

# Chapter 7

## Development of the Galápagos Marine Reserve

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**Abstract** The Galápagos Marine Reserve, declared 1998, was the result of a long scientific and political process, which spanned several governments, starting 1973 with the first management plan for the Galapagos National Park and the following biodiversity evaluation and conservation proposals by Wellington (1975). Discussions about governance, institutional jurisdictions, and compatible resource uses delayed the legal declaration of a marine protected area, until 1986, when a marine resource reserve was legally established. Until the final establishment of the Galápagos Marine Reserve, however, several initiatives for management planning and conservation failed due to lack of management capacity, interinstitutional agreements, and priority of the marine environment. Thus, even after the creation of the RRMG, new illegal fisheries for sea cucumber joined, increasing pressures due to industrial fisheries, shark finning, and overexploitation of coastal stocks of groupers and spiny lobsters. This recount was build after 40 years of scientific and advisory work experience in the Galapagos Islands, does not pretend to be objective and complete, and may be biased by the weight I have given to different actors and their roles in subsequent phases of development.

### The First Steps

Conservation of the Galápagos marine environment was an important topic since the Galápagos National Park was created in 1959 but lagged behind efforts to preserve and restore terrestrial ecosystems. Grimwood and Snow (1966) recommended for the first time a fringe of 1,000 m along the shoreline, within which traditional fishing by the very small local fishing community was thought to be compatible. The “Master Plan for the Protection and Use of the Galapagos

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National Park” (Anonymous 1974) followed those recommendations and stated, from the onset, that “the Province of Galapagos needs to be developed along different lines from other provinces, as 88 % of its land area is National Park, where tourism and scientific research are the predominant interests, and that legislation should be passed to include a 2-mile marine zone around the Park’s shores.” CDF President Peter Kramer<sup>1</sup> refers to economic needs for the construction of a marine laboratory, “in view of the current proposals to include a large marine zone into the National Park, which could prove as important as the terrestrial zone” (Kramer 1975a, b).

It was evident that the main justification for protecting the marine area was the dependence of the many land-breeding protected marine vertebrates (reptiles, birds, mammals) on the sea for food. The importance and diversity of submarine life was known but much less evident, as this information was dispersed and invisible at first glance. Mentioning the need for zoning of the marine area, Kramer also pointed out that the Park Service and the Darwin Station were currently working on underwater zoning but that years of exploration and research would be required for an adequate census of the rich and varied marine resources of the Galapagos.

## **Work of Jerry Wellington and Proposal of Marine Extension of GNP 1974–1976**

To gather and summarize preliminary information on marine life, the Galápagos National Park Service and the Charles Darwin Research Station asked the US Peace Corps for the cooperation of a marine biologist (Wellington 1975).

Jerry Wellington, with a minimal budget, but strong support by CDRS Director Craig McFarland, gathered an enormous amount of information within 2 years. He did not only systematize existing knowledge from various scientific expeditions over the last century and a half but also conducted an in situ inventory of most coastal intertidal and subtidal ecosystems down to 10 m of depth of all islands.

Wellington’s survey concluded that the Galápagos marine communities, in relation to other insular areas, were represented by a high diversity of species, a high degree of endemism, an abundance of many species due to absence of significant human disturbance, and a biogeographic affinity not only to tropical and subtropical American shores but also to temperate areas and western Pacific elements, with a distinct regionalism within the islands, making the Galápagos quite unlike other island systems (Wellington 1984).

By the end of 1974, Wellington already proposed a marine extension to the National Park of 2 nautical miles from the shoreline, which would include the

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<sup>1</sup> Important actors and their function, if not detailed in the text, are mentioned in Table 7.3 at the end of the paper, just as the acronyms (Table 7.4) of the institutions involved in the history of the marine reserve.

**Table 7.1** Wellington's zoning proposal

Intertidal	Shoreline	Total protection. Limited noncommercial subsistence use
Special use	Coastline to 2 nm. 96 % of coastline	Existing commercial and noncommercial harvesting under present methodology and exploitation levels <sup>a</sup>
Intensive use	½ nm from identified coastlines	Protection, supervised snorkeling, scuba, and science (tourism and science)
Primitive	1 nm from specific coastlines, small island communities	Protection. Visit only under permit. No extractive exploitation
Primitive-scientific	2 nm specific coastlines	Completely protected. Science, special visits under permit

<sup>a</sup>This referred to the established hand line fishery of the time, with a limited fleet with not more than 150 fishermen involved

largest amount of the various marine ecosystems and associated biodiversity. This 2 nm fringe around all of the islands would protect the scientific, esthetic, and educational values, encompassing the 200 m depth contour and including over 90 % of the characteristic biota. Very importantly, the area would consider existing economic activities, not excluding but regulating them through a zoning scheme and therefore protecting particularly significant and fragile features. The marine zone was also considered to protect cetaceans when approaching inshore areas and, at the same time, could realistically be controlled by the Park Service.

The suggested zonation scheme would allow ongoing artisanal fisheries activities under the direct administration of the park authority in 96 % of the coastline, whereas only 4 % would be totally protected because of their particular biodiversity, especially the relatively rare coral reef ecosystems. The proportion of totally protected coastal areas in relation to the rest was important, as it recognized the importance of coastal shallow water within 2 nm for the traditional fishery (grouper and lobster) and was very specific in the identification of the most fragile and biodiverse habitats. For the purpose of comparison, Table 7.1 shows the description of the proposed zoning classification (Robinson 1984).

## First Workshop in San Cristobal on Extension of GNP

Wellington's study also showed the need of a better understanding of the fishery uses of the Galápagos marine area. Plans, within the Subsecretariate of Fisheries Resources (Ministry of Natural Resources), to develop industrial fisheries within the Galápagos and considerations of an industrial harbor in Darwin Bay (Genovesa!) were discussed, and the National Fisheries Institute by the end of 1975 even carried out an experimental bottom long-lining aboard its research vessel M/N Huayaípe. The evidence of high levels of associated seabird by catch (pers. obs.) helped fortunately to discourage such intentions, and the exclusivity of artisanal fisheries

could be sustained. But to put such ideas into perspective, it is worth noting that just a few years before (1971) a Japanese industrial vessel still had cooperated with local fishermen in collecting a large amount of green turtles and that fishermen for years afterwards recalled admiringly this type of industrial—artisanal—ventures.

In 1976 the Subsecretariate of Fisheries (SRP) put me in charge of organizing a research team to investigate the local artisanal fisheries through the National Fisheries Institute (INP in Spanish). MacFarland had already been looking for support for fisheries research and offered its laboratories. With a veterinarian from INP we started to investigate the remaining lobster fishery in June 1976, after spiny lobster exportations had been prohibited in early 1976. In the framework of this project, in 1978, new CDRS Director Hendrik Hoeck brought three young biologists from the University of Guayaquil (UG), with a collaborative grant from all parties (INP, CDRS, UG) to join the investigation. Under my supervision, Tito Rodriguez concentrated on the grouper fishery, Juan Alcivar on spiny lobsters, and Mario Hurtado joined ongoing CDRS sea turtle research under Derek Green. The Galápagos National Park Service (GNPS) agreed with the research, although, so far, they had no legal authority on fisheries issues. On the other hand the active cooperation of local lobster and grouper fishermen was essential for the project.

This was the first project of interinstitutional cooperation on marine issues. Despite the declaration of conservation needs for the coastal marine areas, neither public fisheries management and research nor fishermen so far had been consulted on those issues. This joint project formed the base for the first regional workshop in 1978, where initial results were presented to the public and Wellington's marine area conservation and zoning proposal discussed. High-level government officials had come, including Fisheries Subsecretary Mena, INP Director Raúl Icaza, and Head of the Wildlife and Protected Areas Arturo Ponce, and there was a good predisposition to work together for conservation, although the alliance between park administration and fisheries authorities was yet fragile. CDRS, as always, was a driving force in those initiatives.

Even still within a military government, governance of the marine area was a potential cause of conflict between institutions. The National Park administration belonged to MAG, whereas the sea was managed by the Navy in terms of territorial control and navigation and by the Ministry of Natural Resources regarding fisheries management.

The workshop was organized on San Cristobal Island, because this was where most of the Galapagos fishermen lived. However San Cristobal was also conflictive. The National Park and the Darwin Station had relatively little presence. The terrestrial delimitation of the National Park years before had caused many conflicts, and the people on San Cristobal did not have a very positive attitude towards conservation.

There were different appreciations about the potential public acceptance of the conservation plan. The fishermen, numbering a little more than 100, were hardly organized, and no high-stake economic interests were affected. Many of them attended together with other members of the community, as rumors had circulated

about the delimitation of the marine area, giving rise to fears about the restrictions proposed by the park administration and CDF.

Under those circumstances, trustworthiness was essential. Unfortunately, the GNPS representative, himself confused, presented the public with the wrong information that fisheries were to be allowed in only 4 % of the coastline and 96 % were to be totally protected, exactly the contrary of what was really intended. Even immediate correction of this misconception could not calm down the public mistrust and protest. According to Robinson's (1984) unpublished appreciation, even if it had been clear to fishermen that really only 4 % of the coastline would be protected, the selection of those areas (including small islands and islets, where grouper fisheries were traditionally important) would have led to hostile reactions. The presentation error was a welcome excuse within an already suspicious atmosphere and consolidated the subsequent opposition of the local fishing community.

Soon it became clear that the governmental authorities so far responsible for this area would not easily accept a simple inclusion of the marine area into the jurisdiction of the Ministry of Agriculture (Robinson 1984 and pers. obs.), postponing efforts for legal inclusion of the marine fringe into the National Park indefinitely.

## **National Planning Activities in the Early 1980s**

After 1978, little progress was made for several years. The main concern was the rapid growth of the tourism industry, and a governmental high-level commission under the leadership of Raul Moscoso was called to make a specific proposal about the GNP's touristic carrying capacity, recommending once again the legal protection of the marine coastal areas of the archipelago (Comisión de Alto Nivel para Galápagos 1981). Despite its international status, the Ecuadorian CDF representative, Juan Black, with excellent contacts within government, always played a catalyzing role in those processes. Concern about the marine area must also be seen as a regional effort to consolidate national sovereignty on the territorial sea (at the time still considered to extend to 200 nm) and discussions about the convenience of joining the Convention on the Law of the Sea (Hurtado pers. comm.).

In 1980 the National Galápagos Institute (INGALA) was created to compensate lack of governance capacities at the local level and to promote local development. However, a decision at governmental level to declare the inclusion of a marine fringe into the GNP was once again opposed based on the apparent inconsistency of the project: the category of National Park in the existing legislation excluded resource exploitation, but at the same time the existing artisanal hook and line fishery received technical assistance and support, promoting better drying techniques. New fishery techniques promoted by INP and SRP, particularly the introduction of long-lining, were rejected because of their already evident incidence on turtle by catch (Hurtado pers. comm.). On the other hand, the proposed inclusion

was not based on updated evaluations, and neither the obvious management agency GNPS nor SRP did have the management capacity to assume such a major addition in its obligations (Hurtado pers. comm.; Hurtado and Moya 1982, Memorandum on inclusion of marine area into GNP).

Based on the recommendations of the high-level commission, a master plan for the whole archipelago was initiated. In 1982, an interinstitutional technical commission, within the framework of the master plan, composed by members of SRP, INP, INGALA, CDRS, and GNPS made suggestions about the management and conservation of the marine area (Comisión de Alto Nivel para Galápagos: Grupo técnico 1984).

In the year 1983, the process was strengthened by technical inputs from the Marine Policy Department of Woods Hole Oceanographic Institution, which, among other studies, provided comparisons on governance of the few marine protected areas worldwide existing at that time. Their recommendations reiterated the convenience of a marine park extension and were included into the master plan (Moscoso, Parra pers. comm.; Broadus 1997; Broadus et al. 1984; Comisión de Alto Nivel para Galápagos 1985). WHOI was very active in publishing its conclusions about the marine reserve, insinuating a leading role of this institution in the creation of the reserve. At the national level, the role of WHOI is well remembered; however, opinions about the degree of influence on already existing national processes vary strongly (Moscoso, Hurtado, Parra pers. comm.).

## **The Galapagos Marine Resource Reserve 1986**

### ***Preparation and Declaration***

Unfortunately the new Febres-Cordero government (1984–1988) rejected all of the plans prepared under his predecessor, including the master plan with its renewed recommendation for marine conservation. However, projects for massive tourism development in the Galápagos, promoted by investors from Guayaquil, and open anti-conservation attitudes by the new director of the national tourism agency led to international protests. Under this pressure, both the GNP Director Cifuentes and I were invited to join the president during his visit to the islands in early 1985, where he confirmed the government's compromise to preserve the islands. Later in the year, the extraordinary instinct and political skill of Juan Black brought together both government members of the highest level and leaders of the opposition and reach an agreement on island conservation. One of the highest ranking government members, Marcelo Santos, later became an important member of the national group of CDF and an intermediary to the president.

Soon after, a new high-level commission was formed to review the rejected master plan and adapt it to new policies (Gerzón 1987). WHOI once again was invited and had some role in advising the new commission on several issues, including conservation management of the marine area (Broadus pers. comm.).

Another important ally at the time was Agriculture Minister Marcel Laniado, a banker from Guayaquil. With his support the new forestry director, a diver and frequent visitor to the Galápagos, took personal interest in the marine conservation initiative (Sevilla 1987). Government members of the highest level at the same time members of the national group of CDF supported the initiative. Soon after, a group of scientists and managers (including DVSAP Director Arturo Ponce, GNPS Intendant Miguel Cifuentes, CDF's Juan Black and me as director of CDRS) was asked to prepare a report with justifications for a marine protected area in the Galápagos (Ponce et al. 1985; Ministerio de Agricultura y Ganadería 1986).

As can be expected, the arguments related to the biological, ecological, and oceanographic diversity; biogeographic relationships; the high level of endemism demonstrated by Wellington; the dependence of protected land-breeding marine species on resources from the marine environment; and the role as refuge for highly migratory marine mammals and turtles. However, also economic justifications were important: the need of sustainable management of artisanal fisheries resources and exclusive access for local fishermen. At the time, we did not think that banning industrial fisheries was realistic but saw an advantage in proposing exclusivity for the Ecuadorian fleet and rules for their deployment. We also pointed at the importance of the marine environment for the ongoing development and diversification of marine and coastal tourism.

For this reason, the Presidential Decree 1810-A from 1986 declared the "Galápagos Marine Resources Reserve" within 15 nm from the baseline of the archipelago, establishing an interinstitutional commission composed of seven ministries and governmental institutions to coordinate the further process of management. Hurtado (pers. comm.), at the time advisor to SRP and representative of CDF in Guayaquil, mentions the efforts to compromise the support of several ministries, whereas resistance apparently had come mainly from the technical levels within the Forestry Department who feared undue influence of particularly by SRP.

### *Planning the Reserve: The First Approach*

Taking into account the reality of the abovementioned divided jurisdictional responsibilities (conservation, fisheries, marine police functions), the governmental interinstitutional commission named a technical group to elaborate a management plan within 360 days (Galápagos Marine Resources Reserve Technical Team 1987).

The technical commission included the GNPS (Fausto Cepeda), INOCAR (Fernando Arcos), INP (Tito Rodriguez), and INGALA (José Villa). CDRS provided assistance and scientific information and reviewed the final document.

An international commission provided assistance (Comisión Interinstitucional 1987):

- WHOI organized a seminar to evaluate the state of knowledge on the marine resources in the archipelago.
- Michelle Lemay of NOAA cooperated on marine resource management issues.
- The Marine Park Authority of the Great Barrier Reef sent Richard Kenchington who was particularly concerned with governance issues and could draw on the experience with a similarly complicated situation of multiple users in his home area.

## **Management Issues of the Marine Resource Reserve**

As in the years before, governance issues were of particular concern, but also the zoning and therefore geographical distribution of protected/extractive use zones and the proposed management category of the reserve in this context were of great importance as it would identify the proportion of protection versus resource use. As the discussion about those issues was fundamental also for the future definitions of the Galápagos marine protected area, it seems adequate to explain some of the alternatives discussed at the time. Those alternatives were never published but are available as internal discussion memoranda.

### ***Management Category***

At the time of its creation, IUCN still used nine categories for protected areas along a broad scale from strict protection to strong human presence and resource use. The category of Resource Reserve was meant to be a preliminary category of urgent conservation, in cases where the final objectives for management were not yet defined and included, among other goals, the maintenance of open options through multiple use management, a situation which applied exactly to the Galápagos. It was by no means clear, how marine conservation and continuing use of resources should be combined. But it was clear that existing fisheries uses must be part of the management scheme.

### ***Governance***

Several alternatives were discussed during this time, all meant to provide adequate governance in the marine area where traditional jurisdictional competences that continued existed and where MAG, responsible for protected area management, never before had been active.



1. GNPS, dependent on MAG, in addition to its responsibility to manage terrestrial areas of the park, would also be responsible for a relatively small surface (not more than 10 %) of the RRMG under the category of National Park, whereas the Ecuadorean Navy (through DIGMER) and SRP would control traffic and contamination issues and resource extraction, respectively, for the remaining 90 % of the marine protected area.
2. Another option was the formation of a dedicated marine reserve administration with an associate “local committee” integrated by related Navy, fishermen, park authorities and an interinstitutional coordination with the other agencies in each of the management areas: resource management and scientific investigation and tourism.
3. A third alternative was the creation of a marine department within GNPS, supervised by the superintendant of the National Park but also by a local committee of the agencies related to marine management. Once again, in each department, there would be a close cooperation with all technical agencies (notes by R. Kenchington based on his work with the technical group).

As all public agencies were used to undivided power within their area of competition, none of them was yet really prepared to share their power within their range of jurisdiction in the interest of the marine reserve. Furthermore, with the exception of GNPS the involved agencies had no experience with marine conservation policy or practice.

The initial proposals were therefore intended to permit a slow approach of the Navy and fisheries authority towards marine conservation issues through management responsibilities assisted by technical and scientific bodies and advice. In a first, provisional period, the proposal recommended management according to the first alternative, where the park administration had only limited jurisdiction over restricted areas. Interinstitutional formal agreements should provide the necessary coordination.

## ***Zoning***

The basic agreement was that the largest part of the reserve would be a general use area with few restrictions (considering the difficulties to physically control these areas). The main body of the islands (Isabela to San Cristobal from west to east, another block connecting Pinta and Marchena, and finally Darwin and Wolf) would be exclusively allowed for local artisanal fisheries.

Within those areas very special zones, such as bays and reef areas, already defined by Wellington, would be declared as National Park or highly restricted zones. As the Forestry Law asked for a National Park to have a minimum extension of 10,000 ha (based on terrestrial ecosystem principles), the proposal arbitrarily named the whole area of Banks Bay and Bolivar Channel, between Fernandina and Isabela, as National Park.

The technical group worked for 1 year between 1986 and 1987 and finally presented its proposal, including the zoning scheme and the transitional proposals for joint reserve administration by the end of 1987.

## **The Second Planning Approach: The 1992 Management Plan**

In 1987 the marine resource reserve category did not exist in the Forestry Law (Pérez 1987a, b), and no participative management scheme had ever existed before in the country. Intragovernmental rivalry about competencies was once again the main reason why the 1987 Management Plan and its particular administrative and zoning proposition were never approved. A new government in 1988 did not have the Galápagos on its priority agenda, and for some time nobody really felt responsible for the management of the RRMG.

By 1989 problems with fisheries kept increasing. Additionally to a significant increase of the lobster fishery, it became evident that new markets for shark fins were growing and paying well. Sharks had always been taken as incidental catch, and few people cared for sharks. But in Galapagos some fishermen did not hesitate to kill protected sea lions to use as bait for shark fishing. Public pressure on the fisheries administration led the Ministry of Industries and Fisheries, in general rather critical about conservation issues, to prohibit shark fishery, regulate the artisanal fisheries zone, limit industrial tuna fishing to an area between 5 and 15 nm from the baseline, and prohibit nocturnal and spear fisheries and the capture and finning of sharks.

I had the opportunity to propose a first draft of this ministerial agreement 151 during a visit of the minister to CDRS in early 1989, but we had limited expectations in relation to the real short-term effectiveness of legal instruments. SRP did have even less management and control capacity than GNPS in the marine area. It was nevertheless significant that for the first time the fisheries administration assumed a responsibility to legislate within the framework of the existing Resource Reserve, recognizing at the same time the input value for the future management plan.

In 1990, CDF made a renewed unsuccessful effort to gather all RRMG authorities, in order to define institutional responsibilities and priority activities within the reserve. Finally, in 1991, President Rodrigo Borja (1988–1992) established a new high-level commission (CPG) to propose effective legislation and particularly put order into the growing tourism sector.

During the first months of 1992, CPG, under the presidency of Jorge Anhalzer, and with active promotion by CDF, asked me to coordinate a technical working group to update and finish the never-approved draft of the management plan of 1987. As dean of the environmental school, I received the support of USFQ for this task. Mario Hurtado, long-time promoter of marine conservation in and outside the Galápagos, represented CDF. Other members of the group were Fausto Cepeda, coauthor of the

**Table 7.2** Proposed management zones of the 1992 RRMG Management Plan

Zone	Description	Management responsibility
1	Industrial fisheries within the 15 nm outer limit and 5 nm from the baseline of the archipelago, <sup>a</sup> industrial fisheries exclusively for tuna within purse seines for the national fleet	SRP, <sup>b</sup> Navy
2	Buffer zone between the industrial fisheries zone (5 nm from the baseline) and the artisanal zone, with limited large-scale fishery under special permit	SRP, Navy
3	Artisanal fishery zone with an extension of 2 nm around the main island blocks (Darwin and Wolf; Pinta, Marchena, Genovesa; and around the remaining islands, including Isabela and San Cristobal)	SRP
4	Fishery reserve zone, with special rules for traditional fisheries, located mainly in the west of the archipelago, between Isabela and Fernandina and around Fernandina	SRP
5	Most of the coastline within a narrow band of shallow water, open for established lobster and bait fishery	GNPS, <sup>c</sup> SRP
6	National Park in specific areas with total protection and tourism sites. The large park block proposed in the original scheme was rejected	GNPS

<sup>a</sup>The baseline connected, as it does today, the extreme points of the islands, including Darwin Island in the north

<sup>b</sup>Subsecretaría de Recursos Pesqueros, Subsecretariate of Fisheries

<sup>c</sup>Galápagos National Park Service

previous management plan (CPG technical staff); Arturo Izurieta (head of GNPS); Orlando Crespo (SRP); and Marina Muñoz from the Ecuadorian Navy.

Several legal and institutional aspects of marine management had changed, and the formerly proposed zoning was no longer appropriate. Nevertheless, the 1992 Management Plan adopted much of the previous proposal and formulated in detail the provisions of an interinstitutional management agreement. A local interinstitutional Control and Vigilance Commission (Navy Commander, Subdirector of Fisheries, Park Chief) was to be responsible for coordination.

Major changes were made to the zoning scheme, associated to proposed jurisdiction (Table 7.2).

By openly accepting industrial fishery in the outer area, and maintaining most of the coastlines open for established artisanal fisheries (including the coastlines within the originally planned large marine area in the west), we hoped to avoid significant conflicts about respected traditional fishing rights and practices.

In those years, the possibility and convenience of adhesion to the UN Convention on the Law of the Sea (UNCLOS) were once again discussed, as it implied replacement of the existing 200 nm territorial sea, by an Exclusive Economic Zone (EEZ), a profound change. Ecuador had interest in increasing its jurisdiction on marine areas further than the internationally accepted 12 nm zone of territorial sea, and the RRMG was an important argument in this context. The convention for creation of the International Maritime Organization (IMO) included the possibility of declaring specially sensitive marine areas, where international ship traffic could be regulated or drastically reduced, particularly for carriers with toxic load. Those areas would

**Table 7.3** Individual key players mentioned in the period up to the expedition of the special Galápagos Law (which included creation of the Galapagos Marine Reserve)

Name	Period	Position, function	Role
Juan Black	1968–1973	One of the two first GNP	Promoter of many initiatives in
Maldonado, Lic.	1973–1984 1984–1991	rangers. Representative of CDRS	the 1980s for marine con- servation in the Galápagos
Arturo Ponce, Ing.	1968–1992	Secretary general of CDF Head of Wildlife and Protected Areas Department, Ministry of Agriculture	Coauthor justification for RRMG
José Villa, MSc	1968–1998	One of the first two GNPS rangers, later subdirector CDRS, INGALA advisor	Part of team for first manage- ment plan for RRMG
Peter Kramer, PhD	1970–1973	UNESCO expert and director of CDRS. Later president of CDF	Coauthor first management plan GNP
Gerald Wellington	1973–1976	Peace corps volunteer	In charge of marine survey
Craig MacFarland, PhD	1973–1978 1984–1994	Director of CDRS President of CDF	Promoter of marine research and RRMG
Miguel Cifuentes, MSc	1974–1998	Superintendent of GNPS. Later president of CDF	Coauthor justification for RRMG. Leading/coauthor of GNP Management Plans (1984, 1996)
Günther Reck, PhD	1975–1998	Guide, INP researcher and team leader, CDRS director, MAE advisor. Since 1990 USFQ full time professor	RRMG management plan coordinator, workshop facilitator, and Galápagos Law coordinator
Raúl Icaza, Dr.	1976–1978	Director, National Fisheries Institute	Supported fisheries research team in the Galápagos
Vice-admiral Mena	1978–1979	Subsecretary of fisheries in the military government	Participated in San Cristobal workshop on marine conservation
Hendrik Hoeck, PhD	1978–1980	Director CDRS	Support of fisheries research
Tito Rodriguez	1978–1987	Member of INP team	RRMG management plan teams
Fausto Cepeda, Lic.	1978–1992	GNPS ranger and later superin- tendent, permanent Galápagos commission	RRMG management plan teams
Mario Hurtado, Biol.	1978–1997	INP researcher, advisor of SRP, CDF, and Ministry of Environment	Long-term promoter of Galápagos marine conservation
Raúl Moscoso, Dr.	1980–1984	Hurtado government. CDF board member	In charge of high-level com- mission 1980–1984
David Parra, Arq.	1980–1998	INGALA, presidential env. commission, IDB, Ministry of Environment	Responsible planning officer of regional planning processes

(continued)

**Table 7.3** (continued)

Name	Period	Position, function	Role
Felipe Cruz	1982–1998	CDRS researcher, GNPS official. Facilitator for Marine Reserve Plan	Responsible for turnaround in special law debate
James Broadus, PhD	1983–1986	WHOI, director of Marine Policy Department and advisor	WHOI contributions to advance marine conservation in the Galápagos
Roque Sevilla	1984–1988	Forestry Director, Ministry of Agriculture	Promotion of Marine Resource Reserve
Marcelo Santos, Dr.	1984–1988	General inspector of the government. Presidential delegate on CDF Board	Support for CDF initiatives
Efraín Pérez, Dr.	1986–1998	Environmental lawyer	Involved in governance alternatives and advisor to WHOI group
Alfredo Carrasco, Ing.	1987–1998	CDRS subdirector, later general secretary of CDF	Support for management plan and for Galápagos Law processes in the 1990s
Arturo Izurieta, Lic.	1992–1996	Superintendent of GNPS	Planning group for RRMG Man. Plan
Jorge Anhalzer	1992–1998	Head of Galápagos Permanent Commission. Later CDF president	AS CPG head support for 1992 Management Plan process
Rodrigo Bustamante, PhD	1994–1998	CDRS Head of Marine Biology Dept.	Driver of Marine Reserve Management Plan process in 1997
Robert Bensted-Smith, PhD	1994–1998	Director CDRS	Participant in the special law process, support for RMG concept
Eliecer Cruz, Biol.	1996–1998	Superintendent GNPS	RRMG plan and Galápagos Law process participant
Pippa Heylings	1997–1998	Sociologist	RRMG Management Plan co-facilitator

Persons, whose involvement runs up to 1998, may have been active after this date, but only their involvement up to this year is mentioned

include a 40–60 mile zone around the sensible coastlines. Therefore an additional area of 65 nm (altogether 80 nm) was mentioned in the management plan, by suggestion of the Navy (Mario Hurtado, pers. comm.).

This plan was approved by the Presidential Decree of August 1992 during the last days of the Borja government, but its text was not published in the official registry, which limited its acceptance by the new administration. Interinstitutional rivalry and distrust persisted. Despite initial support for the process (Izurieta 1992), the park administration was unhappy about what it perceived as very limited executive power within the Resource Reserve. The new subsecretary of fisheries, on the other hand, opposed the plan on the assumption that it was unilaterally benefitting conservation and not resource use.

**Table 7.4** Acronyms of the institutions and organizations mentioned in the article

CAAM	Presidential Advisory Committee on Environment, precursor of MAE, created 1992
CDF	Charles Darwin Foundation for the Galápagos Isles. International NGO supervising work of CDRS under an agreement with the GoE
CDRS	Charles Darwin Research Station on Santa Cruz
CPG	Comisión Permanente para Galápagos, high-level commission created during the Borja government and resuscitated 1997
DIGMER	Direction of the Commercial Fleet, under Navy administration
DVSAP	Department of Wildlife and Protected Areas, part of the Forestry directorate within MAG
GNP	Galápagos National Park
GNPS	Galápagos National Park Service
IADB	Inter-American Development Bank
IMO	International Maritime Organization, London
INEFAN	Ecuadorean Institute for Forestry and Natural Areas 1992–1998, replaced by MAE
INGALA	National Galápagos Institute, ascribed to the president to overview development in the Galápagos, 1980–2008
INOCAR	Oceanographic Institute of the Navy
INP	National Fisheries Institute, Guayaquil
IUCN	World Conservation Union, Gland, Switzerland
LOREG	Special Galápagos Law from 1998
MAE	Ministry of the Environment, created 1996
MAG	Ministry of Agriculture and Livestock, responsible for protected areas until 1992
NOAA	US National Oceanographic and Atmospheric Administration
RMG	Galápagos Marine Reserve, created by special law 1998
RRMG	Marine Resources Reserve, precursor of RMG, created 1986 by decree
SRP	Subsecretary of Fisheries
UG	State University of Guayaquil
UNCLOS	UN Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNESCO	UN Educational, Scientific and Cultural Organization, strong supporter for Galápagos conservation in its initial years
USFQ	Universidad San Francisco de Quito
WHOI	Woods Hole Oceanographic Institution
WWF	Worldwide Fund for Nature

Other criticism was directed towards an excessively complicated zoning scheme. Fishermen had gained influence and power through the newly exploded sea cucumber fishery and were now organized around a very high-value fishery. Besides, they were backed by the influential trader groups of the sea cucumber market and consequently opposed any conservation project, which could limit their freedom. This development made the previous lack of stakeholder involvement in the previous planning process obvious.

The sea cucumber fishery originated profound changes within the Galapagos society and also among politicians: sea cucumber fishing was basically a mining operation which involved not only fishermen but politicians, teachers, guides, and people from all strata of the society who hoped to become rich with this highly paid

and initially easy to collect resource. Defying government rules and institutions became rather fashionable, and despite the prohibition of the fishery, it just went on, backed by nearly mafia-like commercialization groups.

In relation to RRMG, this fishery basically demonstrated that:

1. The existence of a reserve by name did not have any influence on the development of new fisheries or any other resource exploitation practices.
2. The lack of management capacity on behalf of the National Park Service could not even control the illegal use of land areas on the extremely fragile island of Fernandina, where sea cucumber fishing camps were built and sea cucumbers were cooked and dried.
3. The fisheries administration was not prepared to exercise its jurisdiction in the fishing zones and supported this economically beneficial activity. Although it participated in the determination of quota, there was neither capacity nor experience for control and management. After a quota of 500,000 sea cucumbers had been established, the lack of control was demonstrated when within 2 months over five million animals had been collected without a timely management response.
4. As the fishermen were becoming more powerful, they found out that aggressive and uncompromising attitudes produced fear and respect among governmental and nongovernmental institutions and therefore were highly successful in obtaining increasing concessions from government.
5. "...the lack of finance, consensus and political decision to define clear mechanisms and responsibilities of the RRMG, prevented the execution of the Plan" (Servicio del Parque Nacional Galápagos 1996).

## **The 1994 Workshop for Revision of the Management Plan and Processes Leading to Final Marine Reserve Project**

CPG continued its labor in the government of President Sixto Durán-Ballen, this time under the direct supervision of the new presidential Advisory Commission for Environment (CAAM). In 1994 CPG, backed by a presidential decree to accelerate planning for Galapagos, with support from UNDP and, in cooperation with CDF, initiated a process of revision of the management plan for RRMG. My role as facilitator and co-organizer of the different preparatory and final workshops counted with the active participation of CDF and once again the assistance of Mario Hurtado. This time the emphasis was on legitimate representation of all important actors and institutions, which was usually very difficult because delegations were instable and not representative of their respective institutional policies. A series of preparatory workshops with fisheries (SRP and INP), tourism, Navy (including INOCAR), and INEFAN (the new Protected Area Administration) on the mainland, and with the communities in San Cristobal and Santa Cruz, were supposed to socialize the existing management plan and ask for institutional positioning for the process.

The result in participation was overwhelming: not only the expected 40 participants came to the final workshop but 90 delegates of many national and local institutions, including mayors, deputies, subsecretaries, tourism operators, and fishermen as well as the heads of the fishing industry and sea cucumber trading delegates. The latter assisted out of fear of decisions which would affect their freedom of action. This was probably the first single massive participatory event in the Galápagos, enhanced obviously by the fact that economic interests of many participants increased the curiosity and expectations (Hurtado et al. 1994).

No definite administration of RRMG was achieved but widespread conscience of the existence of the reserve and the need of its management. Despite massive criticism in the management plan of 1992, it was accepted as a starting point for discussion and adjustments. It was easy to find consensus around integrated conservation and resource goals. Nevertheless, once again discussions concentrated on zoning and governance.

The 80 nm external protection area mentioned in the 1992 plan was thought to be too ambitious to receive international recognition. However, there was a general consensus about the increase of the reserve limits to 40 nm miles from the baseline, with the active support by fishermen's leaders in change of the possibility of exclusive fishing rights within this area. This was later backed up by President Sixto Durán-Ballen (1992–1996) but because of different political circumstances, including a war with Peru in 1995, was not pushed forward for some time. A committee was formed to keep reviewing the extension of particular use or conservation zones.

In general authorities accepted to cooperate on the management of the reserve and to recognize a particular role of GNPS in managing the coastal and marine park zone areas according to the original zonation. However, the Navy and SRP also insisted on the maintenance of their respective jurisdictions and on the celebration of interinstitutional agreements for joint management. RRMG was to be coordinated by CPG, with an administrative committee including Navy, park, and fisheries organizations.

A presidential decree (1731, RO 436, May 9, 1994) finally delegated the administration to INEFAN and SRP, and in early 1995 (forced by the ongoing sea cucumber fisheries, which threatened going out of control), an interinstitutional agreement between SRP, INP, and GNPS defined institutional responsibilities and initiated fisheries monitoring on behalf of INP (CPPS 1997).

In the following period, sea cucumber fishery continued to influence public life and marine policies. At some point, the inclusion of the marine reserve into the Galapagos World Heritage was discussed, but the lack of governance in the marine area, together with uncontrolled growth of tourism, threatened to lead to the inclusion of all of the Galápagos into the World Heritage in Danger list, which was inconvenient for Ecuador.



## **Discussions on a Special Law for the Galápagos and the Creation of the Ministry of the Environment**

In the debate about the future of the Galápagos Province, it became increasingly clear that the islands had to be ruled under special legislation and not like other provinces in the country. By the end of the Duran-Ballen government and the beginning of the Buccaram presidency (1996 to early 1997), voices for a special Galápagos Law became stronger and several law projects circulated, one even pretending to legalize the Biosphere Reserve (declaration 1984) condition of the Galápagos. In most cases the projects however favored local development with privileges for the local population.

A workshop on sustainable development issues was organized at the beginning of 1996, and one workshop group once again dealt with the management of the marine area with strong participation of the fishing sector. Antagonism between fishermen and scientists was at their peak. However, a consensus document resulted, with clear recommendations, how fisheries issues were to be included into an eventual special legislation (CPG 1996). It was important to receive a clear support for the continuation of the marine resource reserve and agreements on how the number of fishermen and fishing fleet should be limited. Many of the recommendations of this workshop were taken into account in the final preparation of the Galápagos Law.

The continuous complaints of the park authorities on lacking power in the reserve led INEFAN in declaring the marine area a “marine biological reserve” (the category “biological reserve” was the only one in existing legislation mentioning marine environments), a desperate effort to establish unilaterally jurisdiction of the marine resource reserve. This decision had no practical consequences: GNPS had no management capacity; there was no consensus with the other authorities; and, last not least, the category of biological reserve (as being the strictest protective category) was incoherent with the existing uses within the reserve.

In the course of 1996, the government created the Ministry of Environment (MAE), replacing the previously existing CAAM, but there was no time for developing policies regarding the Galápagos Islands.

## **Preparation of the Special Galápagos Law and the Declaration of the Galapagos Marine Reserve**

At the beginning of 1997, the Buccaram government was overthrown and replaced by interim President Alarcon (1997–1998), and the newly appointed minister of environment, Flor de Maria Valverde, a university professor from Guayaquil and longtime member of CDF, gave weight to the previous discussions on the Galápagos and pursued the elaboration of the special law. On her request, and Mario Hurtado’s advice, I started to create a special Galapagos unit within the ministry, to coordinate

with NGOs and international organizations, securing the special support of UNDP, UNESCO, the Inter-American Development Bank (IADB), the CDF, and WWF. Particularly IADB had already been active with a project for technical cooperation for the Galápagos, and the technical group working within this project, David Parra and Edgar Pita, were incorporated into my team and contributed essentially to ongoing activities.

An immediate issue was the pending inclusion of the Galapagos into the World Heritage in Danger list, due to the many problems of local governance, which had become evident in context with the sea cucumber fishery and uncontrolled tourism growth. The government considered this declaration to be undesirable, and the goal was to create adequate legislation and policies to get the province back on track. By April, Presidential Decree 245 (RO 55, April 30, 1997) declared the conservation of the Galápagos a national priority, limited access to the islands (on paper), and created a marine interinstitutional authority (on the base of the concepts of the previous management plan) and a local control committee for the marine area. CPG was updated in its composition to include essential actors (among them the fishermen) for participative law making and was assigned the special task to prepare a law for the Galápagos. With those actions and the determination demonstrated by the government, the inclusion into the “Heritage in Danger list” was deferred to future evaluations by the World Heritage Convention.

An intensive consultation and participation process was initiated, and the Special Galapagos Law (LOREG) was elaborated article by article with the participation of all public instances and stakeholders (including fishermen). This had, with probably one exception, never before happened and was, at least, initially accompanied by a great deal of distrust on behalf of the politically active part of the Galápagos community. I mention this as the destiny of LOREG, and therefore the identification of Galápagos policies in general was closely intertwined with the creation of the Galápagos Marine Reserve.

At the same time of the participative process for the Galápagos Law, at the local level, the marine department of CDF, with the support of GNPS, had initiated a participative process of reviewing and remaking of the management plan of RRMG which in 1994 never had been completed. This time, the best conflict resolution and negotiation techniques available were applied. Felipe Cruz, a Galapagueño, had been trained as mediator under Harvard Professor Ted MacDonald, later joined by Pippa Heylings, and a core group (“grupo nucleo”) was formed, including all essential actors from the marine community. Others document this process in detail (Heylings et al. 2002). In the context of this article, it is however essential to point out how this process was decisive for the success of the Galápagos Law and therefore the creation of the RMG in its present legal condition. The ministry had decided to give unrestricted support to the planning process, although it was originally a nonofficial initiative. In summer 1997, we already had included texts about the creation of a marine reserve as a new management category and had incorporated most of the proposals for participative management of the Galapagos Marine Reserve. When the public discussion about the law proposal in the Galápagos was at its hottest point, and politically motivated opposition intended

to destroy and discredit the ongoing process, the affirmation by Felipe Cruz as process leader that the law project had included all of the broadly supported proposals for participative reserve management was a decisive turning point in public discussion and was essential for the following broad support by most of the human population in the Galápagos.

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