The Juan Fernández archipelago (‘Robinson Crusoe’s islands’), which is a Chilean National Park, has been cited as representative of the world’s most threatened ‘protected natural areas’ by the International Union for Conservation of Nature and Natural Resources (IUCN). Goats, cattle, pigs, and other domestic animals, introduced by Man, are grazing the plant cover excessively and causing severe erosion on the islands.*

The archipelago, a National Park since 1935, is best known as the place where the British buccaneer Alexander Selkirk was marooned in 1704. His adventures inspired Daniel Defoe’s famous book ‘Robinson Crusoe’. The archipelago is one of 11 ‘protected natural areas’ in the Americas, Africa, and Europe, which are listed by IUCN as representing the most threatened sites in the world. Although declared as national parks and reserves, these sites are being severely damaged by a wide range of threats, including human encroachment, poaching, inappropriate internal development (e.g. road construction), mining and prospecting, development of neighbouring lands, changes in water regime, hydro development, livestock conflicts, military activities, illegal logging, pollution, acid deposition, invasions of exotic species, inadequate management resources, and delisting or lowering of status.

In addition to the 11, IUCN listed 32 other areas (Fig. 1) facing similar threats, and emphasized that they were merely representative of the situation facing many of the world’s ca 3,000 protected natural areas, and were not necessarily the worst affected.

Listed with Juan Fernández is Manu National Park in Peru, which probably faces a wider range of threats than any other park in the world, according to IUCN. The present Government of Peru is proposing to build a road into the Park, to promote settlement, forestry, agriculture, and ranching. Oil and mineral exploration have already been allowed, there is prospecting for gold, and a canal is planned where the rubber collector Fitzcarraldo dragged his boat from the Urubamba River system to the Manu River system. (His feat was recalled in a recent film.) The canal would affect streamflows, allow boats into the Park, and remove some forest land.

Early in November, Tanzania’s Ngorongoro Conservation Area and Zaire’s Garamba National Park were inscribed on UNESCO’s List of endangered World Heritage Sites at the request of the respective governments.

IUCN intends to publish a regular list of the world’s most threatened protected natural areas, to make the public aware of the dangers threatening them and to marshal support for retaining or regaining the integrity of the areas. At its triennial General Assembly in Madrid, Spain, on 14 November 1984, Dr Marc Douroujeanni, of Peru, a leading member of IUCN’s Commission on National Parks and Protected Areas, stressed that the 11 areas named were considered as only among the most seriously threatened. All 43 parks from which the 11 were selected were just a representative selection of a large number that are threatened among the more than 3,000 protected natural areas recognized by the United Nations.

Dr Douroujeanni also stated that in some cases remedial action might not be feasible: Even where solutions were

(Concluded on page 58)
known, they might be difficult to achieve because of political, administrative, or fiscal constraints. He added that, ‘Throughout the world, existing laws are proving inadequate to address a broad range of new environmental threats, which often transcend national boundaries. In particular, acid deposition and incompatible activities on land surrounding protected areas, including civil unrest and military action, are adversely affecting many protected areas’. Altogether these factors pose an extremely grave menace to the effectiveness and very integrity of the Conservational Movement.

DONALD ALLAN
IUCN
World Conservation Centre
Avenue du Mont-Blanc
1196 Gland
Switzerland.

APPENDIX
THE WORLD’S MOST THREATENED ‘PROTECTED NATURAL AREAS’

Brazil—Araguaia National Park. Road construction is causing damage, and squatter invasions occur.**

Chile—Juan Fernández National Park. Introduced animals are causing serious erosion and alien plants are overwhelming native species.

Czechoslovakia—Krkonose National Park. The most seriously threatened by air pollution of all Central European national parks.

Indonesia—Kutai Game Reserve (proposed National Park). Badly damaged by a huge fire and affected by logging, oil, mineral exploitation, and roads.

Ivory Coast—Tai National Park. Poachers, gold prospectors, and illegal settlers, have severely affected two-thirds of the Park.

Peru—Manu National Park. A major road is proposed. Gold prospecting is going on. More oil and mineral exploration is being considered. There is a canal project to link two river systems.

Philippines—Mt Apo National Park. Only half of the original Park is still considered viable because of logging, encroachment by shifting cultivators, and squatter settlements.

Tanzania—Ngorongoro Conservation Area. Heavy poaching, especially of Black Rhino (Diceros bicornis), illegal grazing, and wildfires, are damaging one of Africa’s highest-priority protected sites. Management resources are insufficient.

USA—John Pennekamp Coral Reef State Park and Key Largo National Marine Sanctuary. Dredging and landfilling threaten corals. Miami’s sewage pollutes the area, and boats, fishermen, and shell collectors, damage reefs. Condominium development is proposed, and other changes to the hydrological regime of southern Florida are reflected in the threats facing this area.

Yugoslavia—Durmitor National Park. Tara River is threatened by proposed release of lead-processing wastes and planned hydro station.

Zaire—Garamba National Park. The world’s last Northern White Rhinos (Ceratotherium simum cottoni), numbering about 10, are threatened by poachers, who have also reduced the African Elephant (Loxodonta africana) population by nearly two-thirds in the last seven years.

** See also the account of the situation elsewhere in Brazil, published on pp. 358–60 of our preceding issue by Professor Philip M. Fearnside & Gabriel de Lima Ferreira.—Ed.
Unfortunately, one of the main ways that people are destroying the natural world is through the introduction of “aliens” species that do not naturally occur in an area, but have been taken there deliberately or accidentally by humans. Aliens may consume, infect, breed with and compete with native species, and convert or destroy habitats, among other impacts. An important question then is whether protected areas nevertheless are able to protect against the impacts of aliens. The “desert rat-kangaroo™” of central Australia was hunted to extinction by introduced foxes and cats. Students discuss protected land areas, what it means to protect land, and the reasons for doing it. Then students brainstorm what information about protected lands and animals would be useful to include on a map. Tell students that protected land is an area of land that has been legally set aside so it can be kept safe from harm. Have students brainstorm what things might be protected in a protected land area, such as animal life, plant life, natural resources, and cultural resources. To protect natural resources such as water and plants, to provide food, water, shelter, and space for wildlife. 4. Have students brainstorm what information about protected lands or animals might be useful on a map. Explain to students that sometimes reading information in a chart or text is helpful. Specially protected natural areas (PAs) are land territories, water surface and airspace above them, where natural complexes and objects that have special conservation, scientific, cultural, aesthetic, recreational and health value are located. By 2016, the area of PAs in Russia was about 11.4% of the total area of the country. The system of specially protected natural territories in Russia is represented by 247 federal territories (103 reserves, 48 national parks, 64 federal sanctuaries, 17 federal natural monuments) and about 13,000 regional protected areas of various categories. Development of the theoretical bases of reserve management The United Nations List of Protected Areas has its origins in the recognition of the importance by the United-Nations of the “national parks and equivalent reserves” for the conservation of the Earth™s natural places and for the protection of biodiversity. Publication of the official protected area UN lists for each country. These lists are a compilation of data and information about the world™s global protected area network. The World Database on Protected Areas (WDPA) is a joint product between the United Nations Environment Programme (UNEP) and the International Union for Conservation of Nature (IUCN), and it is managed by UNEP-WCMC based in Cambridge, UK. A protected area is a designated location that has been preserved for its ecological, natural and/or cultural values. Governments work with. Covering both the eastern half of the Air Mountains and the western sections of the Tenere desert, there are two sections of this reserve; a nature reserve and a strict sanctuary. 1. Wrangell-St. Elias National Park.