Aerial planting of mangroves proving an effective method of protecting struggling marshes in Louisiana

Sowing the seeds of coastal restoration

BY AMY WOLD | awold@theadvocate.com

Taking to the sky and pelting deteriorating wetlands with mangrove seeds has proven to be a quicker and cheaper way to get the plants established than the traditional method of taking long boat trips and planting by hand.

Tierra Resources, a New Orleans-based group working to find new ways to fund coastal restoration through carbon credit funding, announced that three, 1-acre plots have shown the aerial planting technique works.

Tierra Resources did a three-year pilot project in Terrebonne and Lafourche parishes testing the theory that planting mangroves by air could be a cost-effective alternative to traditional methods. The work was done in partnership with ConocoPhillips, which owns 640,000 acres of wetlands in coastal Louisiana.

See MANGROVES, page 5A

MAIN PHOTO: Using airplanes to plant mangroves quickly and cheaply along the Louisiana coast appears to be a feasible restoration tool, according to a recently completed three-year pilot project.
TOP and BOTTOM LEFT: Mangroves like these have large and substantial root systems.
MIDDLE LEFT: John Day, distinguished professor emeritus at LSU, and co-workers search for mangrove seedlings at one of the salt marsh pilot project sites.

Photos provided by Tierra Resources
Mangroves sprout up above the surrounding marsh grass in an area along south Lafourche Parish. Mangroves are surviving better in south Louisiana thanks to consistently warmer temperatures because they can be killed by long, extended freezing temperatures.

In basic terms, tax credits were added to the idea can be "proven at a scale that is a quicker restoration," he said. Entergy Corp. has been a longtime partner with Tierra Resources and helped fund the work in developing the methodology used to equate coastal wetlands with carbon credits that could be sold to fund future restoration. That methodology was certified in 2012.

In other words, this larger scale, it could open up a restoration technology that even small landowners could take part in, said Steve Tullos, senior manager for environmental strategy and policy at Entergy Corp. "Start taking this and apply it to a scale that is a quicker restoration," he said.

Entergy funded the development of a report released earlier this year estimating that coastal restoration could generate $1.6 billion over time through the selling of carbon credits. Tullos said the work being done with Tierra Resources is helping lay a framework of how restoration can be done without federal or state dollars. That's important to the company, he said, because the communities they serve have homes and make their living on land that is quickly disappearing. Finding a way to make coastal restoration more feasible for smaller landowners is a way to help protect those communities.

"We do well when our customers and communities do well," Tullos said. In total, Mack said, she and her team estimate there are 40,000 acres of land in Terrebonne and Lafourche parishes where aerial planting could be applied. In the future, through public and private partnerships, she said the goal is to be able to plant about 30,000 of those acres using the aerial technique.

Follow Amy Wold on Twitter, @awold10.

MANGROVES
Continued from page 1A

Up until now, if mangroves were to be planted in an area, small plants needed to be boated out in pots along with the people who would get the plants in the ground. It is time-consuming, labor-intensive work that can be close to impossible for some areas of the more remote coastline.

"A lot of areas in the coast, it can take half a day just to get there," said Sarah Mack, president and CEO of Tierra Resources. "There's a lot more area we can cover by airplane."

Black mangroves, like those planted in the small project, have a seed that germinates on the tree, so when it falls off, it is already a tiny plant. These small plants are what get collected from mangroves along the coast, taken to an airplane and then dropped over the marsh within a day or two, explained John Day, distinguished professor emeritus at LSU.

Day, along with LSU research associate Rob Lane, also works with environmental consulting firm Comite Resources, which has been collaborating with Tierra Resources on several projects.

In nature, the tiny plants wash ashore along nearby beaches to make roots at the edge. Mangroves can move inland when established plants drop seeds, causing a slow migration toward the center of a marsh. "On the edge, they don't establish fast enough to save the interior marshes," Mack said.

The aerial spraying of these wetlands with carbon credits can range in cost from $20,000 per acre, to as much as $100,000 per acre, Mack said. If the idea can be proven at