

# Restoration Cases Flagship Collection

## Case #11: Bio-cultural restoration of Área de Conservación Guanacaste, Costa Rica



*Naturally regenerating 30-yr old ACG dry forests surrounding a 4-centuries-old pasture plot maintained by annual burning for education and training. Photo credit: Felipe Chavarría.*

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## In brief

### Overview

Área de Conservación Guanacaste (ACG) in northwestern Costa Rica encompasses 169,000 ha of protected land and sea and extends from 19 km in the Pacific Ocean to about 105 km inland, including the Caribbean slopes of the Volcanic Cordillera de Guanacaste. The area includes four major tropical ecosystems: marine/coastal, dry forest, rain forest, and cloud forest and spans an elevational range from sea level to 1,916 masl. In 1985, individuals, government agencies, and non-governmental organizations initiated a joint effort to create a regional conservation unit to reduce threats to biological integrity and survival by preventing fires, hunting, farming/pasturing, and logging, by purchasing agroscape properties to restore native ecosystems and by increasing habitat connectivity for resident and seasonally migrating species. Over 35 years, forest extent in the protected area increased more than 10-fold, entirely through fire prevention and natural regeneration. Enhanced protection of marine areas and coastal mangrove ecosystems is promoting their recovery. More than 80,000 ha of former pasture and croplands are on their way to becoming forests through natural seeding from adjacent forest patches.

### Exemplary practices

The formation of ACG required a paradigm shift toward a local-based conservation and management approach based on strategic land purchase and government permissions, elimination of fires, local employment at all administrative levels, and field-based biological education. These actions created and protected sufficient habitat to sustain native species, thereby providing goods and services to local communities to compensate them for their engagement in wildland conservation and restoration and promoting and assisting the natural forest regeneration process to restore and connect forest ecosystems within a heterogeneous landscape. Local communities were engaged in ACG through educational programs, training of local naturalists to conduct biological inventories, voluntary fire-fighting brigades, government employment, and regional and national advisory councils.

### Key lessons learned

- ◇ *Long-term conservation and restoration cannot succeed without the cooperation, participation, and engagement of local to global stakeholders.*
- ◇ *Protect remaining habitats and harness nature's resilience to reestablish native biodiversity.*
- ◇ *Grow protected areas strategically to achieve regional socioeconomic and ecological integrity, climate change resilience, and connectivity.*
- ◇ *Commit to innovative actions focused on long-term objectives and local engagement.*
- ◇ *Bioliteracy education programs create knowledge about uses and values of biodiversity to society.*