts to jurisdictional wetlands and bodies of water through project siting, establishing best management practices and horizontal directional drilling beneath these habitats.

Duke Energy Sustainable Solutions is leading the wind industry on addressing impacts to wildlife resulting from wind energy operations. We have prepared Bird and Bat Conservation Strategy processes and documents for our wind energy projects. At these facilities, we assess the site and immediate area for natural resources (including endangered and threatened species and important habitat areas) through review and inventory of existing database records (e.g., Natural Heritage Inventory data). We then conduct baseline wildlife and site-specific natural resource and habitat studies. Project siting considerations and best management practices are then developed using this information.

Minimization

Duke Energy minimizes impacts and disturbance to natural resources and biodiversity through our best management practices and processes.

Reducing Wind Impacts



Currently, Duke Energy Sustainable Solutions is implementing one of the most robust informed eagle curtailment programs in the world with the use of IdentiFlight®. This is an artificial intelligence technology developed on a camera system that uses machine vision to detect eagles. This system has been tested at our Top of the World wind facility in Wyoming since early 2019, with 43 commercial-ready units installed at the facility to provide full site coverage. IdentiFlight is proving effective in detecting eagles and automatically curtailing turbines when eagles

meet certain predefined risk criteria. We are pursuing the expansion of IdentiFlight at our other wind energy facilities.

Duke Energy Sustainable Solutions remains active on the bat conservation front. In 2017 and 2018, we collaborated with Texas Parks and Wildlife, a technology innovator and a Ph.D. candidate at Texas State University to study the efficacy of bat deterrents. The study found an overall bat fatality reduction of over 50%, and based on these results we are installing bat acoustic deterrents on all 255 turbines at our Los Vientos III, IV and V wind sites in Texas, the first commercial deployment of the technology on this scale. Acoustic deterrent devices are mounted on wind turbines and emit high-frequency ultrasonic sounds in the range of the local bats' echolocation frequencies. These ultrasonic sounds harmlessly "jam" the bats' echolocation capabilities, thereby disrupting their ability to feed, navigate and interact with each other. Many bats leave the area looking for more "comfortable" surroundings.

Duke Energy Sustainable Solutions is also a participant in the Wind Wildlife Research Fund, an industry-led initiative that provides funding to advance research topics necessary to solve wind-wildlife impacts. The 2021 initiative is focused on bat conservation. We are also collaborating with a technology developer to improve bat risk assessments during wind site development by comparing thermal imaging cameras to acoustic detectors. We continue to support the American Clean Power Association's (formerly the American Wind Energy Association) voluntary turbine feathering initiative where turbine blades are stopped from spinning below the cut-in speed where no power is being generated. By operating turbines in this manner, it is estimated to reduce bat deaths at wind turbines by 40%. Duke Energy Sustainable Solutions is also partnering on several associated wind energy-wildlife research projects, both ongoing and in the future.

Protecting Rare Plants

Duke Energy has also entered into at least five rare plant and listed wildlife habitat agreements with state and federal agencies (e.g., the N.C. Natural Heritage Program and N.C. Wildlife Resources Commission), as well as with conservation groups, such as The Nature Conservancy and regional land trusts. These agreements include relationships for management strategies, disturbance guidelines, habitat enhancement and other protection mechanisms. Starting in 2019, we began installing "sensitive habitat" management signage at over 100 sites within our transmission and distribution rights-of-way corridors. Several of these sites are nationally known for their biodiversity importance (e.g., largest known population of a certain listed species and habitats). All of these natural heritage sites are mapped on the corporate GIS system, and best management practices (BMPs) are provided at each sensitive resource site. In association with tree removal projects (e.g., transmission

rights-of-way danger tree removal) in known listed bat maternity habitat areas, our staff conducts bat habitat assessments, uses surveys (e.g., acoustic and mist-netting) and implements timber cutting restrictions and BMPs during bat use periods.

Reservoir Management



We have also established shoreline management plans (SMPs) and associated shoreline management guidelines for our hydroelectric facilities and associated reservoir project boundaries in North Carolina and South Carolina to manage the resources, sensitive areas and uses of property shorelines. The SMPs were designed to provide net environmental and social benefits and were developed in close collaboration with local and regional stakeholders, local, state and federal agencies, tribal agencies and recreational users.

Protecting Vulnerable Species

Duke Energy has also established several Habitat Conservation Plans and Candidate Conservation Agreements in association with species such as the sand skink and Florida scrub jay in Florida, the least tern in Indiana and the sicklefin redhorse Candidate Conservation Agreement in North Carolina. We are one of the largest active partners in the nationwide Monarch Candidate Conservation Agreement with Assurances.

Restoration and Rehabilitation

Due to the nature of our utility business and our mission to help provide safe, reliable and affordable power, and despite our best efforts, some natural resource and biodiversity impacts cannot be completely avoided or even minimized. In these cases, we have worked and coordinated with our partners and agencies to make sure that our activities are mitigated and offset with restoration, rehabilitation and/or preservation. For example, we have rehabilitated several of our decommissioned and excavated coal ash basins to original contours and established native grasses, native pollinator plantings and tree plantings. We also try to avoid and minimize deforestation to the most practical extent possible, as well as reclaim and restore forested areas,

including the long-leaf pine in the Carolinas and hardwoods in the Midwest.

Duke Energy is a member of the National Wild Turkey Federation (NWTF) Energy for Wildlife program. Through this program, we help fund numerous wildlife habitat projects, land donations, vegetation management programs (pollinators, birds and other wildlife) and we support public access on company lands. In 2017, the NWTF presented Duke Energy with the Energy for Wildlife National Achievement Award. The NWTF determined the award winners based on how their work strengthens the organization's Save the Habitat, Save the Hunt initiative. In late 2016, the Duke Energy Foundation set up a five-year, \$500,000 partnership with the NWTF to help conserve or enhance more than 6,000 acres of critical habitat across Florida, the Carolinas and Indiana. Conservation efforts are currently focusing on establishing or enhancing habitat on public lands, such as state or national forests and nearby areas where Duke Energy's transmission rights of way cross forested and early successional habitats.

The lands adjacent to Indiana's Gibson Generating Station cooling ponds have been converted into a wildlife habitat known as the Cane Ridge Wildlife Area. Duke Energy helped fund this effort, and today the area is the home of the largest nesting colony of the formerly endangered least tern east of the Mississippi River. During 2019-2021, this effort supported the delisting of the tern from the endangered species list.

At our solar energy facilities, we have begun integrating wildlife-friendly perimeter fencing and establishing pollinator-friendly wildflowers and grasses under appropriate solar panels and along the facility perimeter.

We are working with North Carolina's Catawba Lands Conservancy on a landscape-scale initiative for the Piedmont area called The Energy and Power of Piedmont Prairies. This 8.5-mile corridor would link recreation areas, public parks, schools and businesses to ecologically sensitive habitats along a transmission line corridor. With intentional planning, best management practices and commitment, the corridor will become a model of rights-of-way stewardship and research in the Carolinas.

Our Crystal River Mariculture Center is a multispecies marine hatchery established to offset the impacts of cooling water systems used at our Crystal River Energy Complex in Citrus County, Fla. The center includes an 8,100-square-foot hatchery building and eight 1-acre ponds that are used to culture marine species for release into the Gulf of Mexico. Red drum, spotted seatrout, snook and pink shrimp are the primary species cultured. The center also has a seagrass propagation area that provides stock for aquatic vegetation restoration. Since opening in 1991, the center has released to local coastal waters more than 2.78 million spotted

seatrout, red drum, snook, crabs and shrimp juveniles, with an annual release of more than 100,000 individuals.

Avian Protection Plan

Duke Energy is committed to the protection of migratory and threatened and endangered birds, while helping provide safe and reliable power to our customers. We are an active member in the [Avian Power Line Interaction Committee](#) (APLIC), working with the organization and its membership to advance and implement electric utility best practices for avian protection.



It is the responsibility of all our employees and contractors to adhere to all federal, state and local laws that are designed to protect our natural resources and environment. The Migratory Bird Treaty Act of 1918 (MBTA), the Bald and Golden Eagle Protection Act (BGEPA) and the Endangered Species Act (ESA) are the main laws that provide regulatory protections to birds throughout our service area as well as the entire United States.

In an ongoing commitment to environmental stewardship and the associated avian protection, we have prepared a corporate [Avian Protection Plan](#) (APP) based on the APLIC guidelines set forth in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 and Reducing Avian Collisions with Power Lines: The State of the Art in 2012*.

Our APP is designed to help our corporation and employees stay in compliance with requirements of bird protection laws, manage bird interactions with power and facility structures, provide proper training on regulatory and corporate requirements, reduce risk and thereby reduce costly system interruptions that are caused by birds. It is the intent of the APP to condense all the avian protection measures and BMPs into a single corporate resource to provide personnel and contractors with the most updated avian-related information. The APP is a living document and is revised annually based on regulatory and procedural changes, operational and maintenance changes, revisions to transmission and distribution design standards and improvements in avian protection equipment and techniques.

Through the APP's avian protection commitment, we have retrofitted or modified (e.g., with caps and covers and other deterrents) thousands of "high risk" distribution poles in Florida, the Carolinas, and in the area of our western wind energy facilities, and have incorporated avian safe designs to new facilities and structures.

Other Natural Resource and Biodiversity Initiatives



Duke Energy has worked to support natural resource stewardship, community engagement and volunteerism through grants from the Duke Energy Foundation and numerous Duke Energy In Action volunteer events. The Duke Energy Foundation is committed to investing resources and working alongside our community allies to make sure future generations enjoy the immeasurable benefits of nature and biodiversity. Grants support:

- Water quality, quantity, conservation and access
- Wildlife habitat and forest protection and restoration
- Wildlife and plant species conservation

We recently reestablished a Natural Resource Conservation Strategy Initiative in 2020. This initiative is staffed by representatives from various Duke Energy business units

whose work has an impact on biodiversity, natural resources and the communities we serve. Business units represented include Government and Community Affairs, Sustainability, Transmission and Customer Delivery, Renewables, Hydro Strategy & Lake Services, Nuclear, Project Management and Construction, Real Estate Services, and Environmental Health and Safety.

The initiative was formed to:

- Bolster our sustainability and natural resource efforts
- Enhance constructive relationships with our state and federal natural resource/environmental agencies, as well as the local and national environmental community
- Engage our employees by working toward a common conservation goal where progress and success can be measured and disclosed
- Develop biodiversity and conservation guidelines for our business units to use when operating and developing new projects
- Use information gathered from the recent inventory to assess ecosystem value of all of Duke Energy land holdings (Duke Energy works together with the Electric Power Research Institute) and further biodiversity and conservation protection and relationships

The objective of this long-term initiative is to assume a leadership position in our industry by moving our corporate conservation vision forward and to formulate measurable goals for biodiversity and natural resource conservation. This initiative is supported by a comprehensive approach to conservation projects through the participation of multiple Duke Energy business units and community partners.