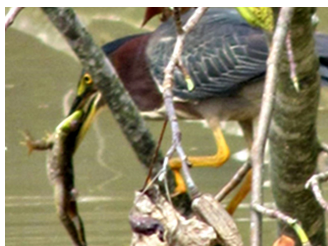


## Lizard Hill Sand Mine Reclamation

Ocean City, Maryland



from top: After restoration; A green heron (*Butorides virescens*) feeding in what was once an abandoned sand mine.

**B**iohabitats assessed, designed, and permitted this complex Delmarva Coastal Bays ecosystem restoration project. The project involved the restoration of an exhausted sand mine known as “Lizard Hill,” which had been excavated in an elevated

mound between two streams, as well as the restoration of Bishopville Pond, a historic mill pond located downstream from the mine, at the head of tide on Buntings Branch, a tributary to Bishopville Prong.

The recipient of an FHWA 2012 Exemplary Environment Initiatives Award, the Lizard Hill project reclaims an abandoned sand mine by creating a 32-acre mosaic of seepage wetlands and reforested buffer areas. The seepage wetlands consist of shallow, aquatic beds established in emergent and floating leaved aquatic plants and more than 8,000 Atlantic white cedar trees. Combined, the vegetation creates a nutrient processing wetland

*A former sand mine is transformed into a 32-acre mosaic of wetlands and forested buffer which naturally clean polluted water while providing forested and open water wetland habitat.*

system fed by surface runoff and groundwater seepage from ditched and drained agricultural fields intensively used in the chicken production industry. The goal is to process the nutrient rich agricultural runoff from adjacent fields by routing flow through constructed, functional wetlands prior to discharging to Buntings Branch, Bishopville Prong and the Saint Martens River, one of the worst nutrient-impacted non-attainment waters in Maryland’s Coastal Bays Region.

The wetland hydrology designed for this project involved filling a ‘seepage reservoir’ with field drainage water. The water then seeps into a layer of sand and wood chips (a carbon source) before exiting into surface ponds and continuing its flow path through sequential seepage and pond processing before entering Buntings Branch and Bishopville Prong. This treatment has been demonstrated to provide high

rates of denitrification, thus reducing export of this keystone nutrient to the receiving stream.

In addition to the wetland creation, an approximately 1,000 linear foot segment of Buntings Branch will be restored by using grade control structures to raise the bottom of the incised channel and reconnect the stream to its floodplain. This will result in rehydration of the forested floodplain, improved nutrient processing in runoff waters, and restoration of natural storm flow peak damping from the approximately 13.5 square mile drainage area.

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