

LIGHTHAWK

WAYPOINT

SUCCESS STORIES FROM ABOVE

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LightHawk's monthly update, WayPoint, was created to share some of the good news we on staff learn about daily. These success stories illustrate the critical role we play in conservation efforts throughout North and Central America through the unique perspective of flight. We hope you enjoy WayPoint and will share with others our success stories from above.

Flights Create Ripple Effect Along Mesoamerican Barrier Reef System

Second only in size to Australia's Great Barrier Reef, the Mesoamerican Barrier Reef System stretches from the top of Mexico's Yucatan Peninsula, along the coast of Belize and Guatemala, to the Bay Islands of Honduras. For all the distance they cover, the reefs and the coastal communities that depend on them are particularly vulnerable to changes in the environment.

Rising sea temperatures can destroy the fragile reefs that not only provide food and income for coastal communities, but also help protect towns and villages from storm surge flooding. Unmonitored coastal development, including tourist resorts and hotels catering to those visiting to experience the reefs, can lead to erosion and pollution that contaminates and kills coral and other sea life.

The US National Oceanic and Atmospheric Administration (NOAA) is working to address the complex issues born from the relationship between coastal communities and the reef system with a project that evaluates the environmental and human consequences of development and climate change.

LightHawk pilots who have flown in Belize for almost two decades have seen big changes happening in the country from the air. So when interim Mesoamerican Program Manager Lee Pagni heard of the NOAA project, he knew LightHawk was uniquely suited to help



The Mesoamerican Barrier Reef System, including the Blue Hole reef off the coast of Belize, are affected by global climate change and local environmental degradation. *R. Enholm/LightHawk*

accelerate the researcher's efforts and clarify the issues. While on a work trip in Belize, Lee sat down with a researcher to discuss flights over the study areas. Just a few weeks later, LightHawk volunteer pilots Brian Williams and George Simchuk had flown all three researchers working in three different Belizean coastal communities for the project.

Research anthropologists and social scientists talked with local communities to understand how members perceive and adapt to environmental stresses. What they learned will be used to provide guidance to the community and to other coastal populations. While the researchers have an excellent on-the-ground understanding of the social dynamics, issues, and environmental conditions within each community, it was important to link this knowledge to the spatial component of their research areas. LightHawk flights over each of the study areas- San Pedro, Placencia, and Punta Gorda brought a perspective to the research that was lacking otherwise.



Low lying developments including this one in Belize are prone to damage from hurricanes and high water. They will also be the first to be affected by the rising seas associated with climate change. Lee Pagni/LightHawk

Photographing the communities from above allowed researchers to see the big picture and understand at a glance, for instance, how many roads had been cut into a wetland, the proximity of one part of the community to a tidal flood zone or the extent of a proposed development.

The Punta Gorda community official in charge of hurricane preparedness remarked how the flight provided crucial visual information to assist their process of storm-disaster preparedness. In San Pedro, photographs showing the extent of recent construction within a tidal plain will be used to bring a broader perspective to discussions related to development with stakeholders in the community.

With just one flight in each of the three communities, the researchers, community leaders, and other stakeholders now have invaluable visual

information to help guide future decisions which impact the health of the barrier reef and by extension, the coastal communities themselves. Whether planning for disasters or managing their local environment and relationship with the barrier reef, the work of the communities was complemented by LightHawk flights which will help lead to a lasting impact for these and other coastal communities.

"The destruction that's going on within the various marine protected areas and the Belize Barrier Reef World Heritage Site is mind boggling. I think these aerial surveys are the only way to really see what is going on. Illegal clearing and filling of mangroves is rampant. And, it can happen with little notice on the ground until it is too late to stop it. I will distribute these images widely. – Ilka Feller, Smithsonian Environmental Research Center



Mangrove clearing in San Pedro, Belize destroys nursing grounds for numerous species of fish and makes low-lying development more vulnerable to hurricanes and storm surge. Lee Pagni/LightHawk

About LightHawk

Founded in 1979, LightHawk is a nonprofit, volunteer pilot-based organization that flies environmental missions in collaboration with with a large network of pilots and hundreds of partner organizations throughout Central and North America. LightHawk flights provide a powerful and effective platform for research, groundtruthing, environmental awareness, and education. Receive this from a friend? Subscribe by sending an email to info@lighthawk.org.

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