Biodiversity

Caribbean economies are still based on the extraction or use of renewable natural resources. Changes described at the beginning of this chapter illustrate that the region is moving from the production and sale of primary materials such as sugar, cotton and fruits to the sale of tourism services based on sun, sand and sea.

The small size of the Caribbean islands and their associated ecoregions creates substantial risks for local habitats and the species they feed and shelter. Details of the names, sizes and threat status of the Caribbean's 34 terrestrial ecoregions and 3 marine ecoregions are provided by Dinerstein *et al.* (1995) in *A Conservation Assessment of the Terrestrial Ecoregions of Latin American and the Caribbean*. (See also Table 1.5.)

The biological resources of the Caribbean and their related ecosystems are under great pressure from development activities, and although this situation is similar to that in other regions, there are a number of additional factors that increase the sensitivity of, and threat to, ecosystems in the Caribbean.

- Steep slopes and rapid changes in topography create small, scattered ecosystems.
- Small size of the ecosystems: for example the Windward Island dry forests represent an extremely small ecoregion, estimated at 431 km^2. Even more remarkable, however, is that this area is actually divided among six or eight islands.
- The concentration of population and activities in small areas (relative to spatial orientation on continental landmasses) intensifies stress conditions.
- There is a high frequency and variety of natural disasters.
- Close coupling of terrestrial, coastal and marine systems results in fast-spreading communication among these systems. Clearing upland areas for farming can result in cloudy water over adjacent reefs within days.

Although relatively impoverished in terms of the absolute number of endemic species, the insular Caribbean displays high levels of biodiversity per unit of land area (Island Resources Foundation 1998). This high productivity in terms of current biodiversity is more remarkable given the high densities of human population in the region and the long history of settlement and resource-intensive development activity. It is undeniable that these pressures result in continuing ecosystem deterioration, such as the deforestation discussed above (FAO Internet site). Two-thirds of the coral reefs in the Caribbean are at risk, and one-third (Bryant *et al.* 1998) are at high risk.

Table 1.5: Levels of endemism for selected Caribbean countries (for selected taxa)

	Birds	Mammals	Amphibians & reptiles	Higher plants
Antigua and Barbuda		0	0	
Bahamas	3	4		
Barbados		0	0	
Cuba	22	15	43+91	3475
Dominica		1	0	
Eastern Caribbean	38	11		68
Guadeloupe/Marie Galante		2	2	
Hispaniola (Haiti/Dominican Republic)	34	3	47	1800
Jamaica	34	5	47	830
Martinique		0	0	
Montserrat		0	5	
Puerto Rico	26	1	42	234
St. Kitts, St. Eustatius and Nevis		0	1	
St. Lucia		0	2	
St. Martin, Anguilla and St. Bartholemy		0	0	
St Vincent and the Grenadines		0	2	

Source: Modified from UNECLAC/CARICOM (1993); Cuba, Govt. of (1998b).