

# Climate Change in New Jersey

## *Possible Impacts on Fish and Wildlife*

### Climate change is real

The unmistakable signs of a rapidly changing climate are everywhere:

- Global average air temperature has increased and excessive heat waves are on the rise
- Average sea level has risen
- Flowers are blooming earlier, lakes freezing later, migratory birds delaying their flights south
- The timing and interconnectedness of the wild food web is being disrupted

### Climate change is disrupting natural systems

Natural systems—such as lakes, rivers, oceans, coral reefs, forests, grasslands—produce our oxygen, our water, our food, and provide jobs such as commercial fishing and timber harvesting. They also support outdoor activities, generating jobs and millions of dollars in revenue. Forests, wetlands and other natural landscapes help soak up greenhouse gases that trap heat and have been scientifically linked to global warming.

### Climate change is harming wildlife and wild places

Climate change is the transformational conservation challenge of our time, not only because of its direct effects on species and habitats but because of its influence on other stressors. These include habitat loss and fragmentation, invasive species, and water scarcity.

These combined forces have substantial implications for management of fish and wildlife and their habitats in New Jersey:

- Across the continental U.S., climate change is affecting the migration cycles and body condition of migratory songbirds,

causing decoupling of the arrival dates of birds on their breeding grounds and the availability of the food they need for reproduction. This may be more significant on sensitive species such as the red knot.



Red Knot / USFWS

- Evidence is growing that higher water temperatures resulting from climate change are affecting cold- and cool-water fish populations in New Jersey.



Brook Trout / USFWS

- Along coasts, rising sea levels have begun to affect fish and wildlife habitats, including those used by waterfowl, wading birds, and shorebirds that nest and winter on coastal National Wildlife Refuges

### Climate change impacts can be reduced

The U.S. Fish and Wildlife Service's strategic plan is partnership-driven and science-based. The Service is committed to implement partnership-driven, results-oriented landscape conservation:

### *Addressing habitat fragmentation*

- The Service is providing recommendations and assess progress toward promoting habitat connectivity to support species population objectives. As habitats alter and species' ranges shift as a result of climate change, habitat corridors will become even more crucial to species' migration and ultimate survival.

### *Reducing the Service's carbon footprint*

- Across the agency, Service employees have begun documenting the Service's carbon footprint and instituting practices to avoid greenhouse gas emissions, minimize unavoidable emissions, and offset remaining emissions.

### *Expanding biological carbon sequestration to create habitat for wildlife*

- The Service is working with conservation partners to expand biological carbon sequestration techniques, restore habitat, and conserve wildlife. We will use landscape conservation planning approaches to determine where, when, how much, and what habitat types should be conserved to achieve population, habitat, and carbon sequestration objectives.



E.B. Forsythe National Wildlife Refuge after Superstorm Sandy / USFWS

*Educating and Communicating* - Working closely with partners and stakeholders, the Service is working on a strategy to engage the American public regarding the significance of climate change for fish and wildlife. The Service will also pursue an aggressive internal and external communications effort designed to support its climate change and landscape conservation work with employees, partners, and others.

*Evaluating and targeting vulnerable and sensitive habitats* - The Service and its partners will work on identifying and focusing resources on habitats that are vulnerable and sensitive to climate change (e.g., bog turtle wetlands). This effort will target increasing resiliency and potential shifts in these habitats.



Bog Turtle / USFWS

**You can take action now**

Small changes in our everyday lives can make a big difference for current and future generations of Americans. Here are a few ways you can help mitigate the effects of climate change and support wildlife conservation where you live:

- Plant native trees and shrubs that absorb carbon dioxide and slow the spread of invasive species
- Recycle paper, plastics, glass.
- Use recycled products that use less energy to manufacture
- Change to energy efficient light bulbs and appliances



Planting Trees at Mannington Mills / USFWS

- Reduce gasoline consumption; Walk or bike whenever you can
- Program your thermostat
- Give your time and energy to a national wildlife refuge, national fish hatchery or in your own community (see <http://www.serve.gov/>)
- Project BudBurst <http://www.budburst.ucar.edu/> and the National Phenology Network, <http://www.usanpn.org/> are just two places where you can become part of a nationwide network gathering data on climate change effects on plants and wildlife
- Teach the next generation about the importance of natural resources by taking them outside. Visit a National Wildlife Refuge or other protected land

- Talk to your neighbors, civic associations, local service groups to engage them in discussions and action
- Online and local libraries are filled with information. There are great books for young audiences on the subject of climate change.

**Additional Resources**

For more information on how the U.S. Fish and Wildlife Service is working with others to conserve the nature of America in a changing climate, visit <http://www.fws.gov/home/climatechange/>

NASA Climate Change <http://climate.nasa.gov/>

Earth to Sky Partnership <http://earthtosky.org>

U.S. Global Change Research Program <http://www.globalchange.gov/>

New Jersey Flood Mapper <http://slrviewer.rutgers.edu/SLR.html#>

Rutgers Climate and Environmental Change Initiative <http://climatechange.rutgers.edu/>

National Park Service Regional Impacts <http://www.nps.gov/climatechange/atlanticoast.cfm>

Environmental Protection Agency <http://www.epa.gov/climatechange/wydc/index.html>

Seasons End <http://www.seasonsend.org/>

**For additional information or questions contact:**

U.S. Fish and Wildlife Service  
 New Jersey Field Office  
 4 E. Jimmie Leeds Road, Suite 4  
 Galloway, New Jersey 08205  
 609/646-9310  
 609/646 0352 fax  
<http://www.fws.gov/northeast/njfieldoffice/partners>  
 Federal Relay Service  
 for the deaf and hard-of-hearing  
 1 800/877-8339

**U.S. Fish & Wildlife Service**  
**1 800/344 WILD**  
<http://www.fws.gov>

