Environmental Case Study

Bermuda Cahow

Case Study: Restoration of the Bermuda Cahow

The cahow is a seabird endemic (restricted) to Bermuda and adjacent islands off the east coast of North America. A member of the petrel family, related to albatrosses, shearwaters, and other wide-ranging seabirds, cahows once formed dense, noisy colonies that fed on the rich fisheries around the island. When European sailors first landed on Bermuda 400 years ago, cahows were abundant. Like many endemic island species, the ground-nesting cahow had never experienced predation and had no defenses against the pigs, goats, and rats introduced by the first settlers. Overhunting and habitat destruction further decimated the species. By the late 1600s-about the same time that the last dodo was killed on Mauritius-cahows disappeared from Bermuda.

For three centuries, the cahow was assumed to be extinct. In 1951, though, scientists found a few living cahows on some tiny islands in the Bermuda harbor. A protection and recovery program was begun immediately, including establishment of a sanctuary on the 6-hectare (15-acre) Nonsuch Island, which has become an excellent example of environmental restoration.

Nonsuch was a near desert after centuries of abuse, neglect, and habitat destruction. All the native flora and fauna were gone, along with most of its soil. This was a case of re-creating nature rather than merely protecting what was left. Sanctuary superintendent David Wingate, who has devoted his entire professional life to this project, has brought about a remarkable transformation of this barren little island. Reestablishing a viable population of cahows has had the added benefit of rebuilding an entire biological community.

The first step in restoration was to reintroduce native vegetation and re-create habitat. Thousands of native tree and shrub seedlings were planted. Initial progress was slow as trees struggled to get a foothold; once the forest knit itself into a dense thicket that deflected the salt spray and ocean winds, however, the natural community began to reestablish itself. It takes constant surveillance to remove volunteer exotic plant species and to exclude rats, cats, and toxic toads that swim from the main island.

The benefits of indigenous species became apparent in 1987 when Hurricane Emily roared across Bermuda. Up to 70 percent of nonnative trees were uprooted or snapped off by gale-force winds, littering streets and bringing down power lines. The dense, low-profile, native trees on Nonsuch were barely touched by the winds. Demands soared for hurricane-adapted species to replace those lost along streets and in gardens.

Just providing habitat for the cahows was not enough, however, to restore the population. Each pair lays only one egg per year and only about half survive under ideal conditions. It takes eight to ten years for fledglings to mature, giving the species a low reproductive potential. They also compete poorly against the more common long-tailed tropic birds that steal nesting sites and destroy cahow eggs and fledglings. Special underground burrows were built with baffled entrances designed to admit only cahows. Young birds were hand-raised by humans to ensure a proper diet and protection.

By 1997, the cahow population had rebounded to fifty-six nesting pairs. It is too early to know if this is enough to be stable over the long term, but the progress to date is encouraging. Perhaps more important than rebuilding this single species is that the island has become a living museum of precolonial Bermuda that benefits many species besides its most famous resident. It is a heartening example of what can be done with vision, patience, and some hard work.