

CHAPTER 11: INTERNATIONAL CONSERVATION

Many species of marine fish and mammals, birds, bats, and insects are migratory and travel outside of state geopolitical boundaries or even the region at different times of the year. This can make conservation hard for a state that has identified them as Species of Greatest Conservation Need (SGCN) in their State Wildlife Action Plan (SWAP). Some of South Carolina's SGCN do not have full life cycles within the State, the Southeast Region, or even the United States. They may travel to higher latitudes in North America for breeding, to Central and South American wintering grounds, or travel south to South Carolina for the winter.



Silver-haired Bat. Photo by SCDNR staff.

Of all the bat species in the United States, 24% have transnational ranges (Adams et al. 2024). The only “true” migratory bat species South Carolina has is the Silver-haired Bat, migrating into the State in the winter but rarely remaining into the summer. Red and Hoary Bats are present year-round, but the State's winter populations are presumed to increase due to an influx of migrants coming in from other areas. All three of these bat species are in the South Carolina SWAP.

Tracking research is needed to determine if any of South Carolina's bats cross international borders into Canada or Mexico during some part of their migration cycle.

Dragonflies and butterflies can be migratory as well. Common Green Darners (*Anax junius*) are multi-generational migrants that move south from Canada in the fall (Hallworth et al. 2018), and Wandering Gliders (*Pantala flavescens*) have a global population and thus are undoubtedly long-distance migrants (Wade Worthen, Furman University, pers. comm.). Neither of these species are SGCN in the South Carolina SWAP but do reside in the State during some phase of their life cycle. The Monarch Butterfly (*Danaus Plexippus*; SGCN), is the most well-known of the migratory insects. They are famous for their multi-generational migrations to and from the oyamel fir forests in Mexico to the United States and southern Canada. However, in a five-year mark-recapture study conducted by researchers at the South Carolina Department of Natural Resources (SCDNR), Monarch Butterflies were found to live year-round in South Carolina, obviously overwintering in the State instead of migrating to Mexico (Kendrick and McCord 2023). These insects were cuing in on aquatic milkweed in coastal plain maritime environments as well as inland swamp habitats, both of which are priority habitats for



A tagged Monarch Butterfly, part of a multi-year capture-recapture project through SCDNR. Photo by Erin Weeks, SCDNR.

conservation in South Carolina by SCDNR and a multitude of conservation partners (Kendrick and McCord 2023).

Perhaps the best-known international species are Neotropical migratory birds and those that nest near the Arctic Circle. These species traverse both North and South American continents, using South Carolina as a migratory stopover for resting and feeding, refueling for the long journey. Sometimes they only stay for the winter months or only the summer breeding season. The State's role in these species' continued existence may only be seasonal or migratory, but developing cooperative conservation partnerships and research and survey projects across multiple countries would benefit these species more than just a single-season approach (Rich et al. 2013). This is especially important if knowledge of population limiting factors is unknown (Rich et al. 2013). Sources of information on distribution of migratory species, habitat use, and abundance as well as partnership potentials include: [NatureServe](#), [Eco Index](#), [Western Hemisphere Migratory Species Initiative](#), [Partners in Flight](#), [the American Bird Conservancy](#), [BirdLife International](#), [Cornell Lab eBird](#), [Audubon Bird Migration Explorer](#), [Southern Wings](#), [Bat Conservation International](#), [The Xerces Society for Invertebrate Conservation](#), [Rainforest Alliance](#), [The Nature Conservancy](#), [the Butterfly Conservation Initiative](#), Joint Ventures (e.g. [Atlantic Coast Joint Venture](#)), various conservation plans (see Appendix 1), and the primary literature. Federal agencies in the United States with international programs include the United States Fish and Wildlife Service (USFWS), United States Forest Service (USFS), and the National Park Service (NPS). Network partnerships are already well-developed for some bird species, but this network could be expanded to other taxa (Rich et al. 2013).

Tracking studies using Motus Wildlife Tracking Systems, geolocators, and satellite technology are helping researchers learn where South Carolina's migratory species go, critical data to have for conservation planning with other states, regions, and countries. An example is an ongoing program tracking Red Knots with geolocators, adding fine scale location data for understanding this threatened species. For example, Figure 11-1 shows the full life cycle travels of a Red Knot tagged in South Carolina. This bird was captured in South Carolina in 2016 on Deveau Bank and a geolocator was affixed to its leg band. During the life of the tag, the bird traveled twice to its nesting grounds above the Arctic Circle and to its wintering grounds in Tierra Del Fuego and Bahia Lomas at the southern

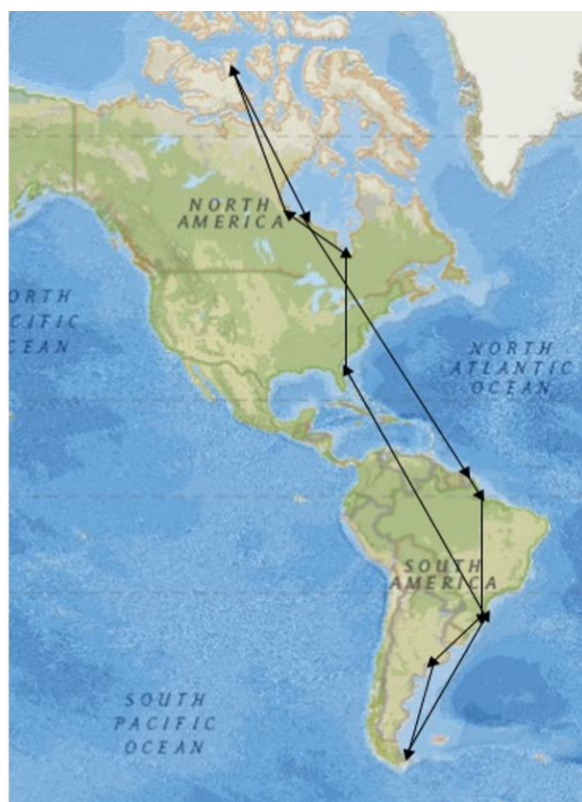


FIGURE 11-1: This image, a collaborative effort between SCDNR biologists, the United States Fish and Wildlife Service, and Ron Porter, shows the one-year migration path of a Red Knot.

tip of South America. The bird was captured again in January 2018, and the geolocator was retrieved. Archived locations from other satellite tagged Red Knots are at [Movebank](#).

The South Carolina Department of Natural Resources (SCDNR) participates in international species working groups and cooperative programs that are advancing studies of bird life cycles and promoting data sharing. Examples include: [Shorebird Science and Conservation Collective](#), [Smithsonian Atlas of Migratory Connectivity](#), [Movebank](#), and [Motus Wildlife Tracking System](#), [BandedBirds.org](#). Clemson University is engaged in nesting and tagging research on Black-capped Storm Petrels in the Dominican Republic. University researchers collaborate closely with the other non-governmental organizations (NGOs) working on the species including the American Bird Conservancy, Environmental Protection in the Caribbean, and Grupo Jaragua.

Funding opportunities for cross-national collaborations include the Neotropical Migratory Bird Conservation Act's (NMBACA) grant program. In April 2024, the "Migratory Birds of the Americas Conservation Enhancements Act of 2023," (H.R. 4389), reauthorized and amended the NMBACA. According



Willet captured as part of a geolocator study by SCDNR. Photo provided by SCDNR-MRD.

to the USFWS (2024), who has administered the program since 2002, the NMBACA has provided more than \$94.2 million in grants to support 747 projects in 43 countries. Additionally, the Association of Fish and Wildlife Agencies (AFWA) created Southern Wings in 2009 to facilitate state fish and wildlife agency participation in the conservation of priority migratory birds across their full life cycle. Since its inception, 41 states have contributed over \$4.2 million to conservation efforts on stop-over and wintering grounds in Mexico, Central America, South America, and the Caribbean. Southern Wings has launched an online guide for full annual cycle conservation planning resources. [Southern Wings Guide for South Carolina](#) provides information on migratory bird species with international ranges that include South Carolina.

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