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Islands World Heritage site (Ecuador, 2-10 June 1996)

REPORT TO THE WORLD HERITAGE BUREAU OF THE GALAPAGOS WORLD HERITAGE SITE MISSION

June, 2 - 10, 1996

1. Background

Ecuador adhered to the World Heritage Convention in 1975. The Galapagos National Park (GNP) was among the first twelve sites inscribed on the World Heritage List in 1978, the outstanding characteristics of GNP fulfilled all four criteria for a World Heritage Natural Property. It was inscribed under for four following criteria:

- i) be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features; or
- ii) be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals; or
- iii) contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance; or
- iv) contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation;

From the very beginning, the UNESCO World Heritage Committee, thanks to reports by IUCN, was able to closely follow the state of the Galapagos National Park (GNP). Repeatedly, international assistance has been provided to both the GNP and Charles Darwin Foundation in order to, among others, address problems of management planning, marine resource protection, eradication of introduced species, and training has been provided. In 1994, emergency assistance was given to safeguard giant tortoises on Isabella which were threatened by a massive wildfire.

During the eighteenth and nineteenth sessions of the World Heritage Committee, IUCN, in its capacity as advisory body to the Committee for Natural Heritage, reported on serious deterioration of world heritage values and integrity of the Galapagos Islands World Heritage Site. During these sessions, the Government of Ecuador acknowledged the concerns of the Committee and on the occasion of the nineteenth session, presented a state of conservation report reflecting a parallel assessment of the situation. Following a longer discussion, the Committee decided to postpone a decision whether the Galapagos Islands should be listed on the List of World Heritage in Danger.

The Committee recommended that the Director of the World Heritage Center accept the invitation from Ecuador to visit the Galapagos Islands with the Chairman of the Committee and appropriate technical advisors to discuss the pressures on and present condition of the World Heritage Site, and to identify steps to overcome the problems. The Committee invited Ecuador and the Director to report on the outcome of the visit for further consideration by the Bureau at its twentieth session, including the question of whether or not the property should at that stage be recommended for inclusion on the List of World Heritage in Danger.

In accordance with these recommendations, responding to the generous invitation by Ecuador, the above mission led by the Chairman of the World Heritage Committee took place from 2 June 1996 to 11 June 1996. It met in Quito and on the Galapagos Islands with central government, provincial and local authorities and concerned with conservation of the Galapagos, as well as with local residents, their associations and leaders, main government institutions of the islands, the Galapagos National Park Service (GNPS) and the Charles Darwin Foundation(CDF). Following their fact-finding visit to the Galapagos Islands, the mission members, presented their conclusions to the Government of Ecuador in Quito.

Mission members wish to express their gratitude for the excellent organization for their visit and contacts which allowed them in a short time to become acquainted with the multidimensional issues in the Galapagos Islands.

The following are the observations and recommendations of the mission to the World Heritage Bureau which will meet 24 - 29 June 1996.

2. Summary

The Galapagos Islands still possess a unique terrestrial and marine flora and fauna. This uniqueness has evolved due to the isolation of the archipelago from the mainland and among its islands. The authorities of Ecuador have acted on the pressing needs for conservation and many institutional measures and plans have been prepared. Many sustainable development and conservation projects partly also supported by the international community have been launched. Nevertheless, problems have grown to a dimension that require increased efforts by both Ecuador and the international community for resolution.

This islands' isolation is now rapidly disappearing. The single most important threat to the integrity of the Galapagos World Heritage Site stems from human migration in increasing numbers from the mainland to the archipelago. For example, research by the Charles Darwin Foundation established a strong correlation between the increasing human population on the archipelago with the numbers of introduced species which is leading to population and species extinction. Therefore, in order to maintain the Galapagos World Heritage Site in a close to pristine state, special legislation needs urgently to be enacted and implemented that limits human migration and stabilizes the resident population at the current level.

The ever-increasing flow of non-endemic and exotic organisms into the island ecosystem must be reduced by immediately implementing plant and animal quarantine systems. Without vigorously pursued quarantine, eradication and control programmes to, for example, exterminate goats and stop the spread of aggressive introduced plants, the unique Galapagos biota will be displaced and extirpated by foreign species. The increasing scale of movements of tourists and fishing boats have become particularly important in further reducing inter-island isolation and contributing to the spread of introduced species. Strict quarantine rules need in particular to be applied to the tourism, agriculture and fisheries sectors to stop the spread of foreign species.

The Galapagos National Park has to handle an increasing number of tourists without adequate means at its disposal. Here the single most urgent measure is to provide the national park with an adequate operations and maintenance budget, estimated at about US\$2 million annually, and to gradually increase its staff as detailed in the proposed management plan. Moreover, the balance has to be shifted from packaged tours to more locally based tourism business operations to strengthen the economic base of the islands.

Effective management must be undertaken with the best possible scientific information in the hands of park managers and other decision makers at all levels. A strong research and monitoring programme must be committed for both the terrestrial and marine environments. Also social and economic problems should be addressed. Such a programme should appropriately build on the already renowned work of the Charles Darwin Foundation/Research Station which needs to strengthen its marine research and to coordinate research priorities of park management requirements.

The importance of extending adequate legal protection to the sea around the islands cannot be overemphasized. The marine resources, like the terrestrial resources, are of exceptional value, and moreover, there are intrinsic links between the marine and terrestrial ecosystems which mandate the protection of both environments in their integrity. However, World Heritage listing of the marine area is only meaningful if proper measures are adopted for protection and management. Apart from establishing adequate legal protection, a lead agency (the Galapagos National Park Service) should be clearly designated for control and monitoring of the Galapagos marine waters. Fisheries management experts have questioned the useability, validity and enforceability of this plan. The 1992 marine resource plan requires a scientific and resource management review and evaluation. If a marine resource management plan is to be successful, the allocation of sufficient means to stop clandestine fishery for tuna, shark, and other commercial species, and to put an end to the intensive and illegal harvesting of sea cucumbers around the islands. Traditional, sustainable fishery activities should be guaranteed to local fishermen. Adequate training of fishermen is crucial for wise use of the fishery stock. The number of fishing licenses should be restricted to guarantee an adequate income basis without depleting the stock.

Clearly the conservation of the Galapagos Islands natural heritage resources will succeed only if the authorities are able to address the many social problems on the islands. They have at their root an uncontrolled flow of immigrants, which overtaxes the local infrastructure and has led already to marginal living conditions and serious environmental pollution on the islands and in the sea. Local institutions need to be considerably reinforced to provide adequate services to be able to undertake necessary sanitary engineering and other public works. The rapid build up of a population from the mainland, unskilled and without knowledge of the natural environment, calls for urgent measures in the field of professional training and environmental education. This will help empower people to participate in open decision making. An acceptable quality of life on the island is the best guarantee for lasting conservation.

Last but not least, the loss of biological diversity on other islands around the world has proven the fragility of isolated island ecosystems sufficiently to predict the disastrous consequences for Galapagos if the above actions in the institutional, administrative and operational fields are not taken rapidly.

3. Seven Areas of Main Concern (A-G)

A. Institutional and Administrative Issues

The mission felt there were many different institutions involved in Galapagos matters working in parallel without any conservation priority or coordination due to a lack of clear hierarchy of authority.

Therefore, legal, jurisdictional and administrative responsibilities of all institutions working in Galapagos must be clearly defined in the context of a new special law for the Galapagos. There are several institutions whose authorities and jurisdiction need to be clarified and/or strengthened:

Recommendations

- A.1 Institutions on the islands providing services to the local communities and in charge of conservation and management of natural resources need to be strengthened.
- A.2 The Galapagos National Park Service must be strengthened in the institutional context of the province, so that it will be capable of enforcing management policies and rules regarding environmental conditions within the marine and terrestrial areas, guaranteeing their conservation and the dependent sustainable development of the islands' populations.
- A.3 The municipalities must modernize their organizational structure in a way compatible with conservation goals for the islands.
- A.4 The Instituto Nacional Galapagos (INGALA) should recover its role for inter-institutional coordination in order to insure compatible conservation and community interests. INGALA also should be in charge of migration control.
- A.5
- A.6 Institutional arrangements should be made in order to implement the Global Plan (1991) for Tourist Management and Ecological Conservation of the Galapagos Islands. In the same way, institutional arrangements have to be made for the implementation of a Galapagos Marine Resources Reserve Management Plan (1992).
- A.7 The Charles Darwin Foundation/Research Station should increase its role in science and support to conservation in close contact with the local communities.

B. Demographic Increase and Migration Control (and other Legal Issues)

During the last 20 years, ten different management plans for the Galapagos have been prepared not counting municipal or sectorial plans. These plans, without exceptions, underline the ecosystem conservation on the Galapagos as the primary objective. They acknowledge that migration from the mainland to the islands is the major problem which threatens to undermine all conservation efforts.

Now the Constitution of Ecuador has been changed which permits the adoption by the Congress of a special legislation for the Galapagos Province. Special legislation should halt the flow of immigrants from the mainland which, during the last years, has led to an annual increase of the human population on the island at a rate of 8.5% with disastrous effects for the local communities which could no longer provide all basic services and for the island ecosystem which is increasingly swamped by introduced species which arrive with new people on the islands, in the absence of any quarantine regulations. The single most important recommendation of the mission is therefore:

Recommendations:

- B.1** To adopt with great urgency a special to control migration from the mainland and between the islands with the objective to stabilize the population size on the islands.
- B.2** To enable local people through educational and awareness building activities to participate more fully in decision-making and support conservation and sustainable development through education and training.
- B.3** The aims and obligations that UNESCO's World Heritage Convention should become more widely known on the island and serve as an overall message and lead to a strong conservation ethic on the islands. New legislation for the islands should be in conformity with stipulations of the UNESCO World Heritage Convention.

C. Introduced Species and Quarantine Requirements

Recommendations:

- C.1** The Inspection and Quarantine System of the Galapagos Islands must be implemented as a very high priority programme. Nothing is more critical to the long-term survival of endemic species
- C.2** Authorities are urged to immediately initiate a programme for eliminating goats on islands with the help of a helicopter and other appropriate means. Exogenous species introductions and proliferation have continued to increase at an alarming rate. Introduced species, both animals and plants, pose a critical threat to the integrity of island systems and processes. In many cases, introduced species competition is leading to the extinction of major populations of endemic species and in some cases, actual extinction occurred.
- C.3** Support must be given to the existing programmes managed by the GNPS and the CDRS for the reduction and management of other exogenous species. This programme must include research in techniques and methodologies, monitoring programmes, and actual reduction/eradication programmes.
- C.4** Efforts to involve the international research community in developing cheaper and more effective control/eradication programmes should be encouraged.
- C.5** Captive breeding and reintroduction programmes should be continued where necessary with the goal of re-establishing natural systems wherever possible.

D. Tourism

Nature oriented tourism began 25 years ago on the archipelago. The specific tourism model created in the islands has rendered the activity economically profitable. At the same time ecological impacts from tourism were minimal. Economic benefits generated on the Galapagos bring the country between 80 - 100 million US\$ annually. These benefits are directly related to the state of conservation of the islands. If the conservation state of the islands is affected, this will mean decrease of tourist number in both the short and long term, caused by a loss of attractions, as there is high interest around the fame of the islands as the best protected groups of islands in the world.

The fact that the tourism economy has increased steadily during the last years demonstrates the potential sustainability of this activity under the management restrictions and norms imposed by the national park. This suggests that this activity can guarantee a steady income provided that demographic growth on the islands can be handled. An increase in tourist numbers, the tourist fleet and the introduction of new, less conservation oriented activities such as recreational tourism and sports fishery, may increase benefits in the short term, but may deteriorate the image of the islands as World Heritage, and therefore affect sustainability in the long run.

Recommendations:

- D.1** Consolidation of present levels of tourism should be sought before any further increase in numbers of either boats or tourists.
- D.2** A monitoring programme should record all ecological and social changes or fluctuations possibly related to tourism in the long run.

The Galapagos National Park Service has completed a new scientifically-based management plan which includes a section related visitor management. In this connection, the following is necessary:

- D.3** Provide sufficient operations budget and personnel to fully implement the plan.
- D.4** Effective visitor management requires defensible monitoring and assessments programmes. The GNPS needs sufficient resources to implement fully the monitoring programme outlined in the plan.
- D.5** The GNPS working with the CDF should continue a programme of research related to visitor management.

Under the present system, permits for a tour boat to operate in the Galapagos is handled in Quito. The GNPS has full authority to manage the annual permitting programme. However, without the ability to control the numbers and size of boats, the GNPS cannot ever fully manage visitor experiences or impacts on the islands.

- D.6** Full authority for managing the tour boat permit programmes needs to be given to the GNPS.

E. Marine Reserve and Fisheries

The Commission recognizes that the Marine Area of the Galapagos Islands deserves urgent attention for the following reasons:

- Many coastal species such as marine-mammals, marine iguanas and seabirds depend on the sea for their life support.
- A very high percentage of species living within the coastal waters of the Galapagos archipelago are endemic and therefore found nowhere else.
- In particular, many migratory species, such as cetaceans, sharks, tunas and billfish use the marine waters of the Galapagos archipelago which is a very important sanctuary for Cetaceans;
- Furthermore, Galapagos marine ecosystems in themselves are also unique. Their characteristics attract scientists from all over the world to study ecological interactions and adaptations in the sea as part of evolutionary processes occurring in the archipelago as a whole.
- An important part of the human population of the Galapagos Islands depends on intact marine resources for their subsistence as fishermen or in tourist activities.

The mission acknowledges the considerable efforts of the Ecuadorian Government

- To give the marine area of the Galapagos Islands a protected status by declaring it a Marine Reserve in 1986 and by adopting a management plan in 1992, as well as several presidential decrees and ministerial agreements connected to the management of the marine resources of the area. Large-scale killing of fur seals or marine turtles within the archipelago is a matter of the past. Declaration of the archipelago waters as a sanctuary for cetaceans in 1989 bans whale hunting from this unique area. Efforts of a large proportion of the local community, including fishermen to enlarge the dimensions of the marine resources Reserve must be recognized. The fishing community has made specific recommendations for legal changes, which would help in the control of exploitation of marine resources. Those initiatives are highly commendable.

Threats to the integrity and sustainable use of the marine resources and the unique character of the Galapagos:

- Lack of general policies and for the marine environment; combined with non-implementation of the management plan.
- Unclear situation concerning the institutional responsibilities.
- Development of high value fisheries (such as sea-cucumber) close to shore with concentration of activities in the highly sensitive littoral area and where land-sea interactions and interdependence are most intense; and associated activities such as camping and the introduction of exotic species to pristine islands.
- An increasing number of fishermen competing for limited coastal resources, due to general population growth and inadequate licensing policies; and pressure of industrial fishing near or inside the marine reserve.
- Evidence of continuing illegal fishing activities.
- The over-exploitation of marine resources due to lack of effective control and enforcement of existing regulations.
- The introduction of new modes of tourism, such as sport fishing.

Recommendations

The mission welcomes efforts of the Ecuadorian Government to integrate the marine reserve of the Galapagos Islands into the World Heritage and makes the following recommendations:

- E.1** A well defined fisheries policy in conjunction with the marine management plan must be implemented which protects the unique marine coastal environments allowing sustainable use by the local population.
- E.2** A defensible and legally sufficient basis for the Galapagos Marine Resources Reserve must be developed and fully implemented; including inclusion of the GMRR in the National System of Protected Areas.
- E.3** There is confusion and disagreement regarding authority to make decisions relating to fisheries in the GMRR and to enforce rules within the GMRR. Jurisdictions need to be clarified and/or strong governmental direction must be given to the three agencies to insure strong and continued cooperation on the enforcement of fishing rules and other policies within the GMRR. The mission believes it appropriate to give the GNPS primacy within the GMRR.
- E.4** Fiscal resources and personnel sufficient to implement the management plan and enforce rules must be provided.
- E.5** An adequate management capacity requires establishment of a strong scientifically sound research and monitoring programme with adequate fiscal and personnel resources.
- E.6** The number of fishermen should not be allowed to increase, and no new types of fisheries be allowed.
- E.7** Given the unique character and essential role of coastal areas for conserving the integrity of the Galapagos Islands as a whole, it is important that at least the coastal marine waters corresponding to categories V and VI of the existing management plan be added to the World Heritage site. This should occur only after the legal and administrative management capabilities are in place.

F. World Heritage Site Management Problems

The Galapagos National Park Service is to be commended for its professional high quality planning. They have completed a Management Plan which needs only to be approved by INEFAN prior to publication. This plan provides updated zoning and guidelines for the management of GNP, the immediate marine environment, and rural and urban areas of the archipelago.

Recommendations

- F.1** INEFAN should provide immediate approval of the GNP Management Plan and should give GNPS the institutional support to implement the plan.

GNPS budget: Although the GNPS has excellent and dedicated staff, and through the CDF access to scientific support, the park is inadequately funded to meet minimal operational needs or implement the master plan. Implementation is critical for long-term preservation of the archipelago's resources and ecological processes.

- F.2** The Government must assure the park receives a sufficient budget and staff to meet the implementation needs of the Management Plan. The mission estimates that would require a budget of approximately US\$2 million for operations, projects and capital needs, in addition to salary costs.
- F.3** The Ecuadorian Government must provide authority to the GNPS to expand the park staff to meet the needs defined in the Management Plan.
Staff Resources: The staff of the GNPS now numbers 87 employees. This is an insufficient staff to provide sufficient capability to meet the needs of the GNP, as defined in the draft Master Plan.
- F.4** In order to help to finance the Park's budget for operations and maintenance, 50% of the tourist fees collected by the Park should remain under the immediate direction and control of the Galapagos National Park.
- F.5** Environmental Education and Community Involvement: The new Management Plan includes environmental education as part of the management of GNP. Nearly every group the mission met with discussed the critical need for education on the islands. Meetings attended by the mission members and reports indicate conflict and misunderstanding between the park staff and the archipelago residents. Support and understanding of the conservation goals of the park and the GMRR by residents is critical to the long-term success of the conservation goals. Further, support and understanding is needed from critical decision-makers and those who influence decisions at the national and international level.
- A strong, effective multi-level programme of informative education should be undertaken building on the existing excellent efforts of the GNPS and CDF. Existing programmes of environmental education with the local schools should be expanded. Guide training programmes should stress the need for conservation and environmental education on the part of the guides with tourists. Targeted educational efforts need to be undertaken with decision-makers and those who influence policy on both the archipelago and in mainland Ecuador.
- F.6** The GNPS should make concerted efforts to become more involved as individuals and as an organization with community issues and decisions on the 3% of land not included in the park.

G. Research and Monitoring

Humans, latecomers to the Galapagos ecosystem, now must accept a co-evolutionary responsibility on the islands. Science and monitoring are now instrumental to wise stewardship. In this context, the vital importance of the Charles Darwin Foundation/Research Station is recognized.

It is important to know the effects of human activities on natural processes. Plant and animal species introduced by humans produce long-term alterations of ecosystems which until recently evolved without such external disturbances. There impacts can only be discerned through long-term monitoring of subtle changes. Some of these activities might have immediate and easily describable effects. Others will have subtle, long-term consequences.

Recommendations:

- G.1** Increase management related research to improve overall efficiency of conservation programmes and their long-term cost, particularly island-wide monitoring of the state of ecosystems and biodiversity, including timely alert on the disappearance of native plant and animal species.
- G.2** Strengthen research and monitoring of marine ecosystems and their dynamics to evaluate impacts of resource use and assess populations of exploited marine species.
- G.3** Intensify research on effective and environmentally compatible pest control, notably eradication and control of introduced species.
- G.4** Promote research to better understand resource economics on the islands, notably conservation economics and define better short- and long-term costs and benefits.