Nature's Network 1.0

Quick start guide

Nature's Network Conservation Design

Description

Nature's Network Conservation Design

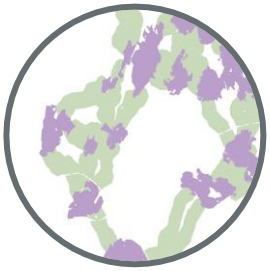
Nature's Network Conservation Design depicts an interconnected network of lands and waters that, if protected, will support a diversity of fish, wildlife, and natural resources that the people of the Northeast and Mid-Atlantic region depend upon. This map serves as the "cover page" for the Nature's Network suite of products: it outlines some of the most important natural areas in the region and provides an entry point to learn more about the information used to identify them.

The Conservation Design represents a combination of three Nature's Network products: 1) the terrestrial core-connector network, 2) aquatic core areas, and 3) core habitat for imperiled species. Here are the key components of those three products:

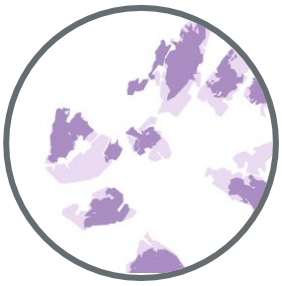
1. The terrestrial core-connector network is made up of two components: 1) terrestrial and wetland core areas, and 2) connectors. Terrestrial and wetland core areas are intact, well-connected places that have the potential to support wildlife and plants that occur in terrestrial settings (such as upland forests) or in wetlands (such as marshes). These core areas contain important or unique features, including intact, resilient examples of every major ecosystem type in the Northeast and Mid-Atlantic. Core areas contain widespread ecosystems (such as hardwood forests), rare natural communities (such as bogs), and important habitat for a variety of fish, wildlife, and plants. By design, they encompass approximately 25% of the landscape of the region.

Terrestrial and wetland core areas

Core areas are linked together by a network of connectors. If protected, the connectors will foster the movement of animals and plants between core areas and across the landscape into the future.

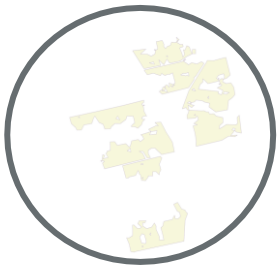


Core areas with connectors



Core areas with road-bounded natural blocks

Another product associated with terrestrial and wetland core areas that you may wish to explore is the set of road-bounded natural blocks, which are natural areas that surround and help support the integrity of core areas. This set of products also includes a network of core areas for grassland birds. Due to their unique association with habitat that has been created and maintained for human use, grassland birds are treated separately from wildlife that use habitat such as forests and wetlands. A subset of the grassland bird core areas, those representing the top 10% of grassland habitat of the region, are incorporated into Nature's Network Conservation Design.



Grassland bird core areas

2. Aquatic core areas are intact, well-connected stream reaches, lakes, and ponds in the Northeast and Mid-Atlantic region that, if protected as part of stream networks and watersheds, will support a broad diversity of aquatic species and the ecosystems on which they depend. They serve as the aquatic counterpart to terrestrial and wetland core areas. They feature intact, resilient examples of every major aquatic ecosystem in the region and also are designed to incorporate habitat for important species such as brook trout, American shad and Atlantic salmon. By design, aquatic core areas encompass approximately 30% of both the region's river and stream miles (lotic core areas) and the region's area of lakes and ponds (lentic core areas).

Aquatic core areas

Aquatic core areas with buffers

A product associated with aquatic core areas that you may wish to explore is the set of aquatic buffers, which are upslope and upstream areas that have a strong influence on the integrity of the aquatic cores.

Core habitat for imperiled species

3. Core habitat for imperiled species can be viewed as relatively intact areas that contain habitats likely to support high levels of imperiled terrestrial and aquatic species. This product represents a regional network of habitats critical for sustaining population of imperiled species, based on over 600 Species of Greatest Conservation Need (SGCN). Core habitat for imperiled species is intended to complement aquatic core areas and terrestrial and wetland core areas by highlighting ecosystem (habitat) types where they are closely associated with high numbers of imperiled species.

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By design, core habitats encompass approximately the top 10% of natural landscapes estimated to be most important for sustaining imperiled species. If you wish to further explore the value of habitats for imperiled species, the product habitat condition for imperiled species depicts the ecological condition of ecosystem types most important for imperiled species.

Each of the components making up the Nature's Network Conservation Design incorporate a set of foundational datasets, which are presented on the Nature's Network web page for that product suite and in associated QuickStart guides and metadata. Two additional important products to explore include zones where tidal marshes could move as sea level rises (Resilient Coastal Sites for the Northeast U.S.; see "Migration space" layers) and patterns of landscape connectivity independent of terrestrial core areas (Regional Flow, Anthropogenic Resistance (Simplified Categories), Eastern U.S. and Canada). We encourage you to explore the full suite of products to understand how Nature's Network can support your work.

Intended uses

Nature's Network Conservation Design, and the broader suite of products and tools of which it is part, offer voluntary guidance to:

- Protect the irreplaceable - identify the best places to start for strategic conservation: those which are intact and resilient places that encompass a diversity of lands and waters, and are important habitat for key species. These are the places we cannot afford to lose to ensure a sustainable future for human and natural communities in the Northeast.
- Look ahead to make better decisions today - ensure that today's investments will pay off over time by considering how land use and environmental changes will affect natural resources in the future.
- Maximize limited resources - provide additional scientific guidance to allow us all to use limited resources more effectively.
- Reinforce local priorities with regional perspective - see how local conservation efforts fit into the bigger regional picture to help connect local, state and regional priorities.
- Find opportunities to work together - ensuring the future of fish, wildlife and natural benefits in the face of increasing threats is beyond the scope of any single organization. With the benefit of consistent regional data, partners can look across jurisdictional boundaries for opportunities to work together at scales that matter for people and wildlife.

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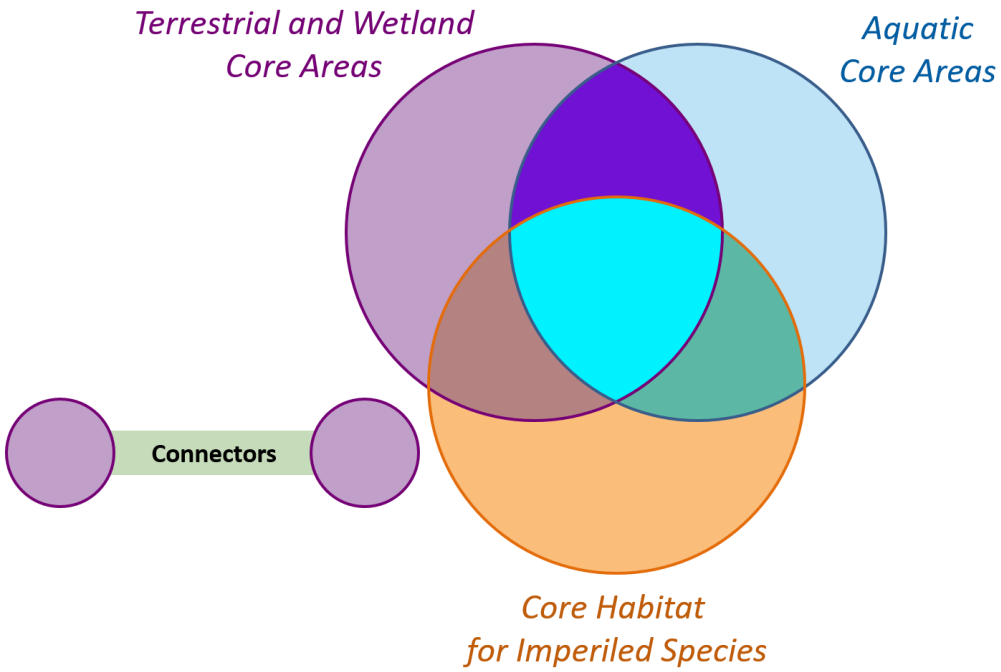
Get started

You can explore the Nature's Network Conservation Design map on the Northeast Conservation Planning Atlas. In the Conservation Design product that is turned on in the map when you open it, each major component is symbolized with a color: terrestrial and wetland core areas (purple), aquatic core areas (blue), core habitat for imperiled species (orange), and terrestrial connectors (gray-green). Combinations of these colors are used to show where cores overlap. For example, those locations where all three types of core areas occur are depicted in aqua and labelled "Terrestrial, Aquatic, and Imperiled Species Overlap." You can zoom into areas of interest using the Zoom Tool and move around the map using the Pan Tool.

Areas of overlap among these components may be especially promising locales for conservation action.



Schematic drawing of the components of Nature's Network Conservation Design and how the overlap of components is depicted.

You can get more information about Nature's Network Conservation Design by turning on the individual component products that are available in the map but not activated when you open it. To see the list of these products, click on the "Layers" tab on the left side of the map. Click in the boxes to the left of the product names to activate them, and click on the arrows to the right of the product names to find out more details about the products and perform other tasks. Once a product is activated, you can also learn more about what you are seeing in the map. For example, if you turn on the Terrestrial Core-Connector Network, you can use the

Identify Tool to click on a core area and find out more about why it is important.

Besides exploring Nature's Network Conservation Design and the components that are already loaded into the map, you might explore it in combination with other products that you can add to the map by clicking on "add datasets," which is visible when the "Layers" tab is open. For example, the Secured Lands (Eastern U.S.) layer can be used to identify the places in the network that remain unsecured from development, and thus could represent priorities for land protection. Also, the Probability of Development layers (2030 and 2080) can be used to identify places in the Conservation Design that are relatively vulnerable to future development, and thus could represent priorities for land protection.

With a free Data Basin account, you can also upload your organization's priorities into a private map for comparison with Nature's Network Conservation Design, or you can download the Nature's Network products if your organization has GIS analysis capabilities.

Background

Nature's Network Conservation Design is based on GIS analyses designed to assess the physical and biological value of resources across the Northeast and Mid-Atlantic, and to identify the most important places and connections for them. It is a combination of three Nature's Network products: 1) the terrestrial core-connector network, 2) aquatic core areas, and 3) core habitat for imperiled species. The "Description" section of this document provides links to QuickStart guides for each of these three components.

Known issues and Uncertainties

As with any project carried out across such a large area, Nature's Network Conservation Design is subject to limitations. The results by themselves are not a prescription for on-the-ground action; users are encouraged to verify, with field visits and site-specific knowledge, the value of any areas identified in the project. Known issues and uncertainties include the following (please refer to the QuickStart guides described previously for additional component-specific issues):

- The results do not incorporate important social, economic, or feasibility factors.
- Users are cautioned against using the data on too small an area (for example, a small parcel of land), as the data may not be sufficiently accurate at that level of resolution.
- While the ecosystem mapping is anticipated to correctly reflect broad patterns of ecosystem occurrence, errors in classification and placement do

occur, as with any regional GIS data. In addition, errors in mapping and alignment of development, roads, traffic rates, and a number of other data layers can affect the model results.

- This product does not provide information about the properties of individual core areas. That information is available in the component products: the terrestrial core-connector network and the aquatic core areas.
- At this time, Nature's Network does not assess underwater, benthic, offshore, or marine habitats. Estuaries and marine areas are, for the most part, not included in the conservation design, although there are some exceptions. Exceptions include cases where habitats for species that use estuaries (e.g., American black duck and diamond-backed terrapin) have been incorporated into terrestrial and wetland core areas.
- The identification of areas as providing habitat for imperiled species does not necessarily mean that imperiled species are actually present in those areas.

Revision history

The legend for this product, and this QuickStart guide, were revised in July 2018 in response to user feedback. In the original version, aquatic core areas were labelled "important waters", core habitats for imperiled species were labelled "important habitats", and terrestrial and wetland core areas were labelled "important lands." The revised version removes these alternative names from the legend and adds the term "overlap" to describe areas of overlap among core areas. The dataset itself was not changed.