
Songbird's winter grounds face environmental threats

Development has reduced the mangrove forests of Panama and Colombia where the prothonotary warbler lives during the winter months.



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It is common knowledge that birds fly south for the winter, but according to VCU graduate biology student Jessica Reese, the south might not be as safe as it used to be.

Reese has always been interested in bird migration, and her study of the prothonotary warbler, a gray and yellow songbird, has highlighted environmental threats facing the species' wintering grounds.

VCU has been studying these birds closely since

‘Since the 1970s, about 35 percent of the world’s mangroves have been destroyed,’ says Reese, who has visited the forests in the northern coastal regions of South America.



Jessica Reese holding two warblers. (Photo by Jessica Reese)

1987, when professors Leann and Charles Blem started installing nest boxes along the James River. The prothonotary warbler is one of the few species of warblers that prefer cavities for breeding, so these nest boxes help conserve the bird’s population.

This is important now more than ever, as human development has depleted the mangrove forests of Panama and Colombia where these birds live in the winter months.

“Since the 1970s, about 35 percent of the world’s mangroves have been destroyed,” said Reese, who has visited the forests in the northern coastal regions of South America. One area under particular threat, according to Reese, is the 120-kilometer stretch of the Salamanca Island Road National Park in Colombia, where a significant population of prothonotary warblers lives.

The Colombian government has built a highway that passes next to the Salamanca park, connecting the city of Barranquilla with the nearby town of Ciénaga. Since the highway’s construction, Reese said, the hydrology of the local mangrove forest has been severely disturbed, as the highway blocks incoming water.

While the government has made some efforts to improve the general health of the forest, the international environmental community has challenged Colombia to do more to protect the mangroves. One concern: The government has floated plans to expand the highway from two lanes to four.

Mangroves in this area of Colombia have been designated as wetlands of international importance under a United Nations program called the Convention on Wetlands, or the Ramsar Convention. This importance is evident



The mangrove forests in Panama are threatened by development. (Photo by Jessica Reese)

Reese says the mangroves act as buffers from coastal storm surges and are important ‘carbon sinks’ – natural areas that can absorb carbon dioxide from the atmosphere.



A prothonotary warbler. (Photo by Jessica Reese)

as the depletion of the forest affects more than just songbirds, Reese said.

“Along with being important habitats for prothonotary (warblers), mangroves are also crucially important for a lot of other processes,” she said. “They are nurseries for young fish and other commercially important aquatic life.”

Reese said the mangroves also act as buffers from coastal storm surges and are important “carbon sinks” – natural areas that can absorb carbon dioxide from the atmosphere.

The forests are threatened by several factors, including coastal development and people cutting down trees for charcoal. While such practices harm the environment, Reese believes it’s important to recognize this is an economic issue as well.

“You have all these local people putting pressure on areas with mangroves, and they’re just trying to maximize their economics,” she said. “They’re going in and cutting firewood because they need to sell charcoal.”

Reese believes eco-tourism would offer a viable economic alternative for the local population, though it won’t necessarily solve the environmental threats to the mangroves. She has suggested that the area set up lodges, provide guides and sell supplies to wealthy international birdwatchers. Such business operations could greatly benefit the local economy while relieving pressure on the mangrove forests on which the prothonotary warblers depend.

Though there is extensive research on this one charismatic songbird, Reese spoke of the bigger picture.



The mangrove forests act as buffers from coastal storm surges.
(Photo by Jessica Reese)

“For any animal or plant species, usually the No. 1 threat with extinction is habitat loss and habitat fragmentation,” she said. “I could name hundreds of species that are under threat for similar reasons.” •