

Exhibit RWE-002

Witness Statement of Rotney Piedra

June 19, 2014

English Translation

[ Translation ]

**UNDER THE ARBITRATION RULES OF THE UNCITRAL AND SECTION B OF THE  
UNITED STATES – CENTRAL AMERICAN – DOMINICAN REPUBLIC  
FREE TRADE AGREEMENT**

*Spence International Investments, LLC, Bob F. Spence,  
Joseph M. Holsten, Brenda K. Copher,  
Ronald E. Copher, Brett E. Berkowitz,  
Trevor B. Berkowitz, Aaron C. Berkowitz and Glen Gremillion*  
(Claimants)

v.

*Republic of Costa Rica*  
(Respondent)

**CIADI Case No. UNCT/13/2**

**Witness Statement of Rotney Piedra  
Administrator of the *Las Baulas* National Park**

**June 19, 2014**

**I. INTRODUCTION**

1. My name is Rotney Piedra Chacón. I have a Masters Degree in Marine and Coastal Sciences with an emphasis in Marine and Coastal Resources from the *Universidad Nacional* of Costa Rica.

2. I have been involved with the *Las Baulas* National Park since the end of 1994, when I was a volunteer in the protection of leatherback turtles and their nests. From 1995 until the present, I have been a member of the research group monitoring the leatherback turtle population, carrying out research during every nesting season. In 1997, I was asked to join the group of park rangers of the *Las Baulas* National Marine Park (“PNMLB”), responsible for overseeing this vital area. I assumed my duties in June 1998. I have been in charge of management of the protected area since then.

3. It has been a long, slow journey, but with the knowledge that we are on the right path, complying with two of the main objectives: The consolidation of the *Las Baulas* National Marine Park and the conservation of leatherback turtles. To date, I have prepared two thesis papers for an academic degree and several published works listed in Annex RP-1 of this statement.

4. As the person in charge of the National Park, I have numerous functions, among them the following:

- Preparing, developing, directing, coordinating and supervising different sustainable environment projects regarding environmental conservation within the framework of the Protected Wildlife Area Management Plan (*Área Silvestre Protegida* “ASP”);
- Designing, performing and supervising the scientific research Management Plan of the ASP;
- Providing technical criteria to public and private entities regarding conservation and preservation of the comprehensive objectives of the ASP;
- Providing technical assistance in my field as a biologist, and in natural resource management and marine conservation as well as matters related to conservation of marine areas;
- Preparing, implementing, distributing, supervising and evaluating annual work plans and communication strategies of the PNMLB;
- Preparing and evaluating the annual Budget Plan for implementation in the Wildlife Area;
- Preparing and filing complaints regarding violations of ASP regulations, as well as preparing, coordinating or supervising technical reports, including verbal consultations and presentation of conferences; and
- Facilitating and promoting accessibility and participation of the general population in the sustainable use of natural resources within the protected area and the area of influence.

5. In this witness statement, I will explain the importance of protecting leatherback turtles and the actions taken by the government of Costa Rica to protect this endangered species. I will first describe the biological diversity of the PNMLB, the importance of maintaining and protecting the park

area and the relevance of the surrounding areas in protecting leatherback turtles and other crucial management elements. Second, I will describe why leatherback turtles are in danger of extinction. Third, I will explain the creation process of the PNMLB. Fourth, I will describe the park's operation. Fifth, I will explain the actions taken by Costa Rica to protect the turtles and the park area. Sixth, I will describe the development that has taken place in the zone since the park was created, and I will explain the technical prioritization of zones to be expropriated that the government has carried out in order to protect the turtles and consolidate the territory of the Park. Finally, I will respond to Claimants' allegations, particularly those submitted by Claimants' witness, Dr. Kirt Rusenko.

## **II. THE PARK'S BIODIVERSITY AND IDENTIFICATION OF CRUCIAL MANAGEMENT ELEMENTS IN ADDITION TO THE LEATHERBACK TURTLE AND THE THREATS POSED**

6. Management of the Protected Area currently focuses on the ecosystem, identifying the elements of biodiversity that are basic and therefore require preservation. Biodiversity Law No. 7788 dated May 27, 1998, published in The Gazette 101, defines biodiversity as: "Variability of living organisms from any source, whether in ecosystems on land, in the air, marine or aquatic environments, or in other ecological settings. It includes diversity within each species, as well as among the species and ecosystems of which they are a part." The Crucial Management Elements are all the elements of biodiversity and cultural and socioeconomic values of the Protected Wildlife Area that require conservation.

7. In a consultation workshop presented in 2013 with different social groups, seven crucial management elements were identified and prioritized for this area, which are described as follows:

- Neritic system: Pertains to the water column over the continental shelf, as well as associated benthic and pelagic free-life species. The sub-coastal zone is sometimes considered part of this system.

- Benthic system: Located in the substrates of sub-coastal and neritic zones of the PNMLB marine area. It includes the free-living benthic or sessile species (affixed to the substrate) that inhabit in or below substrates.
- Nesting beaches: Located on the PNMLB coastline; important due to constituting a major site for nesting of three species of sea turtles.
- Coastal vegetation system: Provides stability and protection against erosion of the nesting beach. It includes creeping plants that grow in the beach sand, species of plants that serve as barriers behind the dunes and vegetation on the edges of rock outcroppings.
- Mangroves: These develop in estuarine environments where waters from rivers or streams mix with coastal sea water. They provide a habitat where land and sea species feed, reproduce and take shelter.
- Dry forest: This is the area of dry tropical forest (bs-T) transitioning into wet tropical forest, which covers only 3.5% of the country. It is therefore necessary to preserve examples of this type of environment.
- Water resource: There are six watersheds made up of hills that drain southwest, as well as groundwater directly recharged by rainfall.

8. There are also threats that have been identified such as temperature increase in the environment, decrease in rainfall, rising sea levels, high tides, increase in extreme weather events, acidification of the ocean, increase in surface water temperature, and fires. Also contributing are fishing activity, turtle egg theft, hunting, extraction and overuse of water, deforestation and logging. There is contamination from light, hydrocarbons, sound, wastewater dumping and solid wastes, as well as sedimentation, hydrophobing agents, filling in of mangrove areas, drainage practices and modifications of natural waterways. The replacement of native species with exotic species, domestic predators (dogs, cats) and unsustainable alterations due to tourist activities and maritime navigation are also other threats.

### **III. NESTING PATTERNS, MIGRATION AND REDUCTION OF THE POPULATION OF THE LEATHERBACK TURTLE**

9. The recent drastic decline of leatherback turtle populations has drawn special attention to the efforts of conservation towards improving survival rates of eggs and juveniles of the species. Nesting

sites must provide adequate conditions regarding temperature, gaseous exchange and humidity, among others.

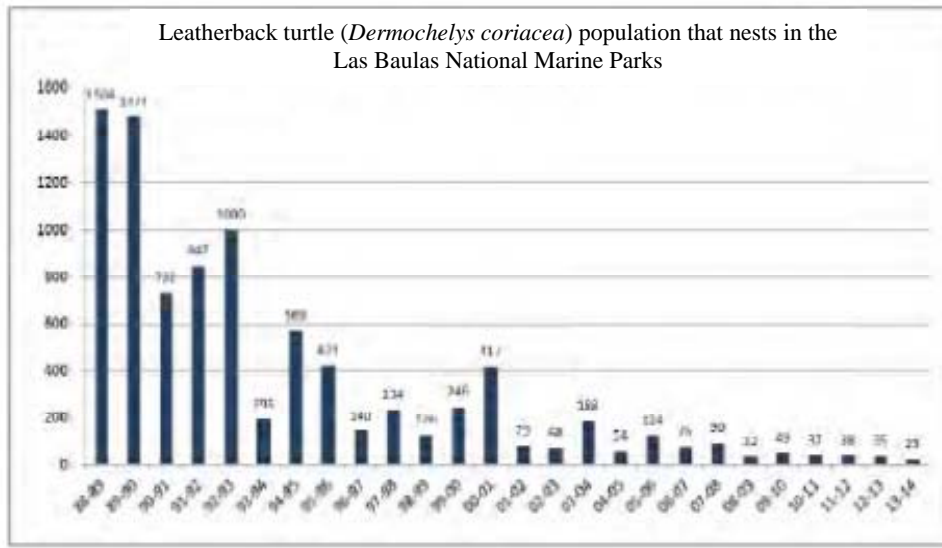
10. Beginning in 1993, all female leatherback turtles that nest on the beaches of the *Las Baulas* National Marine Park have been identified with PIT tags, which are microchips the size of a grain of rice that are inserted in the muscle of both elbows of the turtles. This technology allows tracking of each individual and provides improved scrutiny of the population, given that information has been based on individuals. By identifying the females, we have been able to determine population patterns such as the number of nests that each female makes, the interval of time between egg-laying events, loyalty to beaches, intervals of remigration and the migration routes themselves. It has also been instrumental in the long-term study of the population.

11. Since 1996, Playa Grande has been considered one of the four main nesting sites in the world (Figure 1). Scientific data generated in the last 20 years has demonstrated that the complex of Playas Grande, Ventanas and Langosta continues to be the most important nesting area throughout the Eastern Tropical Pacific (from Baja California in Mexico to northern Peru) and sustains major populations in comparison with various sites in the world, where colonies have decreased, such as in Mexico (Mexiquillo) and disappeared, as in Malaysia, among others. Although the average number of turtles per year is similar to those recorded on the Mexican Pacific coast, in the PNMLB, the turtles lay eggs along only 6 kilometers of beach and it is therefore not only the nesting place with the largest concentration, but also the site where leatherback turtles show great loyalty for laying their eggs.



**Figure 1.** Distribution of leatherback turtle populations around the world, showing the importance of Playa Grande in the global context.

12. The PNMLB receives approximately 85% of the total number of turtles that lay their eggs on the Pacific Coast of Costa Rica and 40% of leatherback turtles that lay eggs on the Eastern Tropical Pacific coasts. The leatherback turtle population on the beaches of the National Park has decreased throughout the 25 years of the study (Figure 2), which is a critical situation and will depend on the number of individuals that continue to lay eggs on these beaches and successfully reproduce in order to increase the chances for a larger number of individuals in the populations. It should be mentioned that the PNMLB has seen an increase in young females (first-time nesters) (30%-50%) during the last four seasons.



**Figure 2.** Number of nesting turtles on beaches of the *Las Baulas* National Marine Park by season.

13. There is no single cause that explains the decrease in the number of nesting females in *Las Baulas*. There is a combination of factors, the main one being the theft of eggs that took place between the 1970s and the 1990s. Bycatch (“collateral fishing”) has also been indicated as a cause for the population decrease, primarily due to fisheries operating near the coasts of Chile and Peru. A case in point is the thousands of leatherback turtles caught and killed in swordfish nets off the coast of Chile in the 1990s.

14. There are two current threats to the population, which are increasing with each season. One is the development of infrastructure in areas near the nesting beaches, and another is climate change. Sea turtles in general are vulnerable to pressures throughout their lives. Eggs, hatchlings and the female turtles that come to lay their eggs on the beach can all be affected by human activity.



15. For example, Longcore and Rich define the negative effect of artificial light on the natural cycles of light and darkness of an ecosystem as “ecological light pollution.”<sup>1</sup>

16. Turtle hatchlings use visual orientation to make their way to the ocean and artificial lights disorient them. Under natural conditions, they are attracted by the shine of the ocean and the low elevation of the sea compared to the beach. Lights from urban development, public lighting and lights of vehicles compete with natural light and affect their sense of direction. The hatchlings’ disorientation generally causes them to go towards the artificial light. Unable to find the ocean, they become lost and die due to dehydration or become the prey of predators or are run over by vehicles. Adult turtles may fail to lay eggs at all, given that they look for dark places to make their nests.

17. In the 1990s, development in Playa Grande was practically nonexistent but it has increased significantly in recent years. Lights are especially visible in the dry season from the beach, which has a direct impact on adult turtles and hatchlings. According to Brei in a recent publication, light contamination substantially accelerates extinction of sea turtles.<sup>2</sup>

18. The number of visitors and residents in the area has increased, as well as the number of domestic animals. Natural predators affect the dynamics of sea turtle populations naturally, since turtle populations have evolved to compensate for natural death rates. However, domestic animals are unnatural predators that can have a drastic impact on sea turtles. Moreover, the drainage system acts as a conduit of water to different sections of the beach, with the discharge altering the nesting area.

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<sup>1</sup> Travis Longcore and Catherine Rich, *Ecological light pollution*, 2(4) FRONTIERS IN ECOLOGY AND THE ENVIRONMENT 191 (2004) [Exhibit R-011].

<sup>2</sup> See Michael Brei, *et al.*, *Environmental Pollution and Biodiversity: Light Pollution and Sea Turtles in the Caribbean*, JOURNAL OF ECONOMIC LITERATURE: Q 57, January 25, 2014 [Exhibit R-013]. The authors of this publication have done field research in the *Las Baulas* National Marine Park, and the publication is known in the area.

19. Another effect on beaches where there is coastal development is the increase in beach erosion due to partial or total clearing of vegetation cover. According to Roe, the sections of beach near the development areas, such as in Playa Grande Norte, have less pronounced slopes,<sup>3</sup> which makes the beach flatter, causing high tides to cover the nesting area completely. The result is that any nest made on that sector of the beach is frequently flooded by high tides, which is lethal for development of the eggs, in addition to causing a lower pH and less porous air-filled space. According to Roe, the leatherbacks at Playa Grande nested more frequently in sections of the beach with more pronounced slopes, higher elevation of dunes, and a deeper coastal area. It is obvious that coastal development has impacted the beach environment, affecting the spatial distribution of nests.<sup>4</sup>

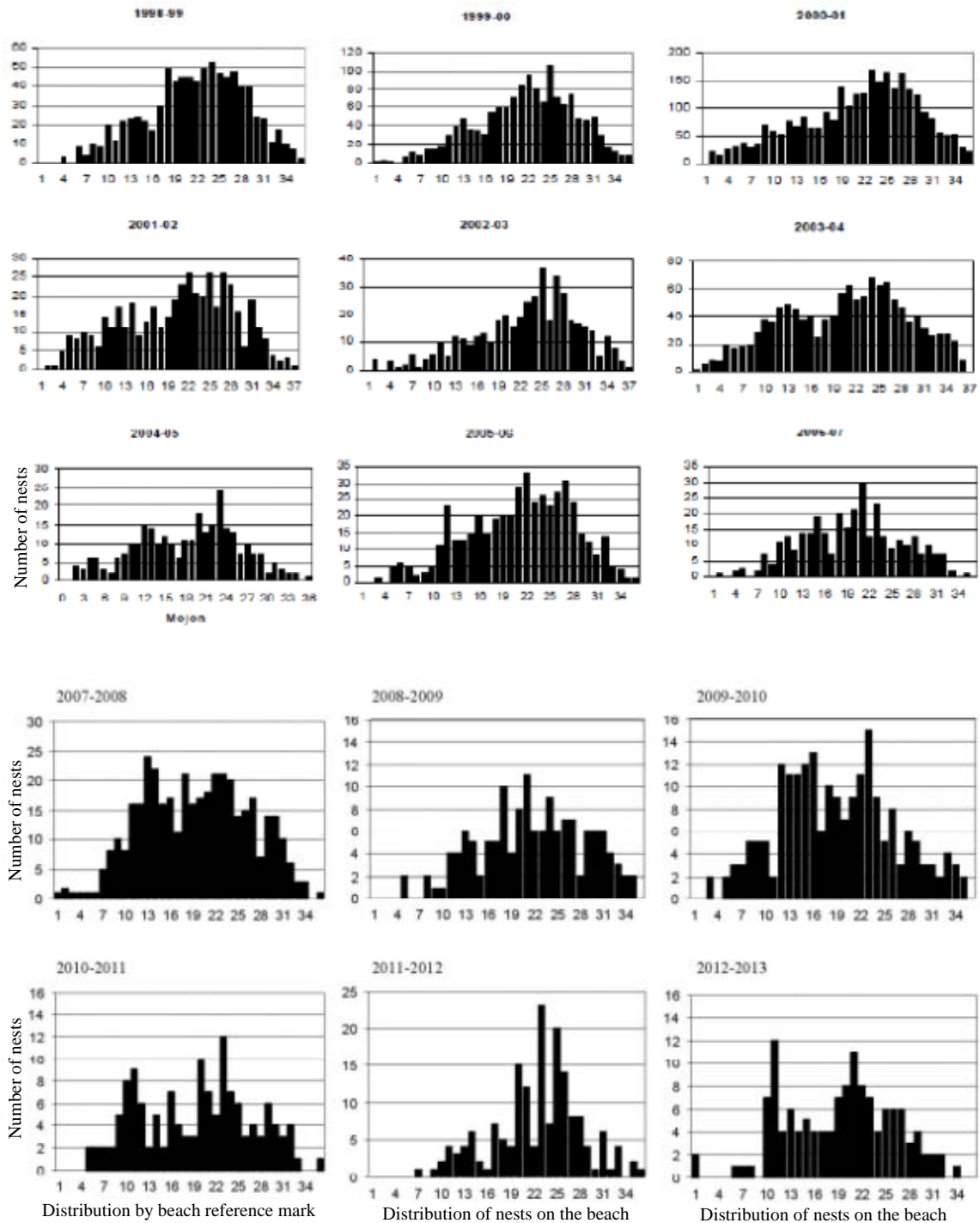
20. Unplanned and poorly organized coastal development, like the nest-robbing that took place many years ago, will have repercussions on future populations. Figure 3 demonstrates the trends in distribution of nests along the Playa Grande beginning with the 1998-1999 season, showing the relationship between nesting and the location of houses and hotels from 1993 to 2002 (Figure 4). It can be observed that the nests were not distributed uniformly along all of the beach, and there is a decrease in the number of nests in places that are directly influenced by houses along the beach (north sector of Playa Grande), due to the effect of lights, clearing of vegetation, erosion problems, invasion of exotic species in the nesting area, and other impacts.

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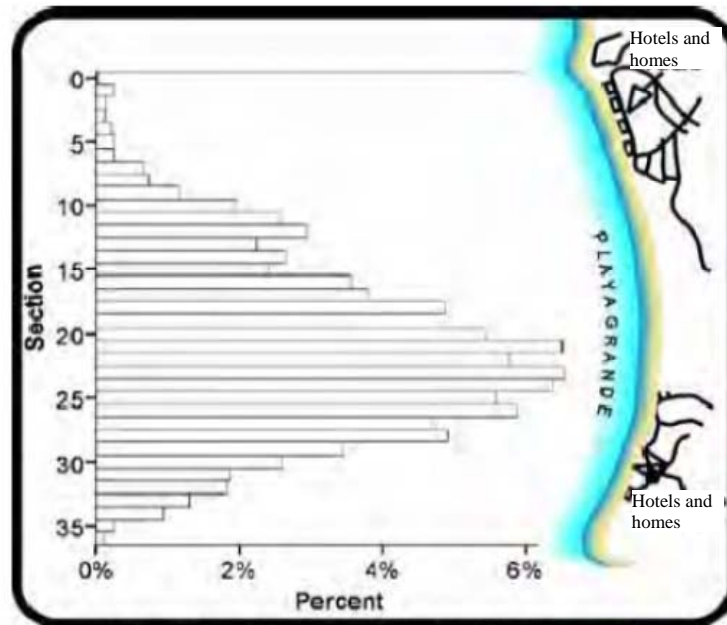
<sup>3</sup> See John H. Roe, *et al.*, *Characteristics of a Leatherback Nesting Beach and Implications for Coastal Development*, 12(1) CHELONIAN CONSERVATION AND BIOLOGY 34 (2013) (“Roe, *Characteristics of a Leatherback Nesting Beach*”) [Exhibit R-014].

<sup>4</sup> See Roe, *Characteristics of a Leatherback Nesting Beach* [Exhibit R-014].

Distribution of nests by reference mark and season in Playa Grande



**Figure 3.** Distribution of nests on Playa Grande beach from 1998-1999 to 2012-2013. The properties of Mr. Berkowitz and one of Messrs. Spence and Reddy are located in the section approximately between points 15 and 24.



1993-2002 nesting distribution of leatherback turtles at Playa Grande, Costa Rica.

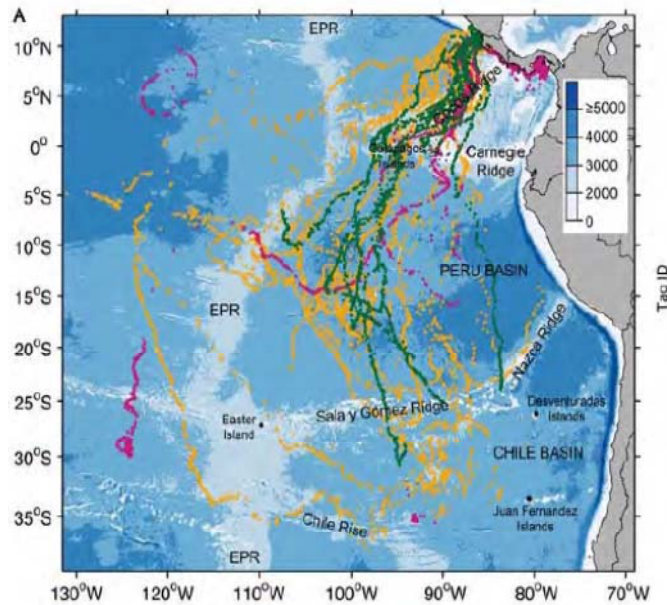
**Figure 4.** This graph shows the correlation between the percentage of females nesting on different areas of the beach and tourist development on the beach.

21. The weather phenomenon known as the El Niño Southern Oscillation (ENOS) also has a direct effect on the probability that leatherback turtles will migrate to the National Park's beaches. During El Niño periods, the temperature of the sea's surface increases, and there is a decrease in the ocean's productivity, decreasing the turtles' energy reserves needed to reproduce, which in addition to being reflected in the increase of remigration periods (the period of time it takes a turtle to return to the beach to nest after its last nesting), causes a decrease in the number of females visiting the nesting sites. However, during La Niña weather events, the ocean's temperature is lower than normal, and therefore there is an increase in productivity, resulting in greater energy reserves for migrating to the beaches.

22. Moreover, extreme climate events also affect the success of incubation. For example, in seasons affected by the influence of El Niño, beaches had higher temperatures, which caused less successful hatching than during seasons under the influence of La Niña. Temperature is an important parameter in the life cycle of sea turtles, not only in the sea, which determines distribution limits as adults, but also as an influence on embryo development and in the determination of sex in hatchlings. The effect of climate change on the increase in sea level cannot be ignored. It entails that with the passage of time, beaches will retreat. Management of nesting beaches and protected areas in general should take into consideration all necessary actions for monitoring environmental variables and measures for adapting to climate change.

23. Successful reproduction is key to the survival of sea turtle populations, and understanding how nesting habitats can be affected by climate change is an essential factor in evaluating the vulnerability of regional populations. Nesting conditions will probably be different in the future, given the projected changes in temperature and rainfall. However, in order to ensure that beaches of the National Park are able to meet the fundamental goal of maintaining successful incubation levels and avoiding population disasters, the immediate buffer zone must minimize any changes and impacts associated with coastal development that would affect current conditions on the beach.

24. As demonstrated in Figure 5, leatherback turtles migrate long distances both ways between their feeding grounds and the nesting areas, constituting a shared resource, also but demonstrating a strong nesting fidelity for the beaches of the National Park. Consequently, we see the conservation of the Park as protection of a global resource, and we are dedicated to our share of the responsibility in order to protect a species in critical danger of extinction, as well as its nesting habitat. In addition, its conservation guarantees success in the reproduction of the species, particularly when its population in the Eastern Tropical Pacific has decreased, as shown in Figure 2.



**Figure 5.** Migration 46 of leatherback turtles in 2004 (in orange), 2005 (in purple) and 2007 (in green) towards their feeding grounds. In a period of between 4 and 7 years, they will return to the beaches of the *Las Baulas* NMP to nest again.<sup>5</sup>

25. The decrease in the nesting population of leatherback turtles is alarming. It is important to bear in mind that this group of females represents a certain percentage of the total individuals of a population. The effect of egg theft on populations of sea turtles is not immediately evident. The population decreases at the same rate it takes it to reach sexual maturity (10 to 15 years). After putting an end to egg theft, the population can take 20 to 30 years to recover. The first 10 to 15 years is the time between the hatchling's return to the sea and the first time it lays eggs. Then another 10 to 15 years pass before the first turtles to mature have grown older, and the population has recovered. It is possible for a population that has experienced egg theft to recover after such activity ceases.

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<sup>5</sup> See Shillinger, *et al.*, *Persistent Leatherback Turtle Migrations Present Opportunities for Conservation*, 6(7) PLOS BIOLOGY (2008) [Exhibit R-008].

#### IV. THE CREATION AND AREA OF THE *LAS BAULAS* NATIONAL MARINE PARK

26. Administration of protected areas and, more specifically, the conservation of crucial management points, including sea turtles, is a complex activity that includes making decisions based on scientific, ecological and biological information, documented in different existing research and monitoring projects, which can entail complications associated with the protection of species and their habitats.

27. The *Las Baulas* National Marine Park is a good example of this situation. In 1987, the Tamarindo National Wildlife Refuge was created by Executive Decree No. 17566, which in 1990 was confirmed under Law No. 7149. Subsequently, in 1991, its management category was established as *Las Baulas* National Marine Park according to Executive Decree No. 201518-MIRENEM, and in 1995, its creation was established by Law No. 7524 (Figure 6). Its land area includes a small strip of land 125 meters wide (which includes 75 meters in addition to 50 meters of the public area) along the coast, as well as Cerro El Morro, Cerro Ventanas and Isla Verde. All these lands are private (except for the public area). After the aforementioned dates, any individual or legal entity that acquired property within the boundaries of the Park has run the risk of sooner or later having their properties expropriated by the Costa Rican government as stipulated by law. In other words, contrary to the arguments of Claimants, the 125-meter wide strip of land has not been expanded since its creation in 1991, and since then the size has always been the same.<sup>6</sup>

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<sup>6</sup> See e.g. Claimants' Memorial on the Merits, April 15, 2014 ("Claimants' Memorial on the Merits"), para. 75.

28. Figure 6 shows the location of the National Park and its area. The Park includes 948.2 land hectares and 25,180.7 marine hectares and lies within the Dry Tropical Forest Transitioning to Wet Tropical Forest. This means that the area is characterized by dry forest where the vegetation is adapted to an extensive dry season of up to five months. However, during periods under the influence of the El Niño weather phenomenon, the dry season may last 7 months.

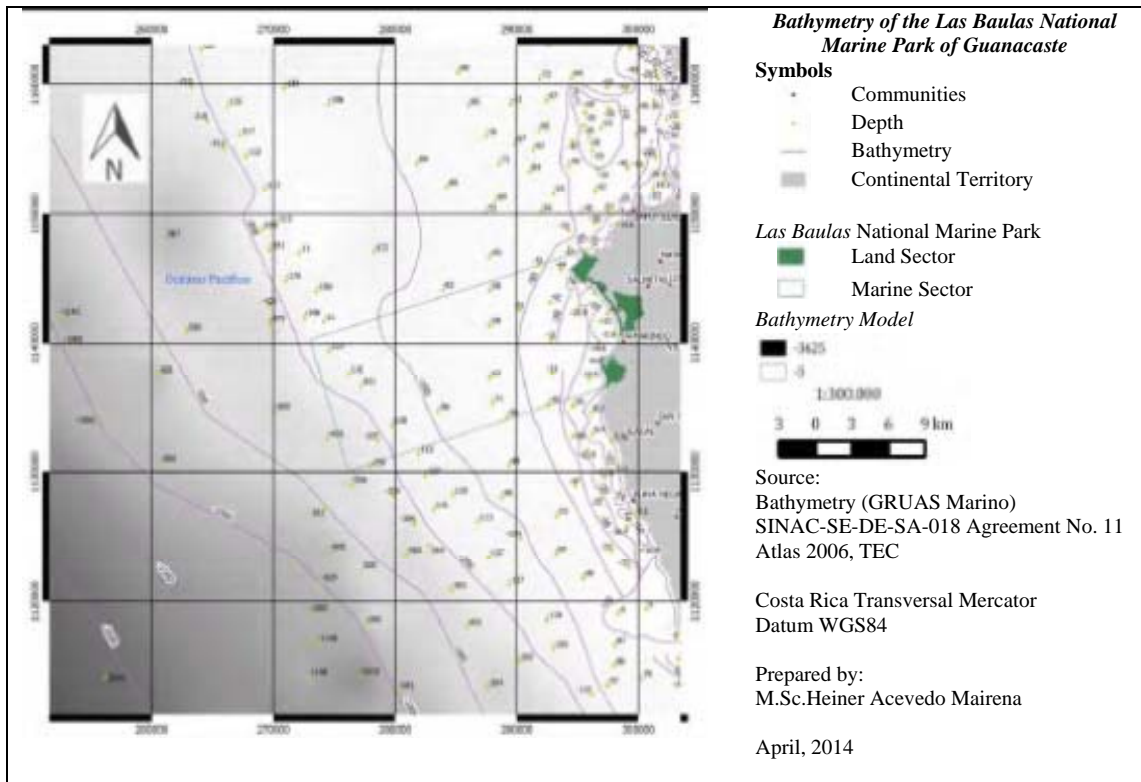
LAS BAULAS NATIONAL MARINE PARK



**Figure 6.** Location map of the *Las Baulas* National Marine Park.



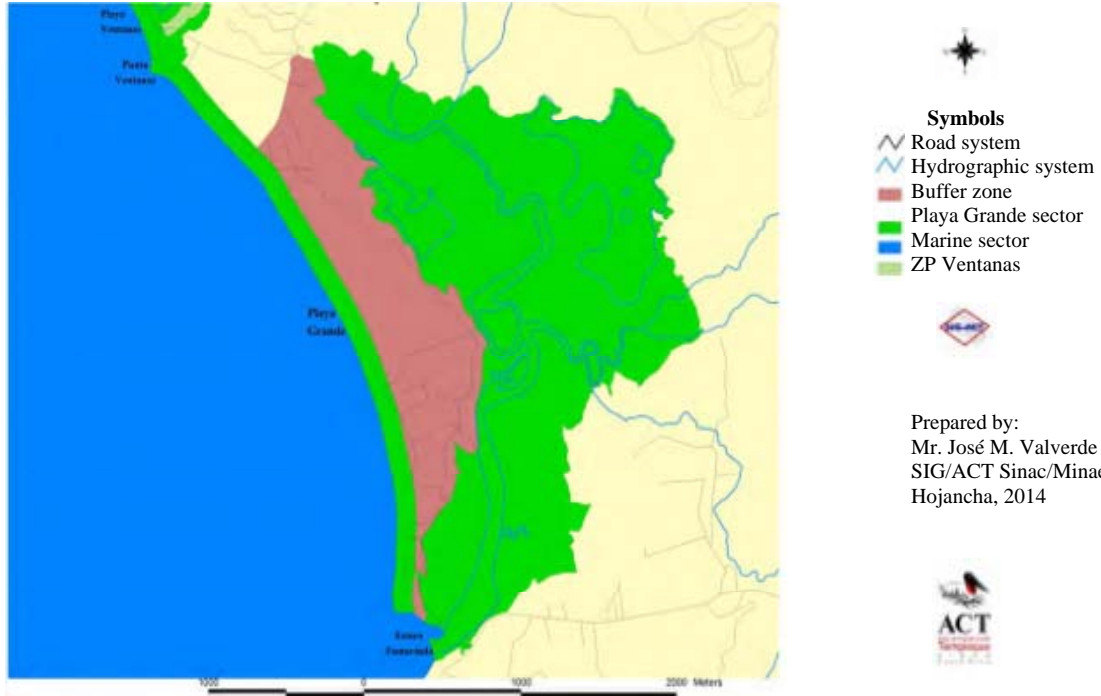
29. According to Law No. 7524 “Creation of the National Park,” the land sector is made up of: (a) a thin strip of 125 meters that includes the 75-meter strip in addition to the 50 meters of public area, measured from the ordinary high tide mark, near the Carbón, Ventanas and Grande beaches (in Figure 6, the width of the strip can be seen); (b) the marshes of Ventanas, Tamarindo, San Francisco and their mangroves; (d) Cerro El Morro and the hill immediately behind Punta Ventanas; (d) coastal ecosystems and cliffs and (e) the Langosta beach and the land portion called Isla Verde. The marine sector includes islets, reefs and waters more than 200 meters deep as shown in Figure 7 (Bathymetry of the marine area of the National Park. Taken from Acevedo *et al.*, 2014).



**Figure7.** Bathymetry of the *Las Baulas* National Marine Park. Prepared by Heiner Acevedo Mairena, 2014.

30. Figure 8 also clearly shows that there is a thin strip of land between the park boundary with the beach and the mangrove in Playa Grande. The portion of land located outside of the 75 meters constitutes an important buffer zone for the protected area.

BUFFER ZONE OF THE PLAYA GRANDE SECTOR  
*Las Baulas National Marine Park*



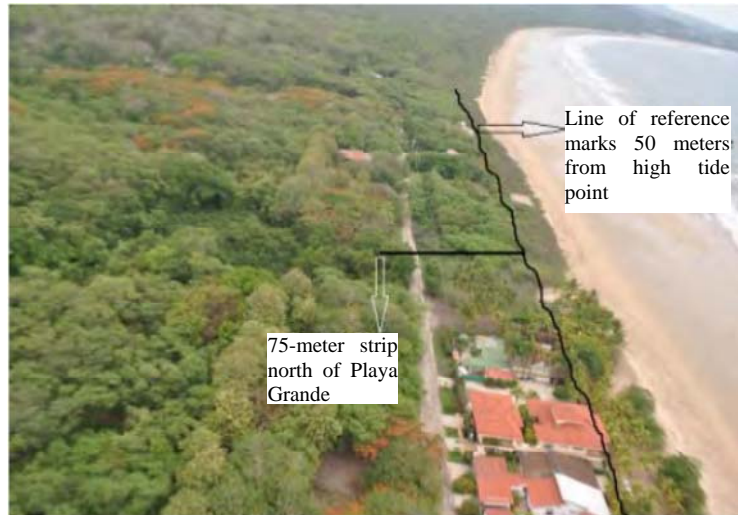
**Figure 8.** A buffer zone between the 125-meter strip and the mangrove of Tamarindo.

31. Photograph 1 approximately shows the strip measuring 75 meters, which is extremely small. This strip plays a vital part in the stability of the beach (nesting area). Part of the sector of Playa Grande Norte has already been altered and there are problems consisting of light, erosion, loss of vegetation cover, and other difficulties. Nesting in this sector is minimal and non-existent in certain seasons, as observed in Figure 3, which shows the spatial distribution of nests along the entire Playa Grande.



**Photograph 1.** The area shown below is the Playa Grande sector, approximately showing the area that includes the 125-meter strip inside the Las Baulas National Marine Park, according to Law 7524.

32. As a result, if this situation continues along the entire beach (3.6 kilometers) (See Photograph 2), the nesting site will be lost. For this reason, it is essential to consolidate the 75-meter strip of the Park.



**Photograph 2.** View from the air of the North Sector of Playa Grande, showing approximately where the 50-meter line is and the width of the 75-meter strip, both within the 125 meters.

33. For example, in 2001 and 2002, officials of the *Las Baulas* National Marine Park were forced to file complaints against the representative of Playa Grande Estate S.A. for cutting down trees without a permit and for earth-moving activities on property located in Playa Grande (located between points 22 and 24 according to Figure 3). Moreover, in those years, private parties submitted a request for environmental viability to develop a project to build 185 houses in Playa Grande.

34. For that same property, where 185 houses were going to be built, now under the responsibility of Mr. Brett Berkowitz, the Claimant in this case, a permit was requested in 2003 to cut down trees.<sup>7</sup> The permit was issued for the area that was outside the 125 meters belonging to the National

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<sup>7</sup> See Request to Cut Trees in Property Inside and Outside Park Land, File No. 03-00948-412-PE, May 19, 2003 [Exhibit R-015].

Park.<sup>8</sup> However, that same year, Mr. Berkowitz began activities inside the Park, within the 75-meter strip, due to which a complaint was filed with the Office of the Attorney General.

35. In spite of the fact that the park boundaries described in Decree No. 20518 of 1991, as well as in the Park Creation Law, have always included the 125 meters measured from the high tide mark, between 2004 and 2005, some of the owners in the Playa Grande area alleged that the park's boundaries, specifically referring to the 125-meter strip measured from the high tide mark in accordance with Article 1 of the Park Creation Law, should be considered to be offshore, instead of inland. The *Procuraduría General de la República* (Office of the Attorney General of Costa Rica), after a detailed analysis of the case initially in 2004 and then in 2005, issued a ruling (*dictamen*) clarifying that such 125-meter strip should be considered to be inland. This interpretation was confirmed by the Constitutional Court in 2008.

36. One of the witnesses in this case, Mr. Berkowitz, alleges that the Minister of the Environment promised him in 2003 that the area of the park would not be extended beyond the land established by the Park Creation Law and, therefore, that the property that he was considering buying would be outside of the Park.<sup>9</sup> I understand that he is arguing that the boundaries of the Park changed in 1995, and therefore the Park was extended 75 meters out to sea and not inland.

37. Mr. Berkowitz asserts that the alleged promise of the Minister was repeated at a meeting held in June 2003.<sup>10</sup> I did not participate in the meeting that Mr. Berkowitz had with the Minister. However, I did participate at the meeting of government officials in June 2003. At that meeting, we did not discuss the allegation made by Mr. Berkowitz.

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<sup>8</sup> See Resolution on Use of Forest, Resolution No. 067 ACT-067-2003-IF, June 2003 [Exhibit R-016].

<sup>9</sup> See Witness Statement of Brett Berkowitz, April 25, 2024 (“Berkowitz Statement”), paras. 9-13.

<sup>10</sup> See Berkowitz Statement at para. 13.

38. Mr. Berkowitz seems to be confused about the scope of the meeting that was held to discuss the possible expansion of the park in 2003. In that year, the officials of the Ministry of Environment and Energy (“MINAE”), as well as the principal parties involved in protecting the Park, understood that the area of the park covered 125 meters landward from the high tide mark since 1991/1995. Therefore, the expansion that was discussed and rejected at the meeting referred to by Mr. Berkowitz was not with respect to an expansion of 75 meters landward from the indisputable 50 meters, but to an expansion in addition to the 125 meters landward. That is to say, it was a Legislative Bill to extend the land area of the *Las Baulas* National Park beyond the land that had been declared in 1991/1995. This bill was called the “Expansion, Consolidation and Development of the *Las Baulas* National Marine Park of Guanacaste.” This bill was presented by Representative María Lourdes Ocampo to the Legislative Assembly of Costa Rica with File No. 14989. The bill was supported by 28 representatives. This legislative bill was never approved, and the boundaries of the park are the same ones it has had since its creation in 1991/1995.

## **V. OPERATION OF THE PARK**

39. Since I assumed responsibility for managing the National Park, I have worked on various major projects for achieving one of the principal objectives of the Park: the protection of leatherback turtles. In 1999, a training and support process was approved for the groups of local guides, using funds from the United Nations Development Program (“PNUD” in Spanish). Training was provided on matters of protection and control, particularly during the nesting season of leatherback turtles (October to March). A financing proposal was also prepared for construction of the park guard house and administrative and tourist service offices. The project was approved by the Spanish Cooperation Agency in 1999. In 2002, we obtained the funds to prepare the first National Park Management Plan. Since 2005, the administration of the National Park has an Action Plan for orienting and providing guidance for activities in the

protected area. In 2013, thanks to German assistance, we initiated the process to prepare a new Management Plan with the participation of neighbors and owners, among others, which will define the strategies for actions of the next 10 years and preparation of new Public Use Regulations.

40. Currently, activities are planned according to specific work plans. The National Park has seven plans for 2014 (Protection and Control, Environmental Education, Ecotourism, Volunteering, Solid Waste Management, Research and Maintenance). They are carried out in the marine and land environments. One of the principal difficulties that we have encountered is the lack of personnel, which has become a limiting factor in the National Park's operations.

41. Currently, our efforts are concentrated on the following: (i) consolidation of the Park's boundaries, which I believe is important in order to continue to ensure the reproductive success of the leatherback turtle by protecting the nesting beaches; (ii) protection of marine and land-based biodiversity, which are also part of the conservation objectives of this essential protected area and which are represented in the crucial management elements that were previously mentioned; support of local guides and performance of non-essential services; (iii) solid waste management; (iv) enhancing participation of citizens; (v) understanding that human welfare depends on safeguarding and maintaining the benefits of ecosystems provided by our protected areas; and (vi) their operating and financial consolidation. We are also preparing the new Park Management Plan, for which we believe its implementation for the next 10 years, aside from current problems, will have the participation and commitment of many of the referenced key parties.

42. Twenty years ago, the National Park began an official program for local guides as a strategy to generate a change of attitude and acquire supporters of conservation, which began in 1994. Files from that year show that, in 1994, a group of persons from the communities of Santa Rosa, Villarreal and Tamarindo organized the first group of tourism promoters. Subsequently, two groups

organized from the community of Matapalo (Conservationist Group and the Development Association), a neighboring community adjoining the National Park, demanded that MINAE authorities allow them to participate as tourist promoters with the right to receive the economic benefits of the protected area. After a long process of conversations and dispute resolution, they were included as the second tourist promotion group in the process of organization. Prior to 1994, there were tourists and guides at Playa Grande, but the activity was not organized.

43. In 1994, the process of coordinating and controlling the entry of visitors to the nesting area began. Apparently that was when the people who habitually collected turtle eggs for consumption underwent a change of attitude and became guides. This entailed developing an instruction and training program. Currently, there are forty guides from the communities surrounding the protected area. As a way to support their work, a system was developed consisting of requiring visitors to be accompanied by a local guide in order to view the turtles. A reservation system was established for the purpose of controlling entry. A maximum of 20 people per night is allowed. This activity generates income for the communities. Currently, various services are provided to visitors by the guides and community organizations.

## **VI. ACTIONS TAKEN BY COSTA RICA TO ADDRESS RISKS TO LEATHERBACK TURTLES**

44. At the end of the 1980s, the Costa Rican government aptly created the Tamarindo National Wildlife Refuge, which included the main beach, Playa Grande, and the Tamarindo estuary. It began to adopt protective measures that over time created the National Park, which included expanding the referenced area, as well as employing park rangers, with the participation of local guides, neighboring communities, volunteers, scientists and NGOs.

45. In 2002, preparation to develop the First Management Plan was begun. The strategic objectives of the National Park were defined, as well as its mission and objectives. Work programs were



developed, as well as the activities to be carried out in each of them. The implementation period lasted from 2005 to 2010. At that time, the Action Plan was concentrated principally in the onshore area.

46. In 2012, the Regulation of Public Use was published.

47. As previously mentioned, in 2013, the New Management Plan was prepared, with substantial involvement of the public and using a different management approach for the National Park from that used with the previous Plan - protection and conservation becoming the crucial management elements. This Plan is still in the process of preparation. Once the Management Plan is approved, it will be prepared and submitted for approval and publication in a new Regulation of Public Use.

48. It is estimated that approximately 19,000 people visit the National Park between October and March. Potentially, 14,160 tourists could view the turtles at the current rate (120 people per night for 118 days). Our work is especially important during the turtles' nesting season. During that period, we facilitate and supervise the work of biologists, scientists, volunteers and guides. We make constant inspections of the protected area. Tourists are provided with assistance during the day and given information about the National Park. The offshore area is patrolled as means allow. We manage a reservation system that strictly controls access by the public to the beach at night, particularly during the nesting season of sea turtles. The activities carried out are defined in the specific work plans.

49. According to a study carried out by the World Wildlife Fund ("WWF"), it is estimated that tourist activity associated with the observation of the turtles generates approximately US \$2,000,000, which benefits many, not just a few people.<sup>11</sup>

50. The consolidation of *Las Baulas* National Marine Park of Guanacaste, since its creation, has not been an easy task. Many years have gone by since the first attempts at conservation when many

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<sup>11</sup> See WWF, "Money Talks: economic aspects of marine turtle use and conservation" 2004 [Exhibit R-007].

people and the Costa Rican government dedicated time and money to protect the leatherback turtle and its critical habitats. Innumerable national and foreign tourists have enjoyed the incomparable opportunity to see this fascinating species of sea turtle and learn about the nesting process. The National Park's role of providing benefits to ecosystems, which are valuable to human life, is also noteworthy.

51. However, in order to ensure continuity of the nesting process, beaches are required that have no light or sound contamination, that have dunes where the incubation process can take place, as well as vegetation coverage behind the dunes which protects them and also allows the beach to recede if necessary due to climate change. Beaches must also be exposed to as little human activity as possible. We are also responsible for maintaining the benefits of the ecosystem that the protected area provides to neighboring communities and visitors.

## **VII. RESIDENTIAL AND TOURIST DEVELOPMENT OF THE PLAYA GRANDE AREA BEGAN AT THE END OF THE 1990s.**

52. When I arrived at the Park's administration department in 1997, there was no particular interest in expropriation by the government of land inside the Park, although the expropriation process was provided and authorized in Decree No. 50518 and Law 1995, which created the Park, or in restricting the development of properties in the areas adjoining the protected area. There were no explicit actions taken in Playa Grande (where most of the turtles nested), although there were urbanization projects in the area, so the emphasis was on other priorities.

53. However, in nearby areas, there was a rapid upsurge in the development of property at the end of the 1990s and the beginning of the 2000s, primarily in order to attract tourists to the beaches. In particular, Tamarindo beach – adjoining Playa Grande – saw a construction boom. Multiple-floor buildings with condominiums were built next to the beach and in the surrounding hills, as well as hotels.

Many individual houses were built, as well as restaurants and stores for the tourist trade, and streets were constructed.

54. Regarding the foregoing, Claimants' witness, Dr. Rusenko, says that the people he has met with are interested in keeping the area in a more natural state.<sup>12</sup> This is not correct. We have cases on file dating from 2001 forward, recording the intention to develop large urban projects, preceded by improper activities that affect the environment, for which criminal complaints had to be filed. Such events were the mainspring for prioritizing the initiation of the process to consolidate the National Park.

55. Even though part of the development of the area did not take place, as in the aforementioned project to build 185 condominium homes, this type of project was the reason for the move to consolidate the protected area as quickly as possible and to emphasize the need for the government to regularize and organize development in the buffer zone of the Park, to ensure that they were low-density projects that were appropriate for the protected area.

56. The government decided on a strategy to commence the consolidation process of the park, establishing priorities for expropriation according to the rationale provided in the document of the MINAE and SINAC regarding expropriation priorities.<sup>13</sup> This strategy became official in 2012 with SINAC.<sup>14</sup> The strategy was determined generally based on nesting habits of leatherback turtles in keeping with the focus on ecosystems and considering the presence of infrastructure within the protected area, where it is critical to reverse the impacts that the area has undergone. The focus on the ecosystem assures conservation not only of the leatherback turtle, but also the protection of its nesting habitat as well as

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<sup>12</sup> See Witness Statement of Dr. Kirt Rusenko, April 25, 2014 ("Rusenko Statement"), paras. 4-6.

<sup>13</sup> See MINAE and SINAC, "Las Baulas National Marine Park: Justification for Prioritization of Expropriation," 2010 [Exhibit R-009].

<sup>14</sup> See MINAE and SINAC, "Technical Proposal for the Expropriation of Properties in the Las Baulas National Park," 2012 [Exhibit R-010].

present and associated ecosystems. The joint protection and low-density development of the area of influence, which must be responsive to the needs of the Park and its sea turtles, ensures comprehensive conservation of this protected area.

57. The order of priority regarding expropriation of lots inside the Park was determined as follows (beginning with the highest priority downward):

- i. Playa Grande Sur Sector, pertaining to land located in open areas that have the most recorded nesting sites of leatherback turtles;
- ii. Playa Grande Norte Sector, which has the largest concentration of houses but also has a large number of lots without major constructions, so the priority would be those lots;
- iii. Playa Ventanas Sector, where there are lots with few houses, and turtles nest less frequently. However, the level of development is increasing;
- iv. Isla Verde Sector is the second most important nesting beach for leatherback turtles, where no development is planned in the short term;
- v. Cerro El Morro and Cerro Ventanas, where the park needs to be consolidated to protect the species that inhabit this area, which is also an important buffer zone for future infrastructure development outside of the park; and
- vi. Lots with houses, which are already altered areas. This strategy was implemented in order to protect those areas that are most at risk of impact on the nesting process of the turtles.

Thus, the main priority regarding land is expropriation where the most nesting locations are found, and the land with construction is the lowest priority. Therefore, contrary to the allegations of Claimants,<sup>15</sup> the order of expropriation of land located within the Park was not arbitrary, nor was it determined randomly. The rationale was to achieve the ultimate purpose of the natural park: the protection of leatherback turtles.

58. In the particular case of sea turtles, considering that the properties in question are located within the 125-meter strip of Playa Grande and Ventanas, there are 6 kilometers of beach that require protection and that the natural conditions are properly maintained so that the turtles can continue to nest

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<sup>15</sup> See Claimants' Memorial on the Merits at para. 89.

and produce as many hatchlings as possible. The fact that the future of the population of leatherback turtles in the Northern Pacific of Costa Rica depends on maintaining favorable conditions on the beaches right now is beyond reasonable doubt. The maintenance of such conditions can only be ensured by consolidating the Park and making certain that the adjoining areas do not harm the crucial management elements and the service these provide to human welfare.

#### **VIII. ANALYSIS BY CLAIMANTS' WITNESS OF PARK DEVELOPMENT IS INCORRECT**

59. The comments of Claimants' witness, Dr. Kirt Rusenko, seem to indicate in his statement that development carried out beyond the indisputable 50 meters, but within the 75-meter strip of the Park, would not affect the turtles' reproductive process.<sup>16</sup> I disagree. Dr. Rusenko seems to ignore the fact that precisely the site where the houses are located in the Playa Grande Norte sector, which he also mentions, is within the 75-meter strip (Photograph 2) has a significant impact on the nesting area. Without doubt, the area between the 75-meter strip is essential to maintaining the ecological integrity of this strip, given that the species there provide stability and protection against erosion of the nesting beach and the possible effects of climate change, such as in the case of an increase in sea level and in temperature.

60. Keeping the good condition of nesting sites is fundamental for producing the largest possible number of hatchlings, and to counteract the current status of leatherback turtles. Management of the protected area requires ensuring low density development outside the current boundaries of the Park in order to maintain connectivity to the ecosystem, considering the environmental variable. It is critical to maintain the 75-meter strip between developed areas and the nesting area in order to counteract the pressures of future development, especially now that the strip is stipulated within a law.

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<sup>16</sup> See Rusenko Statement at para. 6.

61. Dr. Rusenko's comments seem to state that his experience is based on mitigating the impact of light in already developed areas, and that those beaches are not protected under any management category, which, in my opinion, differs greatly from the situation of our National Park. As he himself says, "[a]s Boca Ratón is located in a highly developed urban area . . . It is [Rusenko's] responsibility to ensure that developers have addressed [Rusenko's] concerns [] with minimizing negative beach front impacts . . ." <sup>17</sup> Minimizing is not the same as eliminating negative impact. He therefore admits that impact is reduced to a certain point, but the impact is still there. In a "highly developed" area without a protective category, perhaps that is the best that can be done. The situation is not comparable to the situation in Costa Rica, given that the actions in our case are governed under the condition or premise that our National Park should not be in the condition of the beaches of Boca Raton.

62. I believe that in the United States, as in Costa Rica, there is a difference between the management of nesting beaches in protected areas, especially in the case of a national park, compared to nesting beaches that are not within any category of government management. In our case, the protected areas are strictly managed under the provisions of environmental law (Organic Law of the Environment No. 7554; Law of Biodiversity No. 7788; National Parks Law No. 6084; Forestry Law No. 7575; Law of Protection, Conservation and Recovery of Sea Turtle Populations No. 8325), in addition to commitments acquired under ratification of international agreements related to the environment.

63. Thus, the reproductive success of the species is vital. The purpose of the entire 75 meters of land from the 50-meter indisputable public zone is to protect the nesting site so that the turtle nests are not vulnerable. Moreover, it is also crucially important to leave untouched the high barrier of trees and vegetation that are immediately behind the beach, because the vegetation helps to protect the turtles from

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<sup>17</sup> Rusenko Statement at para. 2.

[ Translation ]

the effect of light, it prevents beach erosion, and it minimizes the impact of human activity carried out beyond the protected area.

[ Translation ]

The facts contained in this statement are true to the best of my knowledge and understanding.

                  [signature]                  

Rotney Piedra

Date: June 19, 2014



[ Translation ]

## Annex RP-1

## Annex RP-1

### Publications and Thesis

Blanco, G., Morreale, S.J., Vélez, E., **Piedra, R.**, Montes, W., Paladino, Frank., Spotila, J. 2011. Reproductive Output and Ultrasonography of an Endangered Population of East Pacific Green Turtles. *The Journal of Wildlife Management* 9999:1-6.

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