



*“Connecticut has a varied array of ecological features and habitats – trap rock ridges, lush river valleys, rolling hills, agricultural lands, forests, shrublands, coastal beaches, marshes, and even metropolitan centers – intertwined and ecologically connected. This results in habitats that support an amazing diversity of wildlife species.*

*The Connecticut Wildlife Action Plan has come to life from the effort of many conservation partners to help ensure that work done over the next decade helps maintains or enhance our amazing diversity. The actions proposed are not set in stone and provide flexibility to manage our resources wisely as we learn more and as conditions change*

*It is important to note that The Wildlife Action Plan is not just a document for DEEP actions. It proposes many steps ideal for academic institutions, conservation organizations, local municipalities, or private citizens. Working together to maintain clear air, clean water, and our unique natural resources at both the local and landscape scale will help ensure that Connecticut’s wildlife is here in all its splendor – for now and for future generations to enjoy.”*

**Commissioner Robert Klee  
Department of Energy and Environmental Protection**

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for  
The Connecticut Department of Energy and Environmental Protection  
Bureau of Natural Resources

## EXECUTIVE SUMMARY

The Connecticut Wildlife Action Plan (WAP) presents a ten year strategy for keeping common fish and wildlife species common. It also fulfills a mandate making Connecticut eligible for federal funding under the State Wildlife Grant program (SWG). These funds provide a historic opportunity to reverse the decline of wildlife populations and the loss of key habitats.

Connecticut's wildlife is remarkably diverse. There are 84 species of mammals, 335 species of birds, 50 species of reptiles and amphibians, 169 species of fish, and an estimated 20,000 species of invertebrates. This diversity is due to the state's wide range of landscapes, waterscapes, and habitats from the coastal plain and Long Island Sound in the south to the northwest hills.

The 2015 WAP addresses each of the criteria required by Congress under Public Laws 107-063 (FY02), 108-447 (FY05), and 109-54 (FY06). These laws provide funding and administration through the U.S. Fish and Wildlife Service (USFWS), Division of Wildlife and Sport Fish Restoration and State Wildlife Grants. This document is organized in a manner that addresses each of the eight required elements in the order they are identified in the law. It presents the species of greatest conservation need (GCN), their key habitats, problems, research needs, and conservation actions. The WAP also addresses how the Department of Energy and Environmental Protection (DEEP) will monitor effectiveness, coordinate with conservation partners, and foster public participation in wildlife conservation efforts.

The 2015 WAP is the first revision of the 2005 document, formerly known as the Comprehensive Wildlife Conservation Strategy (now referenced as the 2005 WAP). This revision builds on the knowledge gained over the last ten years. Since 2005, Connecticut has been involved with several state, regional, and national projects to address conservation and monitoring of GCN species and their habitats. Connecticut also collaborates on the conservation and management of species through participation in the Atlantic States Marine Fisheries Commission and the Atlantic Flyway Council. Regionally, Connecticut has collaborated on almost 50 Regional Conservation Needs, Competitive SWG, and North Atlantic Landscape Conservation Cooperative projects since 2005. These efforts provided important new information on many species, including the effect of white-nose syndrome on bats, measures to increase the abundance of New England cottontails, and conservation actions to restore GCN species such as blueback herring. All regional projects are summarized in the Northeast Synthesis (Terwilliger Consulting, Inc. and NFWDTTC 2013) and accessible on the [www.RCNgrants.org](http://www.RCNgrants.org) website.

The 2015 WAP was a three-year process that involved the review of a comprehensive inventory of natural resource information and conservation programs, and included consultation with a diversity of stakeholders in the state, region and nation. Information on the full array of wildlife and wildlife conservation efforts in Connecticut was solicited, researched, and compiled. From these data, DEEP Bureau of Natural Resources (BNR) staff, the Endangered Species Scientific



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Advisory Committees (ESSAC), additional taxonomic experts, and conservation partners identified Connecticut's species of greatest conservation need.

The scope of the 2005 plan was confined to mammals, birds, reptiles, amphibians, fish, and invertebrates. It included a total of 475 species. The 2015 WAP was expanded to include 100 species of plants. A total of 67 animal species were added while 75 were removed. The 2015 GCN species list includes 26 mammals, 95 birds, 31 reptiles and amphibians, 73 fish, 242 invertebrates, and 100 plants.

Internal and external scientific experts and stakeholders associated the GCN species with ten key habitats and 54 sub-habitats located throughout Connecticut. Each of these habitats was linked to standardized state, regional, and national vegetation classification systems. A number of these habitats, both terrestrial and aquatic, were identified as being of greatest conservation need. They include several types of forest, wetlands, and unique communities such as sparsely vegetated areas, caves, cold water streams, and coastal beaches. The location, distribution, and condition of each of these habitats were researched and summarized. Threats facing the key habitats and GCN species along with priority research, survey and monitoring needs, and conservation actions to address these threats were then developed for each habitat. Key partnership opportunities for implementation, priority areas for conservation, proposed performance measures for each research and conservation action, and a list of sources for more information were developed for each key habitat.

The most significant threats to Connecticut's land and waterscapes include: habitat loss, degradation and fragmentation, changes in land use, and competition from non-native or invasive species. Other threats include insufficient scientific knowledge regarding wildlife and their habitats (distribution, abundance, and condition), the lack of landscape-level conservation, insufficient resources to maintain or enhance wildlife habitat, and public indifference toward conservation.

To address these threats, conservation actions were developed for GCN species and key habitats. Connecticut's conservation actions address threats at multiple scales. For this reason, implementation of these actions will be coordinated with key partners including: the U.S. Fish and Wildlife Service, U.S. Forest Service, Natural Resources Conservation Service, U.S. Army Corps of Engineers, the Atlantic States Marine Fisheries Commission, The Nature Conservancy, Partners in Flight, Connecticut Audubon, Audubon Connecticut, Connecticut Forest and Parks Association, Ducks Unlimited, Trout Unlimited, tribal groups, watershed groups, land trusts, and many others. These local, state, and federal agencies as well as tribal partners were asked for input throughout the process, and to review the draft WAP.

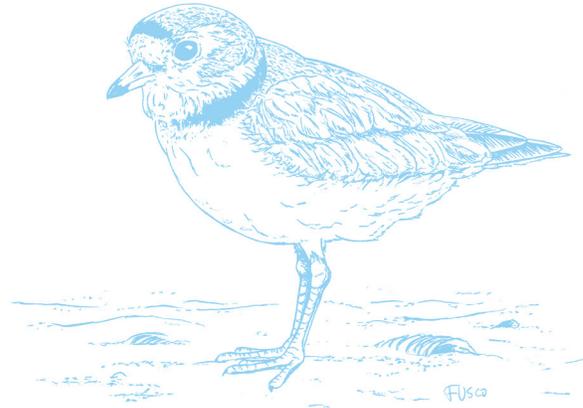
Monitoring Connecticut's GCN species, their habitats, and the effectiveness of the conservation actions provides important and necessary information for DEEP and its partners. It will allow these agencies to determine the most efficient methods to reduce and eliminate threats facing the state's fish and wildlife resources. Monitoring is also necessary to track the success of conservation actions, ensuring the most efficient use of limited staffing and funds. The 2015 WAP includes several new tools for information management and conservation planning to track the implementation and effectiveness of conservation actions. Examples of these tools include the Northeast Regional Monitoring and Performance Reporting Framework (NEAFWA 2008), the State Wildlife Grants Effectiveness Measures Project (AFWA and BPWG 2012), the Northeast Lexicon Project (Crisfield and NEFWDC 2013), and the Wildlife TRACS (Tracking and

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Reporting Actions for the Conservation of Species) system of the U.S. Fish and Wildlife Service's Wildlife and Sport Fish Restoration (WSFR) Program. Connecticut's effectiveness monitoring framework starts with a specific conservation action, which is then linked to relevant threats, habitats, and species. Next, indicators and measures are selected for each step, and monitoring data are used to track and populate those indicators. Taken together, the measurements of these indicators will provide the essential information needed for evaluating the effectiveness of conservation actions. Conservation actions will be refined or new actions will be developed based upon whether the original actions were effective in aiding the state's GCN species and habitats (i.e., adaptive management). In addition to these adaptations, the WAP will undergo a complete review every ten years.

**Piping Plover Example:** To illustrate how each of the eight required elements was applied to a GCN species, the piping plover (*Charadrius melodus*) is used as an example. BNR staff, the Endangered Species Scientific Advisory Committee (ESSAC), and other partners assessed the abundance and distribution of fauna in Connecticut, identifying GCN species based on the current scientific information (Element 1).

The piping plover was identified as a GCN species following an evaluation of its status, abundance, and distribution in the state, and existing conservation efforts that have identified it as a high priority species. The breeding population of piping plover found in Connecticut is federally threatened, state threatened, globally ranked as G3 (Vulnerable to Extirpation), and state ranked as S1B (Critically Imperiled Breeding Population). Furthermore, the International Union for Conservation of Nature (IUCN) classifies the piping plover as *Vulnerable*, the U.S. Shorebird Conservation Plan as *Highly Imperiled*, the Northern Atlantic Regional Shorebird Plan as *Highly Imperiled*, and the South Atlantic Migratory Bird Initiative as a *priority* species. As a result, the piping plover was ranked as *Most Important* in the WAP. After the piping plover was proposed as a GCN species, the public was invited to provide comments (as with all GCN species and key habitats) through the DEEP website and other outreach efforts (Element 8).



The piping plover nests within two community types that were identified as key habitats: Coastal Dunes and Intertidal Beaches, Flats, and Shores (Element 2). These habitats are restricted to coastal areas and as such are relatively rare in Connecticut. Coastal Dunes were found to be in good to fair condition, as were Intertidal Beaches, Flats, and Shores. Connecticut's piping plover population is threatened by habitat loss and degradation from development and natural processes, nest predation and harassment, and human disturbance of nesting areas (Element 3). The conservation of breeding populations of piping plover through habitat protection, restoration and enhancement was identified as a priority conservation action (Element 4). Conservation actions needed to address these threats were then identified. They included using fences and other barriers to reduce nest predation and restrict access to nest sites from mid-April through early August. By monitoring the implementation and degree of success of this conservation action, DEEP and its partners will be able to quantify the performance measures for each—the number of known breeding pairs based on a regional annual survey and the number of habitat areas protected (Element 5). Monitoring data will

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provide additional information necessary to assess the status and condition of the piping plover. These data will also contribute to regional and national conservation efforts in which Connecticut is a partner, such as the USFWS Piping Plover Recovery Plan, U.S. Geological Survey Breeding Bird Survey, International Shorebird Survey, Atlantic Coast Joint Venture, Northern Atlantic Regional Shorebird Plan, and the U.S. Shorebird Conservation Plan (Element 7). An annual assessment of the monitoring results for piping plovers will provide information on whether the conservation actions are increasing the number of piping plover nests and/or nest productivity (Element 6). If the status and condition of breeding piping plovers show no significant improvement, conservation actions can then be appropriately modified (adaptive management). DEEP may, for example, intensify habitat protection measures. Alternatively, DEEP may focus efforts on key sites or promote cooperative projects with partners if a lack of funds limits intensification of the conservation efforts (Elements 1, 3, 5 and 7). By applying this adaptive management approach, a feedback loop between monitoring, conservation actions, and management objectives will be established (Elements 1-5). A similar process was applied to all GCN species throughout this document.

### References:

- Association of Fish and Wildlife Agencies (AFWA), Teaming With Wildlife Committee, State Wildlife Action Plan Best Practices Working Group (BPWG). 2012. Best practices for state wildlife action plans—voluntary guidance to states for revision and implementation. Washington, D.C. Association of Fish and Wildlife Agencies.
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