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**ANALYSIS OF THE PROCEDURES AND METHODS USED TO  
TRANSLATE SOME DOCUMENTS FROM SPANISH INTO  
ENGLISH AND FROM ENGLISH INTO SPANISH FOR  
FUNDACIÓN CORCOVADO**

**Thesis Submitted to Obtain the Licentiate Degree in English with Concentration in Translation**

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## Abstract

The goal of this dissertation project is to analyze the effect of the procedures and methods used to translate the documents *Plan de gestion de riesgos playa Rincon de Drake - Para traducir* from Spanish into English and *Para traducir project summary* from English into Spanish for Fundación Corcovado. This analysis will be conducted by using several translation procedures. This thesis is focused on studying and answering the following research question: What is the effect of using translation techniques to translate the documents *Plan de gestion de riesgos playa Rincon de Drake - Para traducir* from Spanish into English and *Para traducir project summary* from English into Spanish for Fundación Corcovado? Moreover, the researcher of this investigation was Sofía Gómez Tábor, and her tutor Catalina Guerrero Troyo. Throughout this project, the researcher found out that the objectives were successfully developed using the qualitative approach, so that the translations could fulfill their purpose. Making it easy for the reader to comprehend the meaning from both translations, and creating the end goal of a translation, communicating from one language to another, and rendering accurate, natural, and cohesive target texts with the use of the different translation procedures.

## Resumen

El objetivo de este trabajo final de graduación es analizar el efecto que los procedimientos y métodos usados para traducir los documentos Plan de gestión de riesgos playa Rincón de Drake - Para traducir de español a inglés y Para traducir project summary de inglés a español para Fundación Corcovado. Este análisis se llevará a cabo usando varios procedimientos de traducción. Esta tesis está enfocada en estudiar y responder la siguiente pregunta de la investigación: ¿Cuáles son los efectos de usar técnicas de traducción a la hora de traducir los documentos Plan de gestión de riesgos playa Rincón de Drake - Para traducir de español a inglés y Para traducir project summary de inglés a español para Fundación Corcovado? La investigadora de esta tesis fue Sofía Gómez Tábora y su tutora Catalina Guerrero Troyo. Durante el proyecto, la investigadora pudo desarrollar de manera exitosa los objetivos utilizando el enfoque cualitativo, para que las traducciones cumplieran su propósito. Esto facilitó el de comprender el significado de ambas traducciones, y de esta manera se logró alcanzar el objetivo principal de una traducción, comunicar de un idioma al otro y traducir documentos término que son naturales, coherentes y precisos por medio de la utilización de los diferentes procedimientos de traducción.

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## **Chapter I**

### **Introductory Framework**

The purpose of this thesis is to analyze the effect of the procedures and methods used to translate two documents, one from Spanish into English and another from English into Spanish, and with naturalness. Its main goal is to create a translated version that can be perceived by the reader as the original text. Furthermore, this thesis investigation will be divided in four points, which allow the reader to analyze the translated documents. First, to translate the documents Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake from Spanish into English for and Project summary para traducir from English to Spanish for Fundación Corcovado also accurately and with naturalness into the target language. Second, to apply various translation techniques to the documents in order to achieve communicative texts. Lastly, to create a glossary with the most relevant terminology found in both texts; this will help the author to have a general idea of what the text is about when translating.

#### **1.1 Problem Statement**

The main goal of this thesis is to analyze the effect of the procedures and methods used to translate the documents Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake from Spanish into English and Project summary para traducir from English into Spanish provided by Fundación Corcovado. This analysis will be done by using several translation procedures. The main purpose is to find the most accurate representation for the target's language culture, so that the source language meaning is not lost, and the reader can understand the main message.

These documents were requested to be translated to be used as sources to promote Fundación Corcovado's mission throughout the country and, at the same, internationally, in order to make the Costa Rican society aware about the country's wildlife needs. As Calvino (n.d) said, "Without translation, I would be limited to the borders of my own country. The translator is my most important ally. He introduces me to the world." Fundación Corcovado is an institution that strives to protect Costa Rica's natural heritage for future generations through its sustainable development, by promoting education and community empowerment, as well as strengthening protected wildlife areas, and promoting tourism.

These two documents are informative papers that have been written using formal language. Once these documents are translated, the hope is to convey these problems that Costa Rica's wildlife is experiencing in order to receive some donation and develop successful projects at Fundación Corcovado. Moreover, this paper is focused on studying and answering the following research question: What is the effect of the procedures and methods used to translate the documents Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake from Spanish into English, and Project summary para traducir from English into Spanish for Fundación Corcovado?

## **1.2 Objectives of the Investigation**

### **1.2.1 General Objective**

To analyze the effect of procedure and methods used to translate the documents Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake from Spanish into English for and Project summary para traducir from English into Spanish for Fundación Corcovado

### **1.2.2 Specific Objectives**

- To translate the documents Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake from Spanish into English and Project summary para traducir from English to Spanish for Fundación Corcovado
- To apply various translation techniques when translating the documents in order to achieve communicative texts
- To create a glossary with the most relevant terminology found in both texts
- To evaluate the effect of the translation techniques applied on the documents

### **1.3 Justification of the Study**

The main purpose of this investigation is, as stated in the main objective, to translate the documents Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake from Spanish into English and Project summary para traducir from English into Spanish for Fundación Corcovado. The main goal is to translate the texts as clear, natural, and accurate as possible into the target language. This project wants to examine the overall process of translation and prove the reasons why it is important to actually study its techniques in order to deliver an almost original version of the source language text.

The research will be relevant mostly for the national and international projects in which Fundación Corcovado are working on. The translated documents will help to expand its mission and vision all around the world in order to increase the number of volunteers and donations. As promoted by Fundación Corcovado, its whole motto revolves around striving to protect Costa Rica's natural heritage for future generations, through its sustainable development, by promoting

education and community empowerment, as well as strengthening the protected wildlife areas, and the promoting of tourism. Therefore, Costa Rica's wildlife will benefit from this research.

In terms of the practical application of this research, different types of translation methods and procedures, such as transposition, modulation, omission, amplification, equivalence, adaptation, literal translation, explicitation, compensation, and word for word translation will be used in order to achieve an accurate translation of the target language text. Since this is an inter-linguistic work because the information will appear in the decoding and re-encoding processes will be applied, so that the background knowledge on the texts will be used to figure out the meaning and develop an accurate meaning into the target language text.

#### **1.4 Antecedentes**

It is most likely that when people learn about translation, they immediately think about Google Translates and other programs that are available nowadays. Nevertheless, translation has been used even before the Bible. The word 'translation' comes from a Latin term which means "to bring or carry across." It is known that translation was carried out as early as the Mesopotamian era when the Sumerian poem, Gilgamesh, was translated into Asian languages (Translation House, 2020). This dates back to around the second millennium B.C. In later periods, Ancient Greek texts were also translated by Roman poets and were adapted to create developed literary works for entertainment (Kwintessential, 2020).

As religion developed in the years that followed these days, the desire to spread the word and encourage faith meant that religious texts needed to be available in multiple languages. One of the first translated religious texts is known to have been that of the Old Testament which was translated into Greek in the 3rd century B.C. (Kwintessential, 2020). Religion played such a

critical role in translation development that the church named Saint Jerome as the patron saint of translation. Saint Jerome created a Latin Bible in the 4th century AD. This bible became the predominant text used by the Roman Catholic Church.

The Tower of Babel is a biblical myth found in Genesis 11: 1-9 that describes why people around the world spoke different languages as well as translation's origin. After the flooding, as Earth was being repopulated, a tower was being built in Babylon. This tower was meant to reach heaven and its main purpose was for humans to make a name for themselves. When God saw that the human's intentions and unity were going against God's plan, He decided to confuse people's means of communication, which up until that point was a common language for all mankind, which caused them to speak an innumerable amount of different languages and made it impossible for them to understand each other. (Fairchild, 2019) Ever since this event, it is said that translation had been necessary in order to communicate, understand each other, and bring different cultures together.

As the last antecedent is, the thesis submitted to obtain the Bachelor in English written by Juan Alberto Rodríguez Madriz at UIA. This paper focused on explaining why his specific documents were important for society to translate. One of his translations was for the Costa Rican *Cuerpo de Bomberos*. Through his translation, he wanted to help fireman in Costa Rica applying the same procedures that had proven to work with the fireplace department in the United States of America. His second document focused on helping make awareness to people that had been victims of sex trade and human trafficking. He focused his thesis on a social approach to demonstrate how translation can help communicate a message for social well-being.

Rodríguez concluded that close reading, creating a glossary, checking dictionaries, and working constantly with the translation methods and procedures were of great help for his translations. Close reading helped him identify the general topic the texts to be translated and helped him find the main words and its equivalent in the target language. He informed the reader how important text analysis was in order to help the translator become more familiar with the source text and its elements. Doing so, was a great support for the translator beforehand that helped him to solve issues that may arise along the translation process. The creation of a glossary enabled him to save time, which is a crucial feature for any translator. He also mentioned how normal dictionaries, synonym dictionaries, and technical dictionaries from English to Spanish, and from Spanish to English helped him in the translation process to find the correct term and to gain knowledge and became informed about the topic.

### **1.5 Scope**

The expectation of this thesis is that at the end of the investigation, there will be two translated documents; one, from English to Spanish and the other on, from Spanish to English. Each of them will have specific sections analyzed by using certain translation procedures in order to explain why the translator decided to transfer the message using specific ways.

Nevertheless, some of the limitations that this research and the translating process may have are that some of the vocabulary may be very technical and specific, which can eventually affect overall understanding of the translated document. The biggest challenge is to remain faithful to the original message of the source text, trying to translate it in a way that sounds natural.

The main goal of this thesis is to analyze the effect of the procedures and methods used to translate the documents Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake from Spanish into English and Project summary para traducir from English into Spanish provided by Fundación Corcovado. Also, to contribute to the mission and vision of Fundación Corcovado in trying to promote education and community empowerment, as well as strengthening the protected wildlife areas, and the promoting tourism, so that communities can live in harmony with nature.

## **Chapter II**

### **Theoretical Framework**

In this chapter, the translation procedures and further tools used in order to translate both documents from English to Spanish and from Spanish to English will be defined. Moreover, the reader will learn new definitions and terms that will help them understand the process of analysis and translation of the texts. In addition, the chapter includes information about the importance of glossaries, when transferring meaning from one language to another.

#### **2.1 Text Analysis**

In this section of the theoretical framework, various concepts will be explained, so that the reader is able to carry out a text analysis using the correct forms in order to achieve an accurate target language text. In addition, in order to deliver an optimal translation, it is fundamental to know the texts at its fullest. Newmark (1988) explained that it is important during the source-text analysis stage just to read the entire document in order to understand it and to analyze it from a translator's point of view instead from a linguist's one. By doing this, it is crucial as well to know the style and intention of the text in order to determine which translating techniques can be useful during the translation process.

##### **2.1.1 Text Styles**

There are different types of text styles. In this section, the narrative, descriptive, discussion, and dialogue type of text styles, will be described. The first one is the narrative, whose purpose is to entertain, inform, or express ideas usually through the process of storytelling. In terms of structure, the narrative text usually has five parts, which are exposition, rising action, climax, falling action, and denouement. There are different

narrative subtypes and more structures depending on the complexity of the text like detective or science fiction, memoirs, fables, historical narratives and flashbacks, digressions, and multiple perspectives (Phillips, 2017). On the other hand, the descriptive text is meant to describe, as for example what a person or thing is like and to involve senses through imagery of delicate descriptions. The general structure of a descriptive text includes the identification of the object that will later be described for its colors, features, and more (British Course, 2017).

In addition to the narrative and descriptive text, there is also the discussion text style. The main purpose of this type of text is to find a common ground between two different opinions, thoughts, or ideas. The discussion text will have a problematic discourse, and this will be discussed from different perspectives. This type of writing is generally found in social, philosophical, and even historical genres (British Course, 2017). Finally, as part of the previous three types of text, there is the dialogue text. This is a technique used by writers to engage two or more characters in conversation with one another. Dialogue text is mainly seen in the genre of fiction, but it can also be found in poetry, non-fiction, drama, among others. It helps character development, creates the tone of the narrative, it can create conflict, and in general it makes a literary piece much more enjoyable and interesting (LiteraryDevices Editors, 2014).

### **2.1.2 Stylistic Scale**

When analyzing a text, it is important to recognize different stylistic scales used, this is so because through this the translator can determine the type of text he or she is translating and its intention.

### 2.1.2.1 Scale of Formality

In this section, the scales intimate, casual, consultative, formal, and frozen will be described. The intimate register or scale of formality is a language between close friends, lovers or family, examples of these are the usage of inside jokes where the parties involved have a high level of trust. The casual register is also similar to the intimate one for it is a language between friends with vernacular and loose sentence speech. In contrast to the previous scales of formality, the following registers increase in formality. The consultative one is used in news casts, in work environments between the employee and the employer and it is a less formal standard English. The formal language is commonly used in speeches, in formal meetings, and in school lessons. Finally, the frozen register is a language that never changes like in weddings and events related to the law (Young, 2012).

Moreover, according to Newmark (1988), there are eight types of scales of formality. Taboo being the most informal type and officialese being the most formal one. Newmark provides several examples of phrases that mean the same thing but whose words vary depending on their level of formality. Taboo language is understood to be phrases and words that in certain contexts can be inappropriate. The example provided by Newmark for taboo language is “lay off the fucking nosh”. The usage of the curse word automatically locates the phrase as taboo. Slang language is an informal language that uses specific words that a particular group of people understand; the example given by Newmark is “lay off the nosh.”

The following scale of formality is colloquial language which is a casual and conversational type of communication. The words, expressions, and language used is everyday ordinary language used by common people. The example given in Newmark’s book for this type of language is “You can’t feed your face here.” Going

up the scale, following colloquial language is informal language. Informal language is characterized by spontaneous conversations that come naturally in real life. This type of language is used when people know and feel comfortable around each other, and so their way of speaking becomes more relaxed. The example provided by Newmark is “Please don’t eat here.” This language is still considered informal but not inappropriate for speech or for establishing casual conversation.

Neutral language is the next level in the scale of formality, according to Newmark (1988). This type of language and choice of words does not indicate that the person speaking approves or disapproves of something. “Eating is not allowed here.” This is the example provided by Newmark for this type of language; it sounds general and straight to the point. The following type of language is formal. Newmark’s example is “You are requested not to consume food in this establishment.” This type of language is used in situations where natural language is unsuitable. It calls for the reader’s logical side of the brain. Specific choices of words, as well as attention to grammar and vocabulary are crucial aspects when writing. When formal language is taken to writing no contractions, slang, colloquialism or first-person pronouns are used.

Going up the scale is the official language and the example provided by Newmark is “The consumption of nutriment is prohibited.” Just by reading the example, an evident change of tone and choice of words is seen. Official language is a language given to a country, state, or jurisdiction. Because of its legal and formal status, it is generally used in legal and formal documents. Finally, the last level in the stylistic scale of formality is the official language. Newmark’s example is self-explanatory “The consumption of any nutriment whatsoever is categorically prohibited in this establishment.” This type of

language is meant to impress the reader and increase the authority.

All these levels of scales of formality are the different types of texts a translator can encounter while translating a document. It is important to know how to identify the type of formality, it is in order to deliver an accurate representation of the text in the target language.

### **2.1.2.2 Scale of Generality or Difficulty**

This scale determines the level of complexity of the documents that will be translated. Simple texts have low difficulty of terminology, popular texts have a now a day's life vocabulary, and neutral texts have a balance of complexity and simplicity in its vocabulary. On the other hand, educated language is commonly used in textbooks for educational or instructional purposes. Technical text contains vocabulary that is intended to educate on a particular subject, and which is found in manuals or operator manuals, while opaquely technical texts are writings comprehensible only to an expert (Essays, 2013).

According to Newmark (1988), there are six types of generality or difficulty levels. Simple language is at the first level of the scale. An example can be "The floor of the sea is covered with rows of big mountains and deep pits," as the simple language that he uses is straight forward and does not contain complex vocabulary. By using common everyday words, any type of reader is able to understand the message of the text. Going up the scale is the popular language. "The floor of the oceans is covered with great mountain chains and deep trenches" is an example of this scale as the language is still understandable for the general population, yet it uses more compound words. Following popular language is, neutral language. According to Newmark, this type of language uses basic vocabulary, only it is still easy to understand. His example is "A

graveyard of animal and plant remains lies buried in the earth's crust." All the words are of general knowledge, and it is a sentence that the reader can comprehend.

Moving up the scale of generality or difficulty is the educated language. Newmark's example is "The latest step in vertebrate evolution was the tool-making man." In this example, there is a change in tone making it sound more serious and intended for educational purposes, meaning that it is a type of language where facts are mentioned. Technical language is the following type of language going up the scale. This type of language is meant to be helpful for stating instructions and talking about specific content. Not everyone can grasp the core message of what is being said, for the choice of words become more professional. Newmark's example is "Critical path analysis is an operational research technique used in management." After reading it, only someone who knows about the topic will be able to clearly understand what is being said.

Finally, according to Newmark, the last level of the scale of formality or difficulty is opaquely technical which is only comprehensible to an expert. "Neuraminic acid in the form of its alkali-stable methoxy derivative was first isolated by Klenk from gangliosides". This is the example given by Newmark and after reading the sentence, it is evident that only people educated in the topic will be able to understand the statement. This type of text requires a lot of technical research in order to deliver the exact meaning when translating.

### **2.1.2.3 Scale of Emotional Tone**

There are three types of emotional tones which are the intense, factual, and understandable tone. The intense emotional tone uses abundant intensifiers like "enormously unsuccessful, heartwarming welcoming, absolutely wonderful." The factual emotional tone is a little bit cooler

and uses words like “considerable, personable, and significant.” Finally, the understandable emotional tone is defined by Newmark as cold and the example given is “Not undignified.” In terms of formality and emotional tone, there is an evident correlation for in official style texts the type of emotional tone used is factual, while on emotive texts tend to use slang and colloquialisms. Newmark emphasizes the importance of taking into consideration the impersonality, formality, informality, stiffness, and understatement of certain languages in order to deliver a faithful translation (Newmark, 1988).

### **2.1.3 Text Function**

In order to know what types of translating techniques and procedures to use, it is crucial to know the texts’ function. There are three types, and they will be explained to help the translator define in which way to properly transform the text to its target language without losing the essence of the original text’s function.

#### **2.1.3.1 Informative Text**

Informative texts core is to state facts, realities, theories, and ideas. These types of texts are found in academic papers, textbooks, journalism ,amongst others. It is a non-fiction type of writing whose intention is to inform the reader about a specific topic. According to Newmark (1988), in terms of translation, texts that are about any topic of knowledge and most of the time they are informative, while literary subjects are considered to be expressive. For informative texts, there are certain language features used. It is generally characterized in English by the use of passives, present and perfect tenses in its writing; it has clear and coherent connections to state mostly facts. It can have certain rhetorical questions to engage the reader’s interest and specific examples. It has a very literal language, with the use of

multi-noun compounds, no metaphors, and neutral language.

It has a basic structure that includes an introduction, a development, and a conclusion. It presents information and defines them. It uses formal language focuses on the main topic and go straight to the point. It seeks to be objective, truthful, and not beautiful. It also offers data, definitions, and descriptions of certain phenomena. They offer knowledge or additional knowledge that augment what people already know. (Write Texts, n.d.).

### **2.1.3.2 Expressive**

Expressive writings show feelings and emotions in the mind of the speaker/writer. According to Newmark (1988), there are three types of expressive writings which are serious imaginative literature, authoritative statements, and autobiography/essays/personal correspondence. Serious imaginative literature includes lyrical poetry, short stories, novels, and plays. The most intimate one is the lyrical poetry, for play are meant to be presented to a bigger audience that includes in its language cultural expressions.

The second type of expressive function is the authoritative one. In these types of texts, the reliability and linguistic status stems directly from the author. These texts end up having a personal imprint in them because they come from the voice of a specific author. Some examples of authoritative statements are documents, political speeches, legal documents, philosophical, scientific, academic papers written by ministers, party leaders, or acknowledge authorities.

Finally, Newmark defines autobiographies, essays, and personal correspondence as expressive, anytime they are personal effusions and the readers are a distant background. Newmark states the importance of identifying the type of text a translator will translate, for

an expressive text must be translated with naturalness, for a lot of personal dialect, unconventional syntax, strange words, idioms, metaphors, and colloquial expressions are used.

### **2.1.3.3 Vocative**

The vocative text's purpose is for the reader to act, feel, think, and react to what he is reading. It is a call for action. According to Newmark (1988), vocative texts have an intimate relationship with the readership. The author addresses the reader in a personal manner by using "you", indicatives, infinitives, imperatives, subjunctives, passives, first and/or family names, tags like "please", and all of these to create a specific type of relationship of equality, power, persuasion, command or request. This type of text is found in propagandas, popular fiction, persuasive writings, publicity, and instructions. It is a text that it is immediately comprehensible by the audience/reader because its main purpose is to attract the audience into believing or doing what it is being asked for them.

## **2.1.4 Translation Methods**

In this sections, two types of translation methods will be defined. These have been proven to be the most faithful and accurate ways to effectively translate a document for its target language readers.

### **2.1.4.1 Semantic Translation**

According to Newmark (1988), a semantic translation focuses mostly on the aesthetic value. It targets more on how beautiful and natural the text sounds while compromising the meaning were necessary, so that it sounds better to the target language reader. Newmark also mentions that the semantic translation is likely to translate cultural words to cultural neutral third or functional terms, but not for cultural equivalents. This type of translation is more

flexible and allows the translator's intuitive empathy to develop the documents translation.

#### **2.1.4.2 Communicative Translation**

As stated by Newmark (1988), "It attempts to render the exact contextual meaning of the original in such a way that both content and language are readily acceptable and comprehensible to the readership." Therefore, this method focuses on naturalness and readability. It is appropriate for pragmatic text translations. It gives the translator a freer space to prioritize the message that must be communicated. Communicative translation is supposed to be smoother, clearer, more direct, and conventional. Difficult passages are translated in a more generic manner, so that the message from the source language does not suffer a change in meaning in the target language. Its main focus is that the target text will be understood by the target audience. This method is supposed to display the exact contextual meaning as the source language text in such a way, that the content language meaning is not lost in the process.

Newmark (1988) says that semantic and communicative translation are the two methods that fulfil the two main aims of translation, that is, accuracy, and economy. A semantic translation is more likely to be economical even if at the end the text is poorly written. A communicative translation is focused on the readership while a semantic translation is written at the author's linguistic level. A communicative text is used to translate informative and vocative texts while the semantic translation is used for expressive texts. They both treat items in a text similarly like dead metaphors, technical terms, slang, normal collocations, standard notices, and ordinary language. In expressive texts, cultural components are transferred intact. In informative texts cultural components are transferred and explained with neutral terms, and in vocative texts they are replaced by equivalents.

Newmark also states that the communicative translation is social, concentrates on the message and on the main force of the text. It tends to be simple, clear, brief, and under-translated and is written in a resourceful and natural style; that is why the translation is often better than its original. On the contrary, the semantic translation is normally inferior to its original and focuses on following the thought process of the author, it tends to over-translate and aims to reproduce pragmatic impact.

## **2.2 Translation Procedures**

When translating, the translator must make some executive decisions in order to create a text that is first and foremost, accurate both semantically and communicatively to enhance its validity towards the potential readers. This section of the theoretical framework will describe the types of procedures that will be used to analyze the final translated document.

### **2.2.1 Transposition**

This method involves a grammar change from the source to the target language. There are an abundant number of shifts and transpositions that one encounters in the process of translation. An example of this would be a shift in the position of an adjective, for example in Spanish one would say “ojos verdes” which translated into English it would change to “green eyes”.

Another type of transposition is the change from singular to plural for example in “furniture” in English changes to “muebles” in Spanish. English gerunds are often translated in the target text by verb-noun, a noun infinitive, subordinate clauses or infinitives. Another type of transposition occurs when the literal translation is grammatically possible in the target language but does not sound natural; in this case, the translator must find alternative

translations that will better fit the target reader. According to Newmark (1988), the replacement of a virtual lexical gap by grammatical structure is another important type of transposition. Transposition is the only procedure that deals with grammar. Newmark considers that transposition is a combination of stress and grammar, and that sometimes it is necessary to retain the word order so that the stress in the text is preserved.

### **2.2.2 Modulation**

Modulation has several definitions, one of them was given by Vinay and Darbelnet (1988) as “A variation through the change of viewpoint, of perspective and very often of category of thought.” Newmark (1988) remarks that “It occurs when the translator reproduces the message of the original text in the TL text in conformity with the current norms of the TL, since the SL and the TL may appear dissimilar in terms of perspective.” This means that there is a variation of the form of the message, found by a change in the point of view. It takes place when the transposition or literal translation is grammatically correct but does not sound natural.

There are many types of modulations, an example is when there is a change from positive to negative or vice versa. This type of modulation is considered to be Newmark's most important one. An example of this is in English “Summer isn't far away” would change to Spanish as “El verano se aproxima.” The other types of modulation are abstract for concrete, cause for effect, one part for another, reversal of terms, active for passive, space for time, intervals and limits and change of symbols. Newmark also mentions that active for passive and reversal of terms are one of the most common modulations that translators encounter and usually make the language sound more natural.

### 2.2.3 Omission

According to Newmark (1988), omission is used to omit words or sentences because of different constructions in the two languages. By removing those words, meaning should not change. Changes are barely syntactical yet not grammatical. An example of this is the omission of the auxiliary verb **can** plus an infinitive. In English the sentence is “This problem can be solved in two days,” when translated into Spanish it would change to “**Este problema se resuelve en dos días.**”

Vinay and Darvelnet define omission as the process of dropping a word from the source language while translating. This can happen because of cultural clashes in which the translation has to look for equivalents. If there are no equivalents, the translator may choose to omit the word. They also mention an example which is that Arab translators tend to omit English taboo words like ‘shit’ and ‘fuck off’ (and their variations) for the sake of respecting the Arab culture and readers because these words are generally not tolerated by their culture (Dabelnet, 1958)

### 2.2.4 Amplification

This procedure inserts words or phrases that will help understand better the meaning of the message. This is done by describing and adding additional information that will not alter the original message. In other words, this procedure helps “to neutralise or generalise a SL cultural word by using a description” (Newmark, 1988). An example of this is the amplification of a verb like “to endanger” from English into Spanish which stands for “**poner en peligro.**”

Amplification is also defined as extending a phrase or sentence to further explain, exaggerate certain aspects, emphasize certain points of a definition, argument, or

description. This additional information is added in order to strengthen an important point in a speech. It helps exaggerate and/or persuade comedies, serious, or argumentative intentions. In creative writing when amplification is used it helps draw attention to the most compelling, thought-provoking, vivid sections of the narrative, and really highlights what is important (Literary Terms, 2015).

### **2.2.5 Explicitation**

This method is similar to amplification for more words are added when terms are unknown in the target language and additional information is necessary to describe and explain the source term better. An example given by Vázquez Ayora (1988) is “to help resolve the basic question of delegation” which translated into Spanish would be “**para resolver los problemas básicos de la delegación de poderes.**”

### **2.2.6 Literal Translation**

This type of translation is known as a word for word translation in a way that it does not alter the meaning of the source and target language. “The SL grammatical constructions are converted to their nearest TL equivalents, but the lexical words are again translated by themselves, out of context” (Newmark, 1988). Moreover, literal translation renders a translation of a text from one language to another one word at a time without focusing on conveying the real meaning and message of the original text. This type of translation is sometimes used for more technical, scientific, legal, and technological texts. It tends to sound stiff, and it becomes harder for the reader to understand the meaning of the text.

Structural literal translations are a type of literal translation where the structure, word order, punctuation, and exact phrasing is maintained from the source language. These are often hard to find in a text because they generally do not necessarily result in grammatically

wrong phrases; they produce correct phrases but with a hard-to-understand meaning. To exemplify how inaccurate literal translation can sometimes be is when translating idioms. If idioms were translated or had to mandatorily be translated in a literal manner, they would make no sense at all in the target language. An example of this is the expression in Spanish “**póngase las pilas**” literally translated word for word in English would be “put your batteries on” but whose real meaning is “Work hard”. Literal translations generally occur in small sections of a translation process that makes sense in the target language text (RWS, 2018).

### 2.2.7 Punctuation Changes

Punctuation is vital in the process of translation in order to attract and keep the reader’s attention. Correct punctuation shows where boundaries are meant to be to help the fluidity while reading the text (1988). Being able to correctly punctuate helps deliver the correct meaning, tone and intention of the source language text. Therefore, it is important for a translator to focus on the punctuation of both, the source and target text, because they can change the meaning of the original text. The translator must also revise and check the punctuation of the source text to understand by context what the real meaning is that the author is trying to convey. An example of this is the following. If the source text in English says, “today we will learn how to cut kids” but by context, the translator is able to understand that the message is not to cut kids, but to show the children how to cut. The translator must correct the source language text to “today we will learn how to cut, kids” for if this was not corrected it would be translated in Spanish as “**hoy aprenderemos a cortar a los niños**” instead of being “**hoy aprenderemos a cortar, niños.**” Punctuation must be taken into microscopic analysis in both documents during the translation process because they can also change the original meaning.

### 2.2.8 Compensation

Compensation will help the translator immensely since it will give him an option when something cannot be translated from the source to the target language, and the meaning is lost in the immediate translation, and expressed somewhere else in the target text. Facett (1997) defines it as "...making good in one part of the text something that could not be translated in another." An example of this would be in the source text in English of the phrase "moderate exercises" is translated to a more explained version in the target language Spanish as "**personas que hacen ejercicio moderadamente**". We can notice that in order to create the same effect of the phrase in English into the target language, it is necessary to give more context since there is not a phrase in Spanish that may substitute the exact same word of the source language.

### 2.2.9 Equivalence

The equivalence, according to Vázquez Ayora (1997), is an extreme case of modulation. It can be said that there is a transition between them; therefore, middle grounds, in other words, changing an idiom for another one in the target language. Examples of this would be, "I wouldn't give a nickel for either one of you." Translating this phrase to the target language would be "**...no doy un níquel por ninguno de los dos.**" The translator found this middle ground in which using the version of this idiom in the target language allowed them to translate. Another example would be, "What a hell of a fellow!" the phrase used in the target language would be, "¡Qué típazo!"

### 2.2.10 Adaptation

According to Vázquez Ayora (1997), adaptation is a form of transference in which the message is expressed with another equivalent situation. Something specific to the source

language culture is expressed in a totally different way that is familiar or appropriate to the target language culture. An example of this is when in a restaurant menu in a Spanish tourist resort the word "**pincho**" is translated as a "kebab" in English. Usually, it does not convey a message or an idea that will help the translator to find its equivalence. Another example would be "outdoor exercises" and its translations would be "**ejercicios que se hacen afuera**".

### **2.2.11 Borrowing**

This means taking words straight into another language (Salgado, 2018). Borrowed terms often pass into general usage, for example in the fields of technology ("software") and culture ("punk"). Borrowing can be used for different reasons, for instance if the target language has no (generally used) equivalent. For example, the first man-made satellites were Soviet, so for some time they were known in English as "sputniks" Also, as another example, Spanish IT is full of terms like "soft[ware]", and Spanish accountants talk of "overheads", even though these terms can be translated into Spanish.

### **2.2.12 Calque**

Calque is a special type of borrowing where one language takes an expression from another and then a word for word translation is done (Vinay and Darbelnet, 1995). Sometimes calques work, sometimes they do not. There are two types of calque; lexical and structural.

According to Vinay and Darbelnet, a lexical calque respects the syntactic structure of the target language; whereas the structural introduces a new construction into the language (1995). You often see them in specialized, internationalized fields, such as quality assurance examples of this: **aseguramiento de calidad**, assurance qualité, qualitätssicherung, weekend, **fin de semana**, science-fiction, **ciencia ficción**.

### 2.2.13 Sentence Inversion

Sentence inversion is any of several grammatical constructions where two expressions switch their canonical order of appearance, that is, they invert (Birner, B. 2018). There are several types of subject-verb inversion in English: locative inversion, directive inversion, copular inversion, and quotative inversion.

### 2.3 Glossaries

During any translation process, the discovery of new words and their meanings in those specific context will arise; therefore, it is important to have a glossary from each original text in Spanish and in English. This will help the process of translation to be faster and more accurate, plus as an additional benefit, it will help the translator gain knowledge on new words and their meanings. A glossary is a list of terms in a specific subject accompanied by definitions and explanations. It is generally located at the end of any book, and this is because they are words that pertain to that specific and particular subject. (Encyclopedia.com, n.d.).

Glossaries are different from dictionaries because dictionaries are more general collections of words while glossaries have terms that enhance the comprehension of a specific topic. The term glossary is derived from the Greek word **glossa** which originally identified a body part, the tongue. It later changed to signify a word that was foreign, either to define what it means in another language or what it technically means. These specific types of words are called jargon. They are specific to that topic or subject. They can also include photographs to intensify and further explain its meaning. (Study, n.d.) They help the reader understand key terms, phrases, detailed concepts, describes abbreviation, and more. Every term must be defined at its fullest in order to help the reader understand what a phrase and term exactly means. It must have solid information that is relevant and benefiting to the

reader. The creation and keeping up to date a glossary of words, phrases, and terms helps remove ambiguity for translators. This guarantees that each time a key term appears, it is used consistently and correctly.

### **2.3.1 Relevance for the translator**

Since the main objective in this dissertation paper is to achieve accuracy from Spanish to English, and English to Spanish, it is fair to say that terminology and concepts are a very crucial part of the work that is done. It is completely necessary to have in hand all these concepts that will help the translator to achieve accuracy in the target language. A glossary will function as a work aid to the translator, helping him/her to go over the terms that are unknown or just remembering what they mean.

### **2.3.2 Relevance for the translation process**

Translations should be created before any process of translation. This will save time, reduce errors, ensure consistency and provide peace to both the translator and the client that the document translated will be done according to the agreed guidelines. Glossaries should be specific and contain key terms that are relevant in the documents. They should include abbreviations, acronyms, terms that should not be translated, and repetitive words that are key to the understanding of the document (TML, n.d.)

### **2.3.3 How to create a glossary**

In order to create glossary, there are a few aspects that need to be taken in consideration, such as the requirements like, content and its format. According to, Gapper (2008) in her book *Manual de Gestión Terminológica*, in order to create a glossary the author needs to start by analyzing each case specific ally, and it is necessary to acknowledge the macrostructure and the microstructure. The first will help the author to decide whether it is important to leave notes for

the reader, to make a chart of the abbreviations used or appendixes, and if it will be divided by language. The second, will help the author design the structure of the terms.

These are the steps needed in order to create a glossary:

- 1) **Determine the nature of the glossary:** Who it is? who the reader would be? what the use of it will be? where, and when will it be used?
- 2) **Define the content of the glossary:**
  - A) **Which terms can be included:** topic or specific field, terms not found in a dictionary, topic comprehension, words, expressions, affixes, and so forth.
  - B) **Information that may be included in the glossary about each term:** word or phrase, grammatical category, definition or explanation, equal target language, equal source language, positioning of the target language, idioms and expressions related to the term, synonyms, and antonyms.
  - C) **Additional information about some terms:** field, use or restrictions, chronological, geographical, and sociological intent. Gender, singular/plural, transitive/intransitive, orthographic options, use, illustrations or photographs, scientific name and commercial name.
- 3) **Define the format:** order of the terms, order of the aspects in each article, type of font, size, and so forth.

## Chapter III

### Methodological Framework

In this chapter, it will be explained how the analysis of the procedures and methods used to translate some documents provided by Fundación Corcovado will take place. In addition, it is provided the kind of research approach that will be used, as well the research design, information sources used throughout the research, the different instruments used to achieve it, and how the data will be collected. According to the Info Sci-Dictionary, a methodological framework is an “Approach for making explicit and structuring how a given task is performed” (2013, p. 1871).

#### 3.1 Research Approach

A research approach is defined, according to Creswell and Plano Clark, as the plans and procedures for a research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation. Moreover, the overall decision involves which approach should be used to study a topic (Creswell et al., 2008, p. 3). Two types of research approaches can be used, those being qualitative and quantitative. In this dissertation, due to the nature of the translation, the qualitative approach will be the most appropriate.

The qualitative research, according to Creswell, is "An approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (2011). Some of its characteristics involve rising questions and procedures, data typically collected in the participant's setting, processed data analysis moving to general themes, and the researcher making interpretations of the meaning of the data. Moreover, it includes narrative description, identification of major subjects and topics, and generalization. On the other hand, the quantitative research, according to Creswell, is "An approach for testing objective theories by

examining the relationship among variables" (2011). These variables, as mentioned before, can be measured on instruments, so that numbered data can be analyzed using statistical procedures. As it is a research-based on numbered data, its final report will have to include assumptions about testing theories deductively, just as the qualitative, building in protections against bias, controlling for alternative explanations, and being able to generalize and replicate the findings.

Moreover, this research will have a qualitative approach since the translations of the documents will be analyzed with certain methods and techniques, and as it was mentioned before, the qualitative research includes exploring and understanding the meaning that individuals or groups ascribe to a social or human problem. Therefore, understanding which method and technique used in the translation will shed light to a better understanding of the process of translation in depth.

### **3.2 Research Design**

A research design is a type of inquiry within the qualitative, the quantitative, and the mixed methods that provides specific direction for procedures in research design. Others have called them strategies of inquiry (Denzin & Lincoln, 2011). The research design that will be used in this investigation is the phenomenological research, which is a design of inquiry coming from philosophy and psychology, in which the researcher describes the lived experiences of individuals about a phenomenon as described by participants (Giorgi, 2009; Moustakas, 1994). This description culminates in the essence of the experiences for several individuals who have experienced the phenomenon. This design has strong philosophical underpinnings and typically involves conducting interviews.

### 3.3 Information Sources

Information sources are crucial for the development of quality research and literary analysis. The purpose of this project and according to the validation of the Oxford Dictionary, information has been defined as "facts provided or learned about something or someone" (Oxford Dictionaries, 2017). On the other hand, sources have been defined as either "a place, person, or thing from which something originates or can be obtained" or "an entity that provides information" (Oxford Dictionaries, 2017). Both definitions have a direct correlation, as they refer to the acquisition of particular knowledge, taken from a specific origin. The quality of the research and, in this case, the project development is heavily dependent on the quality of the sources of information used as a reference, for example in Chapter II, while giving the reader the definitions and terms to comprehend better these techniques. The two sources of information that will be used in this investigation will include the secondary and tertiary sources of information; the various examples of these kinds of sources will be outlined and defined to show their use in the research development.

First, the Harvard Library defines primary sources of information as "sources that provide first-hand testimony or direct evidence concerning a topic under investigation" (2017). These sources are determined by being first-hand information, either seen or witnessed or by the experience gathered in a direct and personal account or form. Primary sources are often considered of great value, as they provide direct insight into a pertinent topic. They are considered crucial mediums because of the great analytical value that can be retrieved from them. These types of sources tend to be produced upon a determined occurrence of activities. They can include autobiographies, memoirs, and oral history. Other sources of primary information include original documents, which encompass diaries, speeches, manuscripts, letters,

interviews, official records, pamphlets, meetings notes and footage, creative works such as poetry, drama, and novels, along with relics and artifacts.

Moving forward, the secondary sources are "sources created by someone who did not experience first-hand or participate in the events or conditions being researched" (Harvard Library, 2018). Although, secondary sources are not gotten from a direct experience, they heavily rely on research and a critical analysis of what can be substantiated and used. Some examples of secondary sources are encyclopedias, textbooks, and articles, such as literature reviews. Lastly, there are tertiary sources which are sources that "index, abstract, organize, compile, or digest other sources" (University of Minnesota Crookston, 2017). Some reference materials and textbooks are considered tertiary sources when their chief purpose is to list, summarize or simply repackage ideas or other information. Tertiary sources are usually not credited to a particular author.

In this research, the information sources that will be used are the secondary and tertiary. The secondary sources will be mainly in the form of books and digital information. In addition, the textbook by Peter Newmark and other authors, investigations about translation and procedures of translation from booklets have been used to proceed with the techniques and deliver a natural and accurate translation. As a tertiary source, some theses written by some students.

### **3.4 Analysis Categories**

Taking in consideration that this is a qualitative project the main variables will be explained as follows.

### **3.4.1 Translation**

According to Malmkjær, translation can be defined in terms of sameness of meaning across languages (2011). Translation refers to written information and it is the communication of meaning from one source language to another language, the target language. Translation has been around for centuries, and it started ever after the appearance of written literature. Nowadays, organizations around the world rely on translators to help them translate documents, label documentation, promotional material, and more, while conveying the original message taking cultural and regional differences into account while translating into the target language. Because of sophisticated tools and technology, modern day translators have better access to software tools that help them deliver much more work done in less time.

### **3.4.2 Translation Procedures and Methods**

In order to deliver well-written translated documents, the translation procedures are necessary. Translation methods are the different ways that a document can be translated. Newmark divided them into two mayor sections, translation method with the source language as the emphasis, word-for-word, literal, faithful and semantic translation, and translation method with the target language as the emphasis, adaptation, free, idiomatic, and communicative translation. They all try to remain faithful to the document, but the mayor difference between all of them is how much permitted change in words or context can be allowed. On the other hand, translation procedures are used for sentences and smaller units of language while translation methods are focused on the message of the whole text. Translation procedures depend on a variety of contextual and grammatical factors (Newmark, 1988)

### **3.4.3 Glossary**

According to Cambridge Dictionary, a glossary is an alphabetical list with meanings of the words or phrases in a text that are difficult to understand. The glossary is the final variable that will be used for this thesis; two glossaries will be made by taking difficult terms from each original text. They are highly important for translators because the words chosen can allow the translator to have a general idea of the type of technical complexity or context the text may have. It also helps to have a quicker understanding of words that are not as common for the reader.

### **3.5 Data Collection Instruments**

Data collection is the process of gathering information that will enable the previous stated research questions to be answered. Such instruments are used to collect information that will guarantee the integrity of the research. By having appropriate data collection instruments and clear instructions will reduce the possibility of errors in the process (Essays UK, 2017).

#### **3.5.1 Color Coding**

The first instrument that will be used during the translation process and that is necessary in order to analyze the text is the color coding. This procedure will be used to analyze fifteen selected paragraphs from each document and every single one of the thirteen procedures mentioned in Chapter II must be used to analyze each translated text. The thirteen colors that will be used are green, blue, yellow, red, orange, pink, violet, navy blue, light blue, teal, gray, dark yellow, dark red; for the following translation procedures respectively transposition, modulation, omission, amplification, explicitation, literal translation, punctuation changes, compensation, equivalence, adaptation, borrowing, calque, and sentence inversion. When analyzing the selected

fifteen paragraphs from each document, the color-coding process will help to explain and understand the choices made.

Transposition	Compensation
Modulation	Equivalence
Omission	Adaptation
Amplification	Borrowing
Explication	Calque
Literal translation	Sentence inversion
Punctuation changes	

*Color-coding. Source: researcher's own creation*

### 3.5.2 Glossaries

The second instrument is the glossary. This is an essential part in any translation process given that new words will be used throughout the document. Two bilingual glossaries, one from Spanish into English and other from English into Spanish. The table will have 30 rows and four columns. The header of the table, row 1 and column 1 will have the name "Source Language," column 2 "Grammatical Category," column 3 "Target Language," and column 4 "Short Definition". They will all be written in bold and the color of the header will be gray. Starting from row 2, column 1, the words or word pairs chosen will be listed and organized alphabetically.

	Source Language	Grammatical Category	Target Language	Short Definition
1.				
2.				
3.				

*Glossary. Source: researcher's own creation*

### 3.5.3 Text Analysis Chart

In order to deliver natural and accurate translations in any target language, the usage of text analysis instruments is a helpful tool in the process. The following chart helps the translator to analyze deeply both texts from English to Spanish and from Spanish to English. The chart that will be used to analyze the text will be described below in terms of criteria and format. The text analysis chart will be composed of seven rows and three columns. The size and font will be 12 and Times New Roman. The first row, column number one, contains the name Text analysis. Still on row one, columns two and three, the names of the documents that will be translated will be placed in bold letters, starting with “Para traducir project summary” and “Plan de gestion de riesgos playa Rincon de Drake - Para traducir.”

In the second row, first column, the name “Text style” will be written in bold and blank spaces will be left on column two and three, for them to be filled with either argumentative, dialogue, narrative or descriptive, argumentative, or dialogue. These choices will depend on the characteristics that each text contains. In the third row the name “Text Function” will appear in bold and blank spaces on the left, columns two and three, will be left for them to be filled with either, vocative which tries to make the reader react towards the text, expressive if the texts is faithful to the author’s thoughts or informative if it only states facts.

In the fourth row, the words “Stylistic Scale” will be written on the first column and in the blank spaces next to it, the type of stylistic scale found in the text must be mentioned. Under the word “Stylistic Scale,” the word formality will be written in bold letters and next to it, the blank spaces will be filled with either official, formal, neutral, informal, colloquial, slang and/or taboo. Under the word “formality” the words “generality or difficulty” will be written, and in the blank spaces next to it, row six, columns one and two, it will be filled with the corresponding types like simple, popular, neutral, educated, technical and opaquely technical. Finally, in the last row, the word “Emotional Tone” will be written in bold and in columns two and three depending on each text words like intensive, warm, and factual will be written.

<b>Text Analysis</b>	<i>Para traducir project summary</i>	<i>Plan de gestión de riesgos playa rincón de Drake - Para traducir</i>
<b>Text Style</b>		
<b>Text Function</b>		
<b>Stylistic Scale</b>		
<b>Formality</b>		
<b>Generality or Difficulty</b>		
<b>Emotional Tone</b>		

*Text analysis chart. Source: researcher's own creation*

### **3.6 Collection Data Process and Data Analysis**

As previously stated in each instrument, the data will be gathered through three instruments: the color coding a glossary, and text analysis. The usage of color coding helps the translator to learn what procedures were used in order to have a natural and accurate translation. The importance of color coding is that it breaks the language barrier, so it is easier for people to

associate colors with a specific method. It helps to recognize patterns and it also enhances meaning. In this investigation, this will be helpful while analyzing the fifteen paragraphs from each document. Moreover, the glossary is a tool that helps to acquire vocabulary and facilitate communication between the translator, author, and reader in the process of reading the document and understanding its meaning. By having all of these as tools to collect data, it will make the analyzing process of the texts much easier.

Finally, by having the text analysis, the translator will have a deeper understanding of the type of text they are working with. The translator must have a complete understanding of the topic, the possible people that may read the document, the age-range of the people and the main purpose of the work itself. All of this is necessary, so that the translation remains faithful to the original message. Once a translator has truly and deeply analyzed the text, it will become easier for him to make his own interpretation and assumptions of what it is being said.

## Chapter IV

### Translations

#### 4.1 Translation from English to Spanish

##### B. Resumen del proyecto

**Nombre del programa:** Programa para la conservación de tortugas marinas de la Fundación Corcovado

El programa para la conservación de tortugas marinas de la Fundación Corcovado utilizará un modelo verificado por la comunidad para proteger a las tortugas marinas que anidan en el Refugio de Vida Silvestre Río Oro (8.429208, -83.418982) y apoya el desarrollo sostenible de comunidades locales con las que las tortugas interactúan. El objetivo se realizará mediante tres áreas de trabajo complementarias. Estas son: 1) la conservación de las tortugas marinas, 2) educación ambiental y 3) el desarrollo responsable de comunidades turísticas.

Desde el 2006, el programa ha protegido el 90% de los nidos de las tortugas en Bahía Drake en la Península de Osa. A través del establecimiento de una asociación para la conservación de la tortuga local y la implementación de la educación ambiental en 14 escuelas del área, el programa tuvo éxito al cambiar las actitudes de lugareños hacia sus recursos naturales (Le-Garec *et al.* 2010, James 2014, James & Melero 2015). Con el apoyo de la Fundación Corcovado, la asociación local desarrolló su propia red de familias anfitrionas, programas de voluntariado, varias excursiones hechas por la comunidad y además se está preparando para asumir la responsabilidad total ante el intento de la conservación de Bahía Drake en 2016.

Al haber presenciado estos logros en Bahía Drake, el Ministerio del Ambiente y Energía (MINAE), Conservación Osa y la Conservación de Tortugas Marinas de Corcovado (COTORCO) invitó a Fundación

Corcovado para liderar con el intento de proteger a la población de tortugas en el Refugio de Vida Silvestre Río Oro.

Numerosos estudios preliminares han identificado la necesidad de proteger el hábitat de anidación de la tortuga marina del Refugio de Vida Silvestre Río Oro, haciendo notar un número creciente de nidos de la tortuga verde del Pacífico Oriental (*Chelonia mydas*), la más grande población de anidación de la solitaria tortuga golfinia (*Lepidochelys olivacea*) en la región, y el aumento en la incidencia de caza furtiva y depredación por parte de los perros. (Drake 1996, Govan 1998, Bedoya & Nahill 2000, Chacón 2002, Bernal Castro *et al.* 2013). Ha habido varios intentos exploratorios para proteger la playa desde 1994; sin embargo, la reducción en el tamaño de la población del lugar en los últimos 20 años, más la falta de voluntad o fondos por parte de las organizaciones de conservacionistas y los participantes lugareños ha excluido el establecimiento del proyecto permanente en el sitio. Inquietantemente, a pesar de su importancia, la playa permanece abandonada y es el único y principal hábitat de anidación en la Península de Osa sin rutinas monitoreadas o protección alguna.

El programa ya obtuvo una subvención de \$31,230 dólares por parte de Pacsafe para establecer un nuevo proyecto en el Refugio de Vida Silvestre Río Oro y es en las etapas finales cuando se obtiene el permiso de MINAE para operar en el sitio. El programa también logró el acuerdo con el propietario de la tierra local de acuerdo a los permisos de construcción y accesos, y fomentó las colaboraciones con la Conservación Osa, COTORCO y varias organizaciones de voluntariado. Toda la logística y preparaciones están listas para comenzar a proteger el mar y las tortugas marinas en el sitio durante la temporada de anidación de 2015-2016; no obstante, aún no se han obtenido los fondos suficientes.

El programa busca partidas presupuestarias como soporte financiero por parte del Fondo de Conservación de Tortugas Marinas del Servicio de Pesca y Vida Silvestre de EE. UU. para apoyar con la creación y entrega

de un proyecto de conservación permanente en el Refugio de Vida Silvestre Río Oro. Estos fondos se usarán específicamente para investigar y proteger las anidaciones de las tortugas golfinas.

El proyecto propuesto llevará a cabo patrullas nocturnas de la playa Río Oro, monitorearán y etiquetarán a las tortugas golfinas, se determinará la distribución temporal y espacial de los nidos, y recolectarán información de referencia para evaluar y cuantificar los impactos de actividades antropogénicas (por ejemplo, el cambio climático, caza furtiva y depredadores) en la producción reproductiva de las tortugas golfinas que anidan en la región. El proyecto también reubicará una muestra de nidos de tortugas golfinas en un criadero, determinará la incidencia actual de caza furtiva y depredación no natural e intentará mantener esta tasa por debajo del 25% de los nidos.

El proyecto se involucrará con las comunidades vecinas a través del empoderamiento de la asociación local de tortugas, COTORCO, y desarrollará la capacidad a través de una serie de talleres de capacitación y ejercicios de planificación estratégica y ofrecerá turnos de patrulla nocturna contratados regularmente.

El proyecto también implementará educación ambiental en las escuelas locales, mantendrá un grupo de jóvenes lugareños y creará conciencia sobre la difícil situación de las tortugas marinas en dos festivales.

## **C. Narrativa del proyecto**

### **1. Contexto socioeconómico**

La Fundación Corcovado está comprometida con la conservación y el desarrollo sostenible de la Península de Osa, la cual es considerada la última frontera salvaje del país y uno de los lugares con mayor biodiversidad de la Tierra. Este remoto rincón del país alberga el 2,5% de la biodiversidad de todo el planeta en un área de la mitad del tamaño de Rhode Island. También es la única región restante que queda a lo largo de la costa del Pacífico de Costa Rica donde el 'ecoturismo' sigue siendo el modelo de turismo predominante, sin embargo, actualmente se encuentra al borde de una expansión inevitable de la industria durante la próxima década que tiene el potencial de amenazar gravemente o garantizar

positivamente la integridad del patrimonio natural local. (CREST 2010). Al mejorar la protección de una especie clave en peligro de extinción y una fuente de ingresos demostrablemente lucrativa del ecoturismo: la tortuga marina, el programa utilizará un modelo probado de conservación liderada por la comunidad (Le-Garec et al. 2010, James 2014, James & Melero 2015) para reducir el uso consumista de tortugas marinas mientras que se facilita el desarrollo de iniciativas de turismo responsable Río Oro y Carate.

La Península de Osa está ubicada en la segunda provincia más pobre de Costa Rica. El sector primario (agricultura y ganadería) es la principal fuente de ingresos de las comunidades, estimado en 52,6% de ocupación laboral. El índice de desarrollo humano para la Península de Osa se estima en 0,67% y la tasa de pobreza en 40,4% (PNUD Costa Rica). Hay pocas opciones económicas disponibles para aquellos residentes que no tienen acceso a los trabajos cualificados que ofrece la floreciente industria del turismo, y el uso extractivo de los recursos naturales locales para generar ingresos es común e insostenible. La Fundación Corcovado tiene un historial comprobado de creación de alternativas socioeconómicas viables para los residentes locales en la Península de Osa. En 2005, la Fundación Corcovado construyó cinco nuevas estaciones de guardabosques que bordean el Parque Nacional Corcovado, creó más de 50 nuevos empleos permanentes y contrató a 75 empleados (55% de la fuerza laboral del Área de Conservación Osa (ACOSA) de 2005 a 2007. Hasta el momento, el Fundación Corcovado ha administrado más de \$ 3,000,000 dólares en fondos para apoyar las áreas protegidas de ACOSA. Desde el 2010, el programa en Bahía Drake ha otorgado \$ 27,147 dólares en salarios a coordinadores locales y líderes de patrulla (la mayoría de los cuales eran ex cazadores furtivos de huevos), más de \$ 3,000 dólares en subvenciones para equipos a la asociación local de conservación de tortugas marinas y ha generado \$ 63,324 dólares en ingresos para las familias anfitrionas, a cambio de proporcionar alojamiento y comida a los voluntarios internacionales (James 2014, James et al. 2014).

### **El estado actual de la población de tortugas marinas**

Según estudios preliminares, las playas (de norte a sur) de Carate, Río Oro, Pejeperro y Piro reciben entre 3,000 y 4,000 tortugas anidadoras cada temporada, de las cuales la playa Río Oro recibe alrededor del 70%, supuestamente por su inclinación favorable y el tamaño del grano de arena, mínima madera flotante y ausencia de contaminación lumínica (Drake 1996, Govan 1998, Bedoya & Nahill 2000). E, las playas de Carate, Pejeperro y Piro son monitoreadas por la Conservación Osa (Bernal Castro et al. 2013) (ver mapa en la sección 9).

Se informa que las cuatro especies de tortugas marinas que se encuentran en el Pacífico Oriental anidan en la región: principalmente tortugas golfinas (*Lepidochelys olivacea*) y tortugas verdes marinas (*Chelonia mydas*), pero también tortugas laúd (*Dermochelys coriacea*) y carey (*Eretmochelys imbricata*) en mucho más pequeñas cantidades. La tortuga golfina es, por mucho, la más abundante (temporada alta de anidación: julio - enero), y entre 1994 y 1998 un promedio de solo el 2% de los nidos depositados fueron identificados como pertenecientes a la tortuga verde marina (temporada alta de anidación: noviembre - Marzo) (Drake 1996, Govan 1998). Sin embargo, esta proporción ha aumentado considerablemente desde entonces. Si bien faltan datos contemporáneos sobre la playa de Río Oro, en las playas adyacentes se informa que 300 (22%) de los nidos identificados desde julio de 2012 hasta junio de 2013 pertenecían a Pacific Greens (Bernal Castro et al. 2013). Dada la superioridad histórica de la playa Río Oro en términos de frecuencia de anidación, estos datos sugieren que el Refugio de Vida Silvestre Río Oro puede ser el hábitat de anidación más importante para la tortuga verde marina en la costa del Pacífico Sur de Costa Rica.

Sin el conocimiento de la producción reproductiva de las tortugas verdes marinas que anidan en el Refugio de Vida Silvestre Río Oro y sus impulsores de mortalidad, es difícil comprender la importancia general de esta región para la población de tortugas verdes marinas y orientar eficazmente los esfuerzos de gestión.

Para abordar esta brecha de conocimiento, el proyecto propuesto describirá el entorno de anidación temporal y espacial, cuantificará el éxito de eclosión y emergencia de los nidos, identificará los factores que afectan las tasas de eclosión y emergencia (tanto actuales como futuras) y propondrá estrategias de gestión que podrían mitigar la mortalidad y aumentar el éxito de la eclosión en la región.

Aunque el Refugio de Vida Silvestre Río Oro está catalogado como una de las áreas protegidas de ACOSA, la falta de financiamiento gubernamental ha limitado su capacidad para responder a las numerosas amenazas ambientales que plantean las actividades humanas ilegales que afectan los 4,305 km<sup>2</sup> (1,662 mi<sup>2</sup>) dentro de su jurisdicción, y la agencia ha tenido que priorizar el abordaje de la caza, la extracción de oro y la tala ilegal. ACOSA ha invitado específicamente a la Fundación Corcovado a establecer un proyecto de conservación de tortugas marinas en el Refugio de Vida Silvestre Río Oro para abordar la necesidad urgente de proteger a la población anidadora, pero también para ayudar con la capacitación de su personal en metodología de conservación de tortugas marinas. En 2007, un documento estratégico titulado 'Programa de monitoreo ecológico de áreas protegidas y corredores biológicos' (PROMECA 2007), fue elaborado por el MINAE en colaboración con The Nature Conservancy y la Universidad de Costa Rica (UCR), estableciendo indicadores y protocolos para la conservación de tortugas marinas en Costa Rica. ACOSA ha identificado la necesidad de evaluar el alcance de estos indicadores y hacer recomendaciones de ajustes a los protocolos con el fin de servir mejor al entorno específico de ACOSA. Un objetivo final de estas actividades es desarrollar un plan estratégico para la conservación de las tortugas marinas en la Península de Osa, utilizando indicadores comunes y adoptando una metodología estandarizada y protocolos de recolección de datos.

## 2. Metas y objetivos del proyecto:

### Misión

Promover la conservación y recuperación sostenible de las tortugas marinas que anidan en el Refugio de Vida Silvestre Río Oro y al mismo tiempo atender a las necesidades de las comunidades locales a través de la creación de alternativas socioeconómicas viables al uso consumistas de este recurso.

### Visión

El Programa prevé una asociación comunitaria unida e inclusiva que asuma un papel de liderazgo en la gestión de la conservación de las tortugas marinas que anidan en sus playas, utilizando una metodología estandarizada adaptada específicamente a la Península de Osa, y que sus miembros se beneficien financieramente de las empresas responsables asociadas de ecoturismo. La comunidad rechazaría la práctica tradicional de la caza furtiva de nidos de tortugas marinas, y se adoptarían medidas universalmente para minimizar su perturbación y acoplar la preservación de su hábitat de anidación al desarrollo económico del área.

### Objetivos específicos para la temporada de anidación 2015-1026

#	Specific objective
1.0	Ampliar el programa de voluntariado existente y construir una nueva estación de campo en el Refugio de Vida Silvestre Río Oro.
2.0	Implementar el programa de entrenamiento para residentes locales, ACOSA y voluntarios internacionales.
3.0	Caracterizar la estructura de la población anidadora y describir el ambiente de anidación (térmico, morfológico).
4.0	Cuantificar el éxito de eclosión y emergencia de los nidos y su variabilidad espacio-temporal.
5.0	Identificar los factores que afectan las tasas de eclosión y emergencia (tanto actuales como futuras).
6.0	Implementar educación ambiental en las escuelas locales y realizar dos festivales.
7.0	Interactuar con las partes interesadas locales, contratar personal local, desarrollar capacidades en COTORCO.
8.0	Evaluar indicadores PROMEC, sugerir modificaciones para ACOSA, formular estrategias de gestión.
9.0	Difundir los resultados de la investigación en la ISTS de 2016 y con artículos revisados por compañeros.

### 3. Actividades de proyectos, métodos y programación:

#	Actividades planeadas	Metodología
1.0	1.1 Ampliación del programa de voluntariado existente	La Fundación Corcovado ha administrado un vibrante programa de voluntariado de tortugas marinas en Bahía Drake desde 2006 y generalmente recibe alrededor de 100 voluntarios cada temporada. El programa se reconfigurará y expandirá para incorporar el nuevo sitio en Río Oro. Los voluntarios tendrán la opción de trabajar en los sitios de Bahía Drake y / o Río Oro. Se mejorará la promoción a través de páginas web y redes sociales, se producirán nuevos manuales y se impulsarán nuevos vínculos con organizaciones de terceros e instituciones académicas. El Programa construirá una nueva estación de campo en terrenos de propiedad privada ubicada dentro de la zona marítima del Refugio de Vida Silvestre Río Oro, que se completará en junio de 2015.
2.0	2.1 Implementación de un programa de formación para vecinos y ACOSA	<p>El Programa brindará capacitación continua a los residentes locales y empleados de ACOSA durante toda la temporada. El programa de capacitación consta de tres cursos y un taller práctico que es obligatorio para todos los miembros de COTORCO.</p> <p><u>Curso 1 - Teoría:</u> Biología de las tortugas, 4 horas Evolución de tortugas, especies de tortugas marinas, ecología, ciclo de vida, comportamiento de anidación, reproducción, amenazas, ecoturismo y conservación.</p> <p><u>Curso 2 – Teoría:</u> Patrullaje y reubicación, 4 horas Estrategia, elaboración de playas, metodología de patrullaje y reubicación de nidos, recolección de datos y análisis básico.</p> <p><u>Curso 3 - Teoría:</u> Liberación y excavación, 4 horas Estrategia, construcción y manejo de criaderos, metodología de liberación y excavación de nidos, recolección de datos y análisis básico.</p> <p><u>Taller Práctico:</u> Métodos de campo, 4 horas (playa) Identificación de especies por huellas, excavación y reubicación de nidos, liberación y excavación de nidos, recolección de datos.</p>
	2.2 Implementación de un programa de formación para voluntarios internacionales	<p>El programa proporcionará formación obligatoria a los voluntarios internacionales durante toda la temporada. Los voluntarios recibirán capacitación a su llegada a la sede del proyecto en Bahía Drake. El programa de formación consta de tres cursos y un taller práctico:</p> <p><u>Curso 1 - Teoría:</u> Introducción, 1 hora Historia del programa, objetivos y organigrama, orientación, rol del voluntario, área de estudio, alojamiento, excursiones locales, seguridad y protección, compromiso comunitario y protocolos culturales, plan de trabajo y logística.</p> <p><u>Curso 2 - Teoría:</u> Biología de tortugas, 1 hora Evolución de tortugas, especies de tortugas marinas, ecología, ciclo de vida, comportamiento de anidación, reproducción, amenazas, ecoturismo y conservación.</p> <p><u>Curso 3 – Teoría:</u> Conservación de tortugas, 2 horas Estrategia, preparación de playas, metodología de patrullaje, reubicación de nidos, metodología de liberación y excavación, recolección de datos.</p>

		Taller - Práctico: Métodos de campo, 4 horas (playa) Identificación de especies por huellas, excavación y reubicación de nidos, liberación y excavación de nidos, recolección de datos.
3.0	3.1 Preparación de playa	La playa de Río Oro será limpiada rutinariamente de desechos plásticos y madera flotante obstructiva; se colocarán puestos de referencia a intervalos de 25 m. Cerca de la estación de campo se construirá un recinto de incubación con capacidad de hasta 400 nidos. Se colocarán registradores de datos de temperatura en el criadero y en varios lugares de la playa para que actúen como controles y monitoreen las temperaturas de la arena durante toda la temporada.
	3.2 Patrullas de playa	Los patrullajes matutinos y nocturnos de la playa de Río Oro se realizarán todos los días desde agosto del 2015 hasta julio del 2016.
	3.3 Reubicación de nidos	Los nidos de la tortuga golfina generalmente se dejarán <i>in situ</i> (la reubicación de una gran proporción está preludeada por su gran número y no está justificada por su estado de 'vulnerabilidad' de la UICN (Leary et al. 2010)), aunque una pequeña muestra se reubicará <i>ex situ</i> por biólogos de campo al criadero para obtener datos comparativos. Por el contrario, la mayoría de los nidos de la tortuga verde marina serán reubicados <i>ex situ</i> por biólogos de campo en el criadero (justificado dado su estatus de IUCN 'en peligro' (Seminoff 2004) y la seria amenaza que representa la caza furtiva en el Refugio de Vida Silvestre Río Oro) dejando una muestra más pequeña <i>in situ</i> . Los nidos que se dejen <i>in situ</i> se camuflarán para protegerlos de la caza furtiva y la depredación, y se triangulará su ubicación para permitir su posterior excavación.
	3.4 Marcado de hembras anidadoras	Las tortugas marinas hembras serán marcadas en la primera o segunda escama en el borde posterior de cada aleta durante o inmediatamente después de la oviposición, según lo autorizado por el permiso de investigación INV-ACOSA-011-06. Las etiquetas (INCONEL # 681) estarán precedidas por el prefijo OP u OSA. Los datos biométricos se registrarán durante los patrullajes nocturnos (Cornelius et al. 1991, Chacón et al. 2007), incluida la hora, la fecha y la ubicación de los nidos (registrados por GPS), la distancia desde la marca de la marea alta, las especies, el número de huevos, el ancho promedio de la huella, profundidad del nido, marcas preexistentes, morfometría y detalles del daño/salud de la tortuga. Siempre que sea posible, se tomarán fotografías estandarizadas (anterior, posterior, perfil de la cabeza y caparazón general) de las tortugas verdes marinas.
	3.5 Caracterización del entorno de anidación	Los registradores de datos de temperatura se colocarán en un subconjunto de nidos, tanto <i>in situ</i> como los registradores de datos de temperatura se colocarán en un subconjunto de nidos, tanto <i>in situ</i> como <i>ex situ</i> , y en ubicaciones representativas para recopilar información sobre el perfil térmico de los huevos en incubación. Se desplegará una estación meteorológica en la región para recopilar información sobre la temperatura del aire, las precipitaciones y la humedad. Se realizará un perfil de la playa antes de la temporada de anidación, utilizando un nivel basurero y GPS, de acuerdo con la metodología descrita por Fuentes et al. 2010. Los perfiles de playa se

		utilizarán para evaluar las tasas de erosión y el impacto potencial del aumento del nivel del mar.
	4.1 Liberación y excavación de nidos	Para aquellos nidos reubicados <i>ex situ</i> al criadero, se registrará la hora, fecha y número de crías que emergen de cada nido. Las crías solo serán liberadas al amanecer o después de la puesta del sol. Siempre que sea posible, se analizarán los nidos eclosionados para determinar su éxito reproductivo (tasas de eclosión y emergencia) y la incidencia de caza furtiva o depredación natural. Se registrarán datos biométricos (Crastz 1982), incluido el número de crías vivas o muertas, el número de cáscaras vacías, el número de huevos que contienen embriones, total o no desarrollados, y las etapas de desarrollo que han alcanzado estos embriones. Los embriones que se encuentren depredados parcial o totalmente se registrarán como tales, incluidos los detalles de los posibles depredadores. También se registrarán anomalías, como deformaciones, albinismo, gemelos, etc.
	4.2 Determinación de la proporción de sexos de la descendencia	Las temperaturas cíclicas de incubación de los nidos monitoreados se convertirán a un equivalente de temperatura constante (CTE) para cada período de 15 días, que se utilizará con una función de tasa de desarrollo no lineal e información publicada sobre temperaturas fundamentales para la tortuga golfina (Wibbels 1998) y la tortuga verde marina (Ackerman 1997) para predecir la proporción de sexos de las crías.
5.0	5.1 Identificación de factores que afectan la producción reproductiva	Se monitorearán los nidos para identificar y cuantificar las amenazas potenciales (por ejemplo, caza furtiva, depredación, inundaciones) sobre la producción reproductiva de las tortugas verdes en la región.
	5.2 Modelización del impacto del cambio climático en los nidos de tortuga verde del Pacífico	Se utilizará un modelo de microclima (Niche Mapper), que utiliza la interacción entre el clima y la topografía, para determinar las temperaturas futuras de la arena en la región. La temperatura de la arena se determinará para un escenario "conservador" y "extremo" de cambio climático para 2025 y 2070, y las proporciones de sexos de la descendencia se calcularán en la región para los diferentes escenarios. Esto permitirá la exploración de los patrones espacio-temporales en la proporción de sexos de las tortugas verdes del Pacífico a lo largo de la costa sur de la Península de Osa y proporcionará información de referencia para futuras evaluaciones de los posibles impactos del cambio climático.
6.0	6.1 Implementación de educación ambiental	Este objetivo se realizará en colaboración con Conservación Osa, liderada por los educadores ambientales de ambas organizaciones. El programa se basará en 11 años de experiencia en la implementación de educación ambiental en la región para extender el programa nuevamente, al menos en dos escuelas del área de Río Oro. Se realizarán al menos diez visitas a escuelas con el fin de iniciar clases de educación ambiental y construir una alianza con maestros locales. El Programa también formará un nuevo grupo de jóvenes en Río Oro que se reunirá la mayoría de las semanas, que participará en juegos y actividades relacionadas con la flora y fauna local, la conservación, la sostenibilidad y las habilidades de liderazgo.

	6.2 Organización de festivales medioambientales	Al menos dos festivales se llevarán a cabo durante la temporada 2015-16 para crear conciencia sobre los problemas ambientales que afectan a la Península de Osa. El Festival de la Tortuga Marina se llevará a cabo durante dos días, en marzo del 2016 en la playa de Carate y atraerá al menos a 100 lugareños y turistas. Las actividades incluirán la liberación de crías, juegos, competencias, fútbol y voleibol, puestos de comida local y actuaciones artísticas de los grupos juveniles de la Fundación Corcovado en Bahía Drake y Río Oro. El Festival del Árbol se llevará a cabo durante dos días en octubre del 2015 e incluirá una serie de presentaciones de organizaciones locales, juegos, actuaciones y actividades lideradas por los grupos juveniles de Fundación Corcovado.
7.0	7.1 Encuesta de opiniones y aspiraciones locales	Una ronda inicial de reuniones con las partes interesadas locales se basará en las alianzas fomentadas por COTORCO y se realizarán entrevistas para investigar las necesidades de la población local, su interacción con las tortugas marinas y sus expectativas del Programa.
	7.2 Certificación y contratación de personal local	Una vez completado satisfactoriamente el programa de capacitación (ver 2.1), y una vez que se demuestre la competencia y el rigor en el campo, los miembros de COTORCO pueden ser certificados como líderes de patrulla y serán responsables de liderar a los voluntarios internacionales en las patrullas nocturnas. Los líderes contratados ganarán \$ 20 dólares por patrulla o turno de criadero, de los cuales donarán el 20% (\$ 4 dólares) como apoyo "en especie". La calidad del trabajo de los líderes se evalúa de forma rutinaria y la certificación puede retirarse si es necesario.
	7.3 Fortalecimiento de capacidades dentro de COTORCO	Una serie de módulos de talleres flexibles se llevarán a cabo durante el transcurso de la temporada para fortalecer a COTORCO como organización y empoderarlos para que asuman un papel de liderazgo en el desarrollo del proyecto de conservación y en el programa de voluntariado. Se proponen los siguientes cinco módulos, basados en el marco utilizado anteriormente en Bahía Drake. <u>Módulo 1:</u> Fomento de una red local (1-2 talleres, 4 hora) Construcción de alianzas, cooperación comunitaria, emprendimientos sociales, eco-tours comunitarios. <u>Módulo 2:</u> Reclutamiento de voluntarios (1-2 talleres, 4 horas) Estrategias de reclutamiento, promoción, sitios web y redes sociales, afiliación a organizaciones de terceros. <u>Módulo 3:</u> Gestionar un programa de voluntariado (1-2 talleres, 4 horas) Gestionar expectativas, mantener estándares, desarrollar y coordinar actividades, gestionar una red de familias anfitrionas, seguridad y protección. <u>Módulo 4:</u> Viabilidad comercial y contabilidad (1-2 talleres, 4 horas) Estudio del mercado, viabilidad financiera del programa, elementos legales, lectura de estados financieros, elaboración de presupuestos, manejo de flujos de caja, teneduría de libros. <u>Módulo 5:</u> Planificando para el futuro (1-2 talleres, 4 horas) Desarrollo y consideración de propuestas para la temporada 2016, formulación de un plan de negocios para COTORCO en colaboración con los actores locales, ACOSA, Conservación Osa y el ayuntamiento.

8.0	8.1 Evaluar el alcance de PROMEC y formular estrategias de gestión para ACOSA	<p>En consonancia con la necesidad identificada por ACOSA, se propone una serie de módulos de taller para evaluar los indicadores y protocolos de PROMEC y considerar su idoneidad para su uso en la conservación de tortugas marinas en la Península de Osa. Los talleres brindarían una oportunidad para que todos los interesados locales, incluidos COTORCO, Fundación Corcovado, Conservación Osa y ACOSA, participen en el proceso de evaluación y sugieran modificaciones.</p> <p><u>Módulo 1:</u> - Introducción a PROMEC, 4 horas Definición de indicadores, análisis del alcance del protocolo propuesto, comparación con metodologías alternativas.</p> <p><u>Módulo 2:</u> - Estudios de caso, 6 horas Evaluación de dos casos de estudio, identificación de amenazas, comparación de estrategias y metodología, recomendaciones de ajustes y mejoras.</p> <p><u>Módulo 3:</u> - Desarrollando un plan de conservación para el Refugio de Vida Silvestre Río Oro, 6 horas El análisis de datos registrados en el Refugio de Vida Silvestre Río Oro durante 2015, identificación de amenazas, evaluación de metodología, recomendaciones de ajustes y mejoras al protocolo PROMEC, formulación de estrategias de manejo para mitigar la mortalidad y aumentar el éxito de la eclosión</p>
	8.2 Elaboración de un plan estratégico de tres años	<p>Como resultado final de estos talleres, el Programa producirá un plan estratégico de tres años para la conservación de las tortugas marinas en el Refugio de Vida Silvestre Río Oro, incorporando el plan de negocios de COTORCO del 7.3. El plan estratégico también hará recomendaciones para la estandarización de indicadores y metodología para la conservación de tortugas marinas en la Península de Osa.</p>
9.0	9.1 Difusión de los resultados de la investigación de los objetivos 3.0, 4.0, 5.0	<p>El Programa desea difundir los resultados a través de una presentación oral y / o póster en el Simposio Internacional de Tortugas Marinas (ISTS) de 2016 y mediante la publicación de dos informes revisados por pares:</p> <p>"Producción reproductiva de la tortuga verde marina en la Península de Osa: implicaciones para su conservación y manejo"</p> <p>"Sincronía reproductiva de las tortugas golfinas en playas solitarias de anidación en la costa del Pacífico de Costa Rica"</p> <p>Esperamos otras publicaciones, relacionadas con las amenazas actuales y futuras a la producción reproductiva de la tortuga verde marina en la Península de Osa, a partir de la información de línea de base realizada a partir del proyecto propuesto.</p>

### Calendario de actividades

	Abril 2015	Mayo	Junio	Julio	Agosto	Setiembre	Octubre	Noviembre	Diciembre	Enero 2016	Febrero	Marzo	Abril	Mayo	Junio	Julio	
Período de concesión de Pacsafe																	
Período de subvención de USFWS MTCF																	
Temporada alta de tortugas golfinas																	
Temporada alta de tortuga verde marina																	
Patrullas de playa, anidación y eclosión																	
Colocación de biólogo de campo de FSU																	
Actividades de educación ambiental																	
Festivales ambientales																	
Participantes locales contratados																	
Talleres de desarrollo de capacidades																	
Talleres de evaluación PROMEC																	
Publicación del plan estratégico																	
Dar reportes parciales y finales a los donantes																	

#### 4. Coordinación de las partes interesadas/Intervención:

Durante los últimos años, el programa ha colaborado con numerosos interesados en la planificación del establecimiento de un proyecto permanente de conservación de tortugas marinas dirigido por la

comunidad en el Refugio de Vida Silvestre Río Oro. El proyecto propuesto involucrará a los siguientes colaboradores:

**COTORCO** [www.cotorco.org](http://www.cotorco.org)

Esta asociación de movimiento ciudadano con sede en Carate, será uno de los principales beneficiarios del proyecto y el foco del componente de desarrollo de conservación liderado por la comunidad de la propuesta (objetivos 2.0, 7.0 y 8.0). El programa capacitará y contratará a un coordinador local y varios líderes de patrulla de la organización y trabajará con los miembros existentes para fortalecer y expandir la asociación y su programa de voluntariado. El programa colaborará con su esfuerzo de conservación en la playa Carate y los dos proyectos compartirán voluntarios y equipo. La presidenta de COTORCO, Phoebe Edge, es una de las principales colaboradoras y ha aceptado colaborar con la asociación en la consecución de estos objetivos (ver carta de apoyo).

**Conservación Osa** [www.osaconservation.org](http://www.osaconservation.org)

La Conservación Osa es una organización sin fines de lucro que ha estado recopilando datos sobre las playas de Piro y Pejeperro durante más de seis años. La Fundación Corcovado y Conservación Osa han colaborado anteriormente en varios proyectos, incluidas propuestas de subvenciones colaborativas, de las cuales son aliados desde hace mucho tiempo. Como principal organización conservacionista ubicada en el sur de la Península de Osa, y con años de experiencia en la logística de proyectos operativos en la zona, son también colaboradores naturales del programa en Río Oro. Conservación Osa ha acordado brindar apoyo administrativo, logístico y radial al programa, sus empleados participarán en los talleres entregados en los objetivos 7.0 y 8.0. Los Investigadores Principales (IP) de los dos programas (Robert James PhD y Andrés Jiménez) y de los cuales ya están haciendo preparativos para estandarizar la metodología de conservación utilizada en las playas Piro, Pejeperro, Río Oro y Carate desde el inicio de la temporada 2015-16. Los educadores ambientales de Fundación Corcovado (Álvaro Amo) y Conservación

Osa (Pilar Bernal Castro) también colaborarán en la entrega del objetivo 6.0 utilizando recursos de sus respectivos programas.

**ACOSA (MINAE) [www.minae.go.cr](http://www.minae.go.cr)**

De acuerdo con la misión de Fundación Corcovado de ayudar a salvaguardar las áreas protegidas de Osa, ACOSA ha sido el beneficiario de muchos de sus programas en el pasado y es un gran aliado y colaborador. Al mismo tiempo, ACOSA ha identificado la necesidad de proteger el hábitat de anidación de tortugas marinas en el Refugio de Vida Silvestre Río Oro, la necesidad de capacitar a sus propios empleados en la metodología de conservación de tortugas marinas y la necesidad de adaptar los indicadores y protocolos PROMEC a la conservación de tortugas marinas en la Península de Osa. También, ha invitado específicamente a la Fundación Corcovado a establecer el proyecto propuesto para lograr estos objetivos. Se invitará a los empleados de ACOSA a recibir la formación impartida en el objetivo 2.0 y a participar en los talleres de capacitación de COTORCO impartidos en el objetivo 7.0. Como principal beneficiario del objetivo 8.0, ACOSA deberá participar en la evaluación del alcance de PROMEC y la formulación de estrategias de manejo para las playas de anidación dentro de su jurisdicción. A cambio, ACOSA ha prometido contribuciones en especie de materiales de construcción, apoyo logístico y transporte pesado, y enviará agentes de manera rutinaria para acompañar al personal del Programa durante los patrullajes nocturnos en la Refugio de Vida Silvestre Río Oro.

**Laboratorio de Mariana Fuentes [www.marianafuentes.net](http://www.marianafuentes.net)**

La Dra. Fuentes es una profesora asistente en la Universidad Estatal de Florida que se especializa en planificación de conservación sistemática, modelización climática y los análisis espaciales para manejar problemas ambientales relacionados con las tortugas marinas. A lo largo de los últimos 15 años, ha desarrollado, planificado, implementado y coordinado con éxito varios proyectos de investigación sobre tortugas marinas de diferentes tamaños y complejidades. Ella ha utilizado varios métodos de censo (por

ejemplo, estudios aéreos, marcación y recuperación en el agua, muestreo de la dieta y análisis de componentes, monitoreo de anidación, satélite y radio y telemetría para examinar el movimiento de las tortugas marinas, el uso del hábitat, la distribución y la ecología de anidación y alimentación. La propuesta incorpora financiamiento para un puesto de investigación de cinco meses para un biólogo de campo de posgrado de su laboratorio, bajo su supervisión y su investigación entregará resultados relacionados con los objetivos 3.0, 4.0 y 5.0, con referencia específica a las tortugas verdes marinas. El biólogo de campo también asistirá en la entrega del objetivo 8.0, participando en la planificación estratégica y formulación de recomendaciones para el manejo de la conservación de tortugas marinas en la Península de Osa. El Programa colaborará con el laboratorio de Mariana Fuentes en la difusión de los resultados de la temporada 2015-16 en el Simposio Internacional de Tortugas Marinas 2016 en Perú y, se prevé que al menos dos informes serán enviados para su publicación en revistas arbitradas.

### **Derek Ferguson**

Derek es el individuo particular y propietario de la tierra que limita con el Refugio de Vida Silvestre Río Oro. El uso de una parcela de su terreno, servida por una vía de acceso público, se ha acordado en principio por un período piloto de tres años, y se está preparando un contrato. Derek está participando en la planificación de la estación de campo (objetivo 1.0) y proporcionará agua potable al sitio. También ayudará con la coordinación de la logística y la formulación de un plan de emergencia.

### **Organizaciones voluntarias**

El programa espera reclutar alrededor de 150-200 voluntarios durante la temporada 2015-16, alrededor del 40% directamente y el 60% a través de organizaciones de terceros. El Programa ya está afiliado y ha recibido voluntarios de las siguientes organizaciones de voluntariado: Máximo Nivel, IVHQ, COSI (Instituto Español de Costa Rica), Working Abroad, Universidad para la Paz (UPAZ), Universidad de Costa Rica (UCR), SEE Tortugas, World Challenge, Georgia Sea Turtle Center, CAS, First Hand, Relaksmisja Travel, Planet

Conservation, Basecamp International, EVT Costa Rica, Weltenbummler, Intercoined, Far Frontiers Travel y Amzungo Volunteer Travels. El programa colaborará con estas organizaciones en la promoción cruzada a través de sus respectivas redes sociales.

**Pacsafe** [www.pacsafe.com/about/turtle-fund](http://www.pacsafe.com/about/turtle-fund)

Pacsafe, uno de los principales financiadores de contrapartida de la temporada 2015-16, contribuirá con alrededor del 25% del costo del programa durante un período de subvención del 1 de abril del 2015 al 31 de marzo del 2016. La empresa enviará representantes al sitio en varias ocasiones y participará en promoción cruzada de las redes sociales, incluida una serie de videoblogs y artículos que muestran la construcción de la estación de campo y la entrega del proyecto de conservación.

**Drake Bay Backpackers** [www.drakebaybackpackers.com](http://www.drakebaybackpackers.com)

Drake Bay Backpackers, un hostel sin fines de lucro creado por Fundación Corcovado específicamente para recaudar fondos para sus proyectos ambientales, continuará proporcionando la sede y las instalaciones de capacitación para el programa, y desempeñará un papel importante en el reclutamiento de voluntarios a través de la promoción cruzada a través de las redes sociales.

## 5. Seguimiento y evaluación de proyectos:

#	Indicadores	Métodos	Estado
1.1	<p><b>Ampliación del programa de voluntariado existente</b></p> <p><u>Cuantificable:</u> El cambio en el número de voluntarios que llegan al programa y el origen de su reclutamiento.</p> <p><u>Proceso:</u> La reconfiguración se lleva a cabo de abril a julio del 2015; Las redes sociales se mantienen a partir de entonces.</p> <p><u>Aporte:</u> Los costos salariales son cubiertos por Pacsafe; Los costos indirectos son cubiertos por Fundación Corcovado.</p> <p><u>Producción:</u> manuales de voluntariado, correos electrónicos estándar, contenido web para Fundación Corcovado y organizaciones de terceros (todos disponibles en inglés y español), páginas de Facebook, artículos y blogs.</p> <p><u>Resultados:</u> Un mayor número de voluntarios generará más fondos no limitados para pagar alimentos y costos indirectos, proporcionar ingresos para casas de familia locales, proporcionar mano de obra para las actividades de conservación y construcción y expandir el boca a boca y el alcance de las redes sociales.</p>	<p><u>Métodos:</u> Los datos relacionados con todos los voluntarios se registran en una base de datos y se analizan para generar métricas. Las métricas útiles incluyen: número de voluntarios, duración de la estancia, ingresos generados, ingresos pagados a casas de familia. La experiencia de los voluntarios continuará siendo evaluada en función a los comentarios dejados en los formularios de comentarios de los voluntarios, utilizados desde 2011. Estos datos se comparan con los de años anteriores y con los de los programas de voluntariado de la competencia y se utilizan para evaluar el éxito de la expansión del programa de voluntariado. La cantidad de nuevos me gusta y el mayor alcance de las redes sociales también se utilizarán como métrica para evaluar el éxito de la expansión.</p>	<p><u>Actual:</u> El número de voluntarios que asistieron al programa se duplicó de 2011 (45) a 2014 (93), pero está limitado por el alcance de las actividades que ofrece el sitio existente en Bahía Drake. El programa está afiliado a 19 organizaciones de voluntarios y tiene la clasificación más alta de Google para Bahía Drake mochileros, voluntariado, hostales y tortugas marinas. Las distintas páginas de Facebook de Fundación Corcovado tienen más de 8.000 me gusta y un alcance típico de más de 50.000.</p> <p><u>Deseada:</u> El Programa ofrecerá posicionamientos tanto en Bahía Drake como en Río Oro, duplicando el alcance de las actividades. No se busca necesariamente un aumento en el número de organizaciones de terceros; por el contrario, se mejorará la calidad del contenido y la promoción web para mejorar la contratación.</p>
2.1 – 2.2	<p><b>Implementación de un programa de capacitación para residentes locales, empleados de ACOSA y voluntarios internacionales</b></p> <p><u>Cuantificable:</u> El cambio en el número de miembros de COTORCO, empleados de ACOSA y voluntarios capacitados en la conservación de tortugas marinas. El cambio en el nivel de conciencia</p>	<p><u>Métodos:</u> Se mantendrá una lista de asistencia para todas las sesiones de capacitación y se tomarán fotos para documentar su progreso. Se entregarán certificados a todos los participantes seleccionados. Un número creciente de miembros de</p>	<p><u>Actual:</u> El programa implementó con éxito el de capacitación para los participantes del proyecto en Bahía Drake y ha capacitado a más de 50 miembros de la comunidad y 400 voluntarios internacionales en la conservación de tortugas</p>

	<p>dentro de las comunidades de voluntarios locales y globales.</p> <p><u>Proceso:</u> Capacitación ofrecida continuamente y solicitado desde julio del 2015 hasta junio del 2016.</p> <p><u>Aporte:</u> Los costos salariales son cubiertos por USFWS, CF y Pacsafe; Los costos indirectos son cubiertos por Fundación Corcovado.</p> <p><u>Producción:</u> Se imparten tres cursos y un taller para COTORCO y ACOSA. Los productos incluyen presentaciones en Powerpoint, un manual de incubación, exámenes y certificados de participación.</p> <p><u>Resultado:</u> Los beneficiarios comprenderán mejor la necesidad de conservación de las tortugas marinas y el desarrollo sostenible y estarán facultados para asumir un papel de liderazgo en la ejecución del proyecto. Los miembros capacitados de COTORCO serán elegibles para ser contratados como líderes de patrulla por el programa y para ofrecer sus casas como alojamiento para los voluntarios.</p>	<p>COTORCO que califican para recibir apoyo salarial indicará un aumento en el conocimiento, concientización y las habilidades dentro de la asociación.</p>	<p>marinas desde 2006. En la actualidad hay alrededor de diez miembros de COTORCO, y solo uno está capacitado como líder de patrulla. Todavía existe un conocimiento limitado de la metodología de conservación de tortugas marinas dentro de la fuerza laboral de ACOSA.</p> <p><u>Deseada:</u> Todos los miembros de COTORCO capacitados en metodología de conservación y todos los que sean factibles de liderar patrullas pueden ser certificados como líderes de patrulla y son elegibles para el apoyo salarial. Se brindó capacitación al menos 10 empleados de ACOSA y a 150-200 voluntarios más al final de la temporada 2015-16.</p>
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<p>3.1 – 3.7</p>	<p><b>Seguimiento de la población de la tortuga marina anidadora</b></p> <p><u>Cuantificable:</u> Se recopilarán datos biométricos de las tortugas anidadoras como se describe en las actividades y métodos del proyecto.</p> <p><u>Proceso:</u> Una patrulla matutina y dos patrullas nocturnas se llevarán a cabo todas las noches desde agosto del 2015 hasta julio del 2016. La ubicación del biólogo de campo de la FSU se llevará a cabo de noviembre del 2015 a marzo del 2016 para coincidir con el pico de la temporada de anidación de la tortuga verde marina.</p>	<p><u>Métodos:</u> Todos los datos del monitoreo de la playa se registrarán en una base de datos y se analizarán con el fin de generar métricas que se puedan utilizar para evaluar el éxito de la metodología de conservación. Las métricas clave incluyen: número de patrullas realizadas, porcentaje de nidos saqueados o depredados y el porcentaje de tortugas encontradas mientras aún anidaban. El número de patrullajes realizados será monitoreado por un</p>	<p><u>Actual:</u> De momento no existe un monitoreo de rutina de la playa de Río Oro, y no existen datos contemporáneos sobre el estado de la población anidadora. La incidencia de la caza furtiva es actualmente indeterminada, pero se sabe que la playa es frecuentada por cazadores furtivos durante la temporada de anidación.</p> <p><u>Deseada:</u> Se realizan al menos 1.000 patrullas (4.000 horas). La incidencia de caza furtiva y</p>
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	<p><u>Aporte:</u> Los sueldos, equipos y consumables son cubiertos por USFWS, Fundación Corcovado, Pacsafe y el laboratorio de Mariana Fuentes. Los costos indirectos son cubiertos por Fundación Corcovado.</p> <p><u>Producción:</u> Los resultados son numerosos e incluyen: datos sobre la frecuencia y densidad de anidación, especies anidadoras, distribución espacial de nidos, nido y selección de mareas, perfil térmico de nidos y migración de tortugas de otras playas.</p> <p><u>Resultado:</u> Por primera vez, las tortugas marinas que anidan en la playa de Río Oro serán monitoreadas de manera rutinaria y protegidas de la caza furtiva y la depredación no natural, y se conocerán los datos relacionados con el estado de la población que contribuirán a optimizar su conservación.</p>	<p>horario semanal, del cual se tomarán fotos cada semana y se hará un registro electrónico de todos los turnos.</p>	<p>depredación no natural de nidos mantenida por debajo del 25%. El porcentaje de tortugas encontradas durante la anidación es superior al 20%. Información recopilada de al menos el 75% de las tortugas anidadoras y los nidos depositados.</p>
4.1 – 4.3	<p><b>Liberación y excavación de nidos y determinación de la proporción de sexos de la descendencia</b></p> <p><u>Cuantificable:</u> Los datos biométricos se recolectarán de los nidos como se describe en las actividades y métodos del Proyecto.</p> <p><u>Proceso:</u> Los registradores de datos de control estarán disponibles a partir de julio del 2015 y registrarán las temperaturas cada hora. Las excavaciones de nidos se llevarán a cabo desde agosto del 2015 hasta julio del 2016.</p> <p><u>Aporte:</u> Salarios, equipos y consumibles son cubiertos por USFWS, Fundación Corcovado, Pacsafe y el laboratorio de Mariana Fuentes. Los costos indirectos son cubiertos por Fundación Corcovado.</p>	<p><u>Métodos:</u> Todos los datos de las excavaciones de nidos se registrarán en una base de datos y se analizarán para generar métricas que se puedan utilizar para evaluar el éxito de la metodología. Se compararán los datos de los registradores de datos combinados con las tasas de éxito de eclosión y emergencia de nidos in situ y ex situ para evaluar el desempeño del criadero en la emulación de las condiciones de la playa. La muestra se obtendrá de la excavación de al menos el 20% de los nidos in situ y el 100% de los nidos ex situ en la playa Río Oro.</p>	<p><u>Actual:</u> No existen datos contemporáneos sobre las tasas de éxito de eclosión y emergencia en Río Oro. Los proyectos en las playas adyacentes no monitorean las temperaturas de los nidos y Osa Conservation no reubica los nidos y por lo tanto tiene datos de excavación limitados. COTORCO reubica algunos nidos ex situ y actualmente administra un criadero en la playa Carate.</p> <p><u>Deseada:</u> Información sobre la producción reproductiva de nidos en Río Oro. Descripción del ambiente de incubación en Río Oro. Colaboración con COTORCO en la gestión y seguimiento de su planta de incubación</p>

	<p><u>Producción:</u> Los productos incluyen: cuantificación de las tasas de éxito de eclosión y emergencia; descripción de la variabilidad espacial del éxito de eclosión y emergencia en Río Oro; caracterización de depredadores; determinación de la proporción de sexos de la descendencia y la variación temporal y espacial.</p> <p><u>Resultado:</u> Los resultados de este objetivo proporcionarán información sobre los resultados reproductivos de las poblaciones anidadoras y determinarán la importancia de este sitio para las poblaciones solitarias de la tortuga golfina y la tortuga verde marina.</p>		<p>en Carate, con el fin de mejorar el conjunto de datos.</p>
<p>5.1 – 5.2</p>	<p><b>Identificación de factores que afectan las tasas de eclosión y emergencia, y modelado del impacto del cambio climático en los nidos de tortuga marina</b></p> <p><u>Cuantificable:</u> Los datos se recopilarán de los nidos como se describe en las Actividades y métodos del proyecto.</p> <p><u>Proceso:</u> Este trabajo se llevará a cabo de noviembre del 2015 a marzo del 2016 y se centrará en las tortugas verdes marinas.</p> <p><u>Aporte:</u> Salarios, equipos y consumibles son cubiertos por USFWS, Fundación Corcovado, Pacsafe y el laboratorio de Mariana Fuentes. Los costos indirectos son cubiertos por Fundación Corcovado.</p> <p><u>Producción:</u> Identificación de factores ambientales y antropogénicos que afectan la producción reproductiva de la tortuga verde marina que anida en la región. Información sobre la amenaza relativa de varios factores para los huevos y las crías de la tortuga verde marina, predicciones del impacto potencial del aumento</p>	<p><u>Métodos:</u> Todos los nidos marcados serán monitoreados hasta que nazcan, donde se registrarán las amenazas de caza furtiva, depredación, etc.</p> <p>Los datos térmicos y morfológicos del área de anidación se utilizarán para evaluar los impactos potenciales del aumento proyectado del nivel del mar y el aumento de la temperatura. Se seguirá la metodología previamente determinada (Fuentes et al. 2010a, 2010b).</p>	<p><u>Actual:</u> Actualmente no existe información sobre las amenazas y mortalidad de huevos y crías de Río Oro.</p> <p><u>Deseada:</u> Identificar y cuantificar las actuales y futuras amenazas de diferentes actividades antropogénicas a al menos el 75% de los nidos de tortuga verde depositados en Río Oro. Esto proporcionará información crucial para una gestión específica y para informar el estado de esta población.</p>

	<p>del nivel del mar y el aumento de la temperatura en la producción reproductiva de las tortugas verdes marina en el Refugio de Vida Silvestre Río Oro.</p> <p><u>Resultado:</u> Los resultados de este objetivo proporcionarán información de referencia para futuras evaluaciones de los posibles impactos del cambio climático en las tortugas verdes marinas en la región.</p>		
<p>6.1 – 6.2</p>	<p><b>Implementación de educación ambiental y organización de festivales</b></p> <p><u>Cuantificable:</u> El número de escuelas visitadas, número de visitas; número de estudiantes que participan en las clases (y la proporción de niños a niñas), número de miembros y duración de las reuniones del grupo de jóvenes, número de artefactos/presentaciones/rendimiento.</p> <p><u>Proceso:</u> El programa de educación ambiental funciona todo el año (excepto enero), y las clases en Río Oro se programarán de acuerdo con el calendario de eventos de cada escuela. El grupo de jóvenes de Río Oro debería comenzar a reunirse a partir de julio del 2015.</p> <p><u>Input:</u> Salarios, equipos y consumibles son cubiertos por USFWS, Fundación Corcovado, Pacsafe y el laboratorio de Mariana Fuentes. Los costos indirectos son cubiertos por Fundación Corcovado.</p> <p><u>Producción:</u> Se impartirán al menos diez clases de educación ambiental, un grupo de jóvenes de Río Oro se reunirá en al menos 20 ocasiones, se realizarán al menos dos excursiones y se llevarán a cabo al menos dos festivales. Los niños de escuela y el grupo de</p>	<p><u>Métodos:</u> Se mantendrá una lista de asistencia para todas las sesiones de educación ambiental y se tomarán fotografías para documentar su progreso. Para evaluar el éxito de estas sesiones, el programa utilizará juegos, simulación y el método de evaluación de artefactos, mediante el cual los participantes producen artefactos que brindan evidencia del desarrollo de la comprensión, las habilidades de pensamiento, las actitudes, los valores y las habilidades de manipulación. Un cambio de actitud de los adultos de la comunidad hacia la conservación y la sostenibilidad es también un indicador clave del éxito de la educación ambiental, ya que se ha demostrado que los niños empoderados por el conocimiento y las habilidades de liderazgo actúan como agentes de cambio dentro de los hogares y pueden tener una gran influencia sobre la actitud y el comportamiento de sus</p>	<p><u>Actual:</u> Tanto Conservación Osa como Fundación Corcovado tienen programas de educación ambiental existentes que han estado en marcha durante más de una década. La Fundación Corcovado produjo un libro de texto y una guía para profesores específicamente para los de la Península de Osa y ha creado un programa de estudios para todos los grados de las escuelas primarias y secundarias. Fundación Corcovado llega a 14 escuelas en el norte de la región, mientras que los esfuerzos de la Conservación de Osa se limitan al sur de la península. Ninguno de los programas anteriores ha proporcionado educación de manera rutinaria al área de Río Oro anteriormente.</p> <p><u>Deseada:</u> En última instancia, a la Fundación Corcovado le gustaría incorporar la localidad de Río Oro/Carate de forma permanente dentro de su área de captación de educación ambiental, en colaboración con</p>

	<p>jóvenes crearán numerosos artefactos y presentaciones.</p> <p><u>Resultado:</u> Los niños de escuela se beneficiarán de nuevos conocimientos, experiencias y una mayor oportunidad de interactuar con sus compañeros y con la naturaleza. El programa fomentará el razonamiento crítico y las habilidades de liderazgo y equipará a los niños de escuela con herramientas que los preparen para asumir la responsabilidad del desarrollo futuro de la región y el uso sostenible de sus recursos.</p>	<p>padres. Esto ha sido firmemente demostrado por el Programa en Bahía Drake.</p>	<p>Conservación Osa y COTORCO.</p>
7.1	<p><b>Encuesta de opiniones locales y Aspiraciones</b></p> <p><u>Cuantificable:</u> La mayor parte de la información generada será cualitativa e incluirá: nivel de confianza en el éxito del modelo liderado por la comunidad en Río Oro; experiencias de intentos fallidos anteriores de sostener un proyecto; necesidades de la comunidad; expectativas del programa, disposición a participar, etc.</p> <p><u>Proceso:</u> Las entrevistas se llevarán a cabo en agosto del 2015 y nuevamente en mayo del 2016, para sondear la opinión local antes y después de que se lleven a cabo los principales componentes comunitarios.</p> <p><u>Aporte:</u> Salarios, equipos y consumibles son cubiertos por USFWS, Fundación Corcovado, Pacsafe y el laboratorio de Mariana Fuentes. Los costos indirectos son cubiertos por Fundación Corcovado.</p> <p><u>Producción:</u> Se elaborará un informe detallando los resultados de ambas rondas de entrevistas y recomendaciones para la gestión estratégica del programa.</p>	<p><u>Métodos:</u> Los resultados de la ronda de agosto del 2015 se utilizarán para formular la estrategia para los componentes dirigidos por la comunidad de la temporada 2015-16, mientras que los resultados de la ronda de mayo del 2016 se utilizarán para evaluar el éxito del programa en el logro de estos objetivos. Los resultados se registrarán en una base de datos y se utilizarán para generar métricas como: número, ubicación y rango de edad de los entrevistados, cambio en la calificación de aprobación del Programa, cambio de actitud hacia la conservación de recursos, formación recibida, ingresos generados, etc. La muestra incluirá a todos los miembros de COTORCO, pero también a otras partes interesadas locales, como Derek Ferguson, empleados de ACOSA, empresas locales y también cazadores furtivos y</p>	<p><u>Actual:</u> Una asociación comunitaria llamada Asociación para el Desarrollo y la Conservación de Río Oro (ADECORO) existió entre 1992-1996 e hizo esfuerzos para mantener un proyecto de conservación de tortugas marinas en la playa de Río Oro. Sin embargo, muchos miembros de la comunidad abandonaron el área y el grupo se disolvió en 1997. Después de muchos años sin la participación de la comunidad, COTORCO ha logrado grandes avances en la construcción de una alianza entre los miembros de la comunidad y un consenso local con respecto a la conservación de las tortugas marinas. No obstante, esta asociación carece de recursos y está pidiendo ayuda para fortalecer y expandir el grupo.</p> <p><u>Deseada:</u> Un COTORCO unido e inclusivo que asuma un papel de liderazgo en la gestión de la conservación</p>

	<p><u>Resultado:</u> Las necesidades y opiniones de la comunidad local se utilizarán para orientar el desarrollo de las actividades del Programa en Río Oro, y se utilizarán para programar y adaptar adecuadamente los talleres de capacitación.</p>	<p>residentes locales que de otro modo no están afiliados al Programa.</p>	<p>de las tortugas marinas que anidan en sus playas, al tiempo que se beneficia económicamente de los turnos remunerados y el desarrollo de empresas de ecoturismo responsables.</p>
7.2	<p><b>Certificación y contratación de personal local</b></p> <p><u>Cuantificable:</u> El número de lugareños que reciben capacitación; el número de Líderes de Patrulla y Certificados; el número pagado por turnos contratados.</p> <p><u>Proceso:</u> Los locales se contratarán desde agosto del 2015 hasta marzo del 2016.</p> <p><u>Aporte:</u> Salarios, equipos y consumibles son cubiertos por USFWS, Fundación Corcovado, Pacsafe y el laboratorio de Mariana Fuentes. Los costos indirectos son cubiertos por Fundación Corcovado.</p> <p><u>Producción:</u> Este objetivo brindará oportunidades laborales legales, regulares y contratadas a la población local de esta zona rural pobre, a cambio de un compromiso en su nombre de no participar en la extracción ilegal de recursos naturales.</p> <p><u>Resultado:</u> La provisión de una alternativa socioeconómica viable permitirá a los lugareños poner fin a su participación en actividades ilegales. Su participación también puede cambiar su percepción del programa, las ONG locales, el ecoturismo y el argumento a favor de la preservación de los recursos naturales.</p>	<p><u>Métodos:</u> Se mantendrá una lista de asistencia para todas las sesiones de capacitación y se tomarán fotos para documentar su progreso. Se entregarán certificados a todos los participantes seleccionados.</p> <p>Un número creciente de miembros de COTORCO que califican para recibir apoyo salarial indicará un aumento en el conocimiento, concientización y las habilidades dentro de la asociación. También se generarán métricas como el cambio en la tasa de empleo y los ingresos brutos de las comunidades para medir el impacto socioeconómico de la contratación del personal local.</p>	<p><u>Actual:</u> Si bien se ha proporcionado algo de apoyo salarial a algunos miembros de COTORCO a través de donaciones y pagos de voluntarios, nunca se ha implementado en la zona un programa integral de capacitación y contratación por parte de un proyecto de conservación de tortugas marinas.</p> <p><u>Deseada:</u> Un COTORCO unido e inclusivo que asuma un papel de liderazgo en la gestión de la conservación de las tortugas marinas que anidan en sus playas, y al mismo tiempo se beneficia económicamente de los turnos remunerados y el desarrollo de empresas de ecoturismo responsables.</p>

7.3	<p><b>Fortalecimiento de capacidades dentro de COTORCO</b></p> <p><u>Cuantificable:</u> El número de participantes de COTORCO, el número de otras partes interesadas que asisten, el número de talleres que se realizan.</p> <p><u>Proceso:</u> Los talleres se llevarán a cabo desde agosto del 2015 hasta abril del 2016.</p> <p><u>Aporte:</u> Salarios, equipos y consumibles son cubiertos por Fundación Corcovado, Pacsafe y USFWS. El equipo y los costos indirectos son cubiertos por Fundación Corcovado.</p> <p><u>Producción:</u> Se planean cinco módulos, y se llevarán a cabo 1-2 talleres para cada uno, abiertos a COTORCO y a otros locales interesados. Los productos incluyen presentaciones de PowerPoint, minutas, manual de voluntariado, eco-tour o propuestas de negocios artesanales, un plan de negocios para COTORCO y un informe final detallando todos los acuerdos y recomendaciones.</p> <p><u>Resultado:</u> Los beneficiarios estarán equipados con nuevos conocimientos y habilidades, y serán empoderados para</p>	<p><u>Métodos:</u> Se mantendrá una lista de asistencia para todos los talleres y se tomarán fotos para documentar su progreso. Se entregarán certificados a todos los participantes. Un número creciente de asistentes a lo largo de la serie de talleres será un indicador de su éxito y adecuación. Se utilizarán métricas como el cambio en el número de miembros afiliados a COTORCO durante la temporada, y el número de casas de familia de COTORCO y eco-tours comunitarios establecidos, para medir el impacto de los talleres.</p>	<p><u>Actual:</u> Si bien COTORCO ya administra su propio programa de voluntariado, la asociación carece de recursos y la falta de habilidades de los residentes locales les impide tomar un papel activo en el desarrollo del programa.</p> <p><u>Deseada:</u> Un COTORCO unido e inclusivo asumiendo un papel de liderazgo en la gestión de la conservación de las tortugas marinas que anidan en sus playas y en la gestión de su propio programa de exitoso voluntariado. Las ganancias generadas por el programa se utilizan para pagar costos indirectos, equipos, consumibles y salarios locales siempre que sea posible, para limitar la dependencia de la organización de subvenciones y donaciones.</p>
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	<p>asumir un papel de liderazgo en el desarrollo del proyecto de conservación y de su propia asociación y programa de voluntariado. Los talleres deberían aumentar el entusiasmo de la población local por el proyecto de la conservación e inspirarlos a comprometerse con COTORCO y a planificar un futuro.</p>		
8.1 – 8.2	<p><b>Evaluar el alcance de PROMEC y formular estrategias de gestión para ACOSA</b>  <u>Cuantificable:</u> El número de participantes de ACOSA y el número del resto de los interesados.  <u>Proceso:</u> Los talleres se llevarán a cabo desde diciembre del 2015 hasta abril del 2016.  <u>Aporte:</u> Los salarios son cubiertos por Fundación Corcovado, Pacsafe y USFWS. El equipo y los costos indirectos son cubiertos por Fundación Corcovado y ACOSA.  <u>Producción:</u> Los productos incluyen presentaciones de PowerPoint, minutas, panfletos informativos y un plan estratégico de tres años para la conservación de las tortugas marinas en Refugio de Vida Silvestre Río Oro, la incorporación de COTORCO en el plan de negocios de 7.3, y las</p>	<p><u>Métodos:</u> Se mantendrá una lista de asistencia para todos los talleres y se tomarán fotos para documentar su progreso. Se otorgarán certificados a todos los participantes. Un número creciente de asistentes a lo largo de la serie de talleres será un indicador de su éxito y adecuación. Una medida cualitativa final del éxito será la adopción de los protocolos recomendados por todos los proyectos de conservación de tortugas marinas dentro del área de Conservación de Osa.</p>	<p><u>Actual:</u> Se han realizado varios esfuerzos para normalizar indicadores y protocolos en todos los proyectos de conservación, sin embargo, los marcos anteriores han sido inflexibles e inapropiados para las condiciones ambientales y socioeconómicas locales específicas de los proyectos. Los indicadores de PROMEC representan el esfuerzo más reciente y de autoridad para estandarizar las actividades de conservación. ACOSA ha identificado la necesidad de capacitar a sus empleados sobre PROMEC y hacer ajustes para brindar un mejor servicio a</p>

	<p>recomendaciones y ajustes para los indicadores y protocolos de PROMEC para ACOSA.</p> <p><u>Resultado:</u> El taller fortalecerá la capacidad dentro de ACOSA y proporcionará un marco para permitir la participación de todos los locales interesados en la formulación de un plan estratégico para la conservación de las tortugas marinas en la península de OSA.</p>		<p>las playas dentro de su jurisdicción.</p> <p><u>Deseada:</u> La aprobación de un conjunto común de protocolos adaptados a las condiciones ambientales y socioeconómicas de la región, y la implementación de estrategias para mitigar la mortalidad y aumentar el éxito de eclosión de las tortugas marinas que anidan en la Península de Osa.</p>
9.1	<p><b>Difusión de los resultados de la investigación</b></p> <p><u>Proceso:</u> El PI y el laboratorio de Mariana Fuentes presentarán resultados en el ISTS en abril del 2016. Los manuscritos se prepararán entre abril del 2016 y julio de 2016.</p> <p><u>Aporte:</u> Los costos de transporte, viáticos, editoriales e indirectos serán cubiertos por Fundación Corcovado y el laboratorio de Mariana Fuentes.</p> <p><u>Producción:</u> Una presentación oral o póster y dos artículos revisados por pares.</p> <p><u>Resultado:</u> La divulgación de estos resultados creará conciencia sobre la importancia de los hábitats de anidación en la Península de Osa, contribuirá a la</p>	<p><u>Métodos:</u> Se utilizarán métricas como el número de participantes a la presentación de ISTS, el factor de impacto de las revistas y el número de citas de los artículos de las revistas como medida del éxito de este objetivo.</p>	<p><u>Actual:</u> Sin el conocimiento de la producción reproductiva de las tortugas verdes marinas que anidan en el Refugio de Vida Silvestre Río Oro y su índice de mortalidad, es difícil comprender la importancia general de esta región para la estructura genética de estas y a su vez orientar eficazmente los esfuerzos de la gestión.</p> <p>Si bien la sincronía reproductiva de las tortugas golfinas que participan en las arribadas está bien documentada, se sabe poco sobre la sincronía reproductiva en las playas de anidación solitarias o de</p>

	<p>formulación de una estrategia de conservación global con respecto al aumento del nivel del mar lo cual generará nuevos conocimientos sobre el comportamiento reproductivo de las tortugas verde marina y tortuga golfina.</p>		<p>intensidad media, a pesar de su contribución superior a la estructura genética de tortugas golfina debido al mayor éxito de eclosión en estos lugares.</p> <p><u>Deseada:</u> Aumento de concientización sobre la importancia de los hábitats de anidación en la Península de Osa informando la estrategia de conservación regional y global.</p>
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#### 6. Description of Organization Undertaking the Project:

La misión de la organización no gubernamental y sin fines de lucro Fundación Corcovado Lon Willing Ramsey Junior es proteger las áreas silvestres y promover la educación ambiental, turismo y el desarrollo de comunidades compatibles con el uso de los recursos naturales en la Península de Osa y en el sur de Costa Rica. Fundada por tres dueños de hoteles locales y legalmente incorporados en 1992, Fundación Corcovado ha trabajado con una amplia gama de programas ambientales, incluyendo la protección de los bosques, reciclaje y la conservación de la tortuga marina. También, ha apoyado el Área de Conservación de Osa, un área que abarca dos parques nacionales y numerosas reservas de vida silvestre, mediante la financiación de más de 90 guardaparques y sus estaciones. La junta, conformada por cinco directores, supervisa el personal de seis personas de Fundación Corcovado, con sede en Bahía Drake, Puerto Jiménez y San José.

La Fundación ha recibido apoyo de la Fundación Avina, Natura Conservancy, Conservación Internacional, Alianza para bosques, MINAET, Fundación CRUSA, Departamento del Interior de los Estados Unidos,

Programa de las Naciones Unidas para el Desarrollo, Humane Society International (HSI), Parque Pronatura, UNESCO, Friends of the Osa y varios negocios locales. De ser otorgado, la Fundación Corcovado administrará la subvención y será el único responsable de la entrega de la propuesta.

Para una información más detallada sobre los principales colaboradores y los entregables asociados se cuenta con una coordinación y participación de las partes interesadas.

## **Resumen del proyecto #2**

**Nombre del programa:** Programa para la conservación de tortugas marinas de la Fundación Corcovado

El programa para la conservación de tortugas marinas de la Fundación Corcovado utilizará un modelo verificado por la comunidad para proteger a las tortugas marinas que anidan en dos playas en la Península de Osa, Costa Rica. Estas siendo **playa Drake** (Bahía Drake: 8.717864, -83.648351) y **playa Río Oro** (Carate: 8.428229, -83.420388) apoyarán el desarrollo sostenible de dos comunidades rurales con las que estas tortugas interactúan. Este objetivo se realizará mediante tres áreas de trabajo complementarias, cada una respaldada por voluntarios internacionales: la conservación de tortugas marinas, educación ambiental y el desarrollo de un turismo comunitario responsable.

Al empoderar a la población local, reforzar los esfuerzos de conservación del Ministerio del Ambiente y Energía (MINAЕ) y ampliar drásticamente la protección de las tortugas marinas en la región, el programa propuesto tendrá un impacto sustancial y positivo en el desarrollo del turismo de la región y dejará un legado duradero para las generaciones futuras.

### **Bahía Drake**

Desde el 2006 el programa ha protegido al 90% de las tortugas marinas que anidan en Bahía Drake, mediante el establecimiento de una asociación comunitaria dedicada, Asociación Conservacionista de Tortugas Marinas (ACOTPRO) y la implementación de la educación ambiental en escuelas locales. El

programa también ha logrado cambiar las actitudes de la población local hacia sus recursos naturales. (Legarec et al. 2010, James 2014). Con el apoyo de la Fundación Corcovado, ACOTPRO actualmente ha desarrollado su propia red de familias anfitrionas, un programa de voluntariado y varios recorridos basados en la comunidad, la asociación está preparada para asumir la responsabilidad del esfuerzo de conservación en Drake Bay. Se anticipa que para el 2015 la temporada de anidación sea la última financiada directamente por Fundación Corcovado y el programa busca apoyo financiero para ayudar con esta transición crucial hacia el control local.

### **Río Oro**

Al haber sido testigos de estos logros en Bahía Drake, MINAET, la Conservación de Osa y el Comité de Conservación de Tortugas Marinas de Corcovado han invitado a la Fundación Corcovado liderar con el intento para proteger la población de tortugas en el Refugio de Vida Silvestre Río Oro, el hábitat de anidación más importante para la tortuga marina en la Península de Osa. (Drake, 1996), e imitar los éxitos del programa Bahía Drake en la comunidad de Río Oro/Carate. El programa busca apoyo financiero para ayudar con el establecimiento de un nuevo proyecto de conservación en la playa Río Oro, comenzando con la temporada de anidación 2015-16. Esta será la primera vez que se brindará protección integral a los nidos de tortugas marinast, sitio de anidación extremadamente vulnerable y de importancia mundial para la tortuga verde marina (*Chelonia mydas*).

La sede del Programa estará ubicada en la estación de investigación de la Fundación Corcovado en el pueblo El Progreso en Bahía Drake, donde se encuentran el director del programa y el educador ambiental. En Bahía Drake, los coordinadores de campo también estarán ubicados en la estación de investigación de Fundación Corcovado, mientras que los voluntarios se quedarán en casas de alojamiento en el pueblo de El Progreso. En Río Oro, los coordinadores de campo y los voluntarios se quedarán en una

nueva estación de campo remota construida en el Refugio Nacional de Vida Silvestre Río Oro, visitada regularmente por el director del programa y el educador ambiental.

### **Narrativa del proyecto**

#### **Declaración de necesidad**

La Fundación Corcovado está comprometida con la conservación y el desarrollo sostenible de la Península de Osa, la cual es considerada la última frontera salvaje del país y uno de los lugares con mayor biodiversidad de la Tierra. Este remoto rincón del país alberga el 2,5% de la biodiversidad de todo el planeta en un área de la mitad del tamaño de Rhode Island. También es la única región restante que queda a lo largo de la costa del Pacífico de Costa Rica, donde el 'ecoturismo' sigue siendo el modelo de turismo predominante; sin embargo, actualmente se encuentra al borde de una expansión inevitable de la industria durante la próxima década que tiene el potencial de amenazar gravemente o garantizar positivamente la integridad del patrimonio natural local. (CREST 2010). Como tal, la Península de Osa ofrece un ambiente único en el que permanece posible y de hecho, la importancia crítica al asegurar el desarrollo inminente de comunidades locales firmemente unido a la conservación de sus recursos naturales. Al mejorar la protección de una especie clave en peligro de extinción, y una fuente de ingresos demostrablemente lucrativa del ecoturismo; el programa utilizará un modelo probado de conservación liderado por la comunidad para brindar protección a las tortugas marinas que anidan así como apoyar las iniciativas del desarrollo del turismo responsable en dos comunidades de la Península de Osa: Bahía Drake y Río Oro, Carate.

#### **Bahía Drake**

Desde el 2006 el programa ha protegido al 90% de las tortugas marinas que anidan en Bahía Drake; ha etiquetado 350 hembras anidadoras y liberó más de 65.000 crías en el Océano Pacífico. La principal especie anidadora es la tortuga golfina (*Lepidochelys olivacea*), aunque una pequeña cantidad de tortugas

verdes marinas (*Chelonia mydas*) también anidan cada año (James et al. 2013). El número promedio de nidos de golfina puestos cada temporada es de 136,9, con una densidad de 3,8 nidos por 100m de playa y un promedio de 0,81 tortugas anidando por noche (James & Melero 2014). La temporada de anidación de la golfina se extiende de julio a diciembre y la principal amenaza para los nidos es la caza furtiva de huevos. Como tal, el uso de un criadero sigue siendo una estrategia prioritaria en este sitio hasta que esta amenaza se haya neutralizado satisfactoriamente.

La asociación comunitaria de conservación, ACOTPRO, creada por la Fundación Corcovado en 2009 y administrada por una Junta Directiva electa, está compuesta por alrededor de 20 líderes de patrulla certificados y trabajadores de criaderos (Le-Garec et al. 2010, James 2014). A través de su colaboración con Fundación Corcovado y MINAET, ACOTPRO ha obtenido su propio investigador principal para la temporada 2015 y permiso para operar un criadero en playa Drake. El objetivo del Programa en Drake Bay durante esta temporada será brindar capacitación, talleres interactivos, clases de inglés y apoyo administrativo durante este período de transición crucial, proporcionar voluntarios internacionales y apoyo financiero limitado para la coordinación del proyecto y, presidir la transferencia final de la responsabilidad del esfuerzo de conservación a manos locales.

### **Río Oro**

Debido a la ausencia de un proyecto de conservación en la playa Río Oro, faltan datos contemporáneos; sin embargo, en las playas adyacentes Carate y Peje Perro, la principal amenaza para los nidos puestos es la caza furtiva de huevos, cometida principalmente por mineros de oro deshonestos que operan ilegalmente en la región. La temporada de anidación de la golfina se extiende de julio a diciembre, mientras que la tortuga verde marina su anidación es durante todo el año y, su pico, durante los meses de enero y febrero. (Bernal Castro *et al.* 2013). Si bien el uso de un criadero en la playa Río Oro no fue

propuesto inicialmente por el programa, esta medida puede ser deseable si la incidencia de caza furtiva de huevos registrada durante la temporada 2015-16 se encuentra por encima del 20% de los nidos.

A pesar de que el Refugio Nacional de Vida Silvestre Río Oro está catalogado como una de las áreas protegidas, tales como el Área de Conservación de Osa (ACOSA). La realidad es que MINAET ha desatendido su cuidado durante varios años. No obstante, es fácil conciliar las razones por las que este parque ha sufrido tal negligencia: la falta de financiamiento gubernamental para ACOSA ha limitado su capacidad para responder a las numerosas amenazas ambientales planteadas por las actividades humanas ilegales (incluida la caza, la extracción de oro y la tala ilegal) que afectan los 4,305 km<sup>2</sup> (1,662 mi<sup>2</sup>) dentro de su jurisdicción. Lamentablemente, esta agencia gubernamental ha tenido que priorizar entre abordar la destrucción de los bosques mediante la tala ilegal o prevenir la caza furtiva de huevos de tortuga, centrándose en lo primero en lugar de en lo segundo. El MINAET ha invitado específicamente a Fundación Corcovado a establecer un programa de conservación de tortugas marinas en la playa Río Oro, utilizando el Refugio Nacional de Vida Silvestre como base.

### **Metas y objetivos del proyecto:**

#### **Objetivo a largo plazo**

Promover la conservación y recuperación sostenible de las poblaciones de tortugas marinas que anidan en Bahía Drake y Río Oro en un esfuerzo por permitir su supervivencia a largo plazo, al mismo tiempo se atiende las necesidades de las comunidades locales con las que interactúan.

#### **Objetivos específicos para la temporada de anidación 2015-16**

##### **Bahía Drake**

1.1	Mantener la incidencia de la caza furtiva de huevos por debajo del 10% de los nidos.
1.2	Caracterizar la distribución de anidación temporal y espacial, las especies de anidación y las tasas de eclosión natural.

1.3	Obtener tasas de eclosión superiores al 75% y una proporción de sexos cercana al 50% de las crías en el criadero.
1.4	Implementar un programa de capacitación para líderes locales y voluntarios internacionales.
1.5	Certificar y contratar al menos diez miembros de la comunidad como líderes de patrulla.
1.6	Ofrecer clases gratis de inglés para la comunidad local dirigidas por voluntarios internacionales.
1.7	Implementar programas anuales de actividades para el currículo de educación ambiental al menos cuatro escuelas locales en el área de Bahía Drake y producir dos importantes festivales.
1.8	Brindar capacitación y talleres para ayudar a ACOTPRO con el desarrollo continuo de su programa de voluntariado y ecoturismo.
1.9	Elaborar plan estratégico de tres años para la conservación de tortugas marinas con ACOTPRO.
1.10	Ceder la responsabilidad del programa a ACOTPRO al final de la temporada.

### Río Oro

2.1	Establecer un nuevo programa de voluntariado y construir una nueva estación de campo y campamento.
2.2	Mantener la incidencia de la caza furtiva de huevos por debajo del 20% de los nidos.
2.3	Caracterizar la distribución de anidación temporal y espacial, las especies de anidación y las tasas de eclosión natural.
2.4	Implementar un programa de capacitación para líderes locales y voluntarios internacionales.
2.5	Certificar y contratar al menos a cinco miembros de la comunidad como líderes de patrulla.
2.6	Ofrecer clases gratis de inglés para la comunidad local dirigidas por voluntarios internacionales.
2.7	Implementar al menos 10 clases de educación ambiental en escuelas locales en el área de Río Oro y producir al menos un festival importante.
2.8	Interactuar con la comunidad local a través de una serie de reuniones, talleres y actividades de planificación, en colaboración con Conservación Osa y MINAET.
2.9	Elaborar un plan estratégico de tres años para la conservación de las tortugas marinas con la comunidad.

### Actividades, métodos y calendario del proyecto:

Objetivos	Actividades Planificadas	Metodología
1.1 - 1.3 y 2.1 - 2.3	Patrullas de playa	Diariamente se realizan una patrulla matutina y dos patrullas nocturnas de la playa durante la temporada de anidación.
	Monitoreo de criadero (Bahía Drake)	La torre de vigilancia del criadero está ocupada las 24 horas del día por un líder local capacitado o un voluntario. Los turnos de incubación son de 6 horas y funcionan de 00: 00-06: 00, 06: 00-12: 00, 12: 00-18: 00 y 18: 00-00: 00 todos los días.
	Marcado de hembras anidadoras	Las tortugas marinas hembras se marcan solo si han anidado, idealmente mientras ponen huevos. Las etiquetas se compartirán con Conservación Osa y los números de etiqueta están precedidos por el prefijo OP y OSA.

		Las tortugas están marcadas en la primera o segunda escama en el borde posterior de cada aleta.
	Registro de datos biométricos	Los datos biométricos se registran durante las patrullas nocturnas (Cornelius et al. 1991), utilizando formularios de captura de datos de campo personalizados. Estos datos incluyen hora, fecha y ubicación, especie, orientación y actividad de la tortuga, número de marcas preexistentes o recién aplicadas, dimensiones del caparazón y detalles del daño a la tortuga. Otros datos incluyen el ancho promedio de la pista, la profundidad del nido, el número de huevos y el destino inicial del nido (por ejemplo, in situ, reubicado, saqueado, depredado, etc.)
	Reubicación de nidos	La mayoría de los nidos descubiertos durante las patrullas nocturnas se reubican, mientras que los nidos encontrados durante la patrulla matutina no lo son. Los nidos están camuflados para protegerlos de la amenaza de caza furtiva y / o depredación.
	Liberación de nidos (Bahía Drake)	Se registra la hora, fecha y número de crías que emergen de cada nido. Las crías solo se liberan al amanecer o durante la noche y, en diferentes lugares para minimizar la depredación natural.
	Exhumación de nidos	Los nidos eclosionados se analizan para determinar el éxito reproductivo (tasas de eclosión y emergencia), la incidencia de caza furtiva o depredación natural y la eficacia de la metodología de conservación. Se registran datos biométricos (Crastz 1982), incluido el número de crías vivas o muertas, el número de cáscaras vacías, el número de huevos que contienen embriones parciales, total o no desarrollados, y las etapas de desarrollo que han alcanzado dichos embriones. Los huevos/embriones que se encuentran parcial o totalmente depredados se registran como tales, incluidos los detalles del presunto depredador. También se registran anomalías, como deformación, albinismo, gemelos, etc.
	Determinación de la proporción de sexos (Bahía Drake)	La proporción de sexos de los nidos de golfinas en el criadero, se estima utilizando el método indirecto, basado en la temperatura media, durante el período termosensible, medida que utiliza registradores de datos enterrados (temperatura colgante HOB0 UA-001-08). La temperatura pivotal para esta especie se reporta como 30.5 °C para Playa Nancite (Wibbels 1998).
1.4 and 2.4	Capacitación de líderes locales	El entrenamiento ocurre al comienzo de la temporada de anidación, seguido de cursos regulares de actualización. Los cursos adicionales se llevan a cabo a medida que nuevos líderes se unen al programa. Se ofrecen tres cursos: <u>Curso 1 – Antecedentes</u> Obligatorio para todos los asociados, incluye información sobre la historia del programa, construcción de la estación de campo o criadero, plan de trabajo y logística, estrategia de conservación, evolución de las tortugas, ciclo de vida, comportamiento de anidación, especies, peligros y formas en que puede proteger la naturaleza y el medio ambiente. <u>Curso 2 – Patrullaje y Reubicación</u> Incluye información sobre plan de trabajo y logística, responsabilidades de los líderes de patrulla, reglas, estrategia de conservación, patrullas nocturnas y reubicación de nidos.

		<p><u>Curso 3 – Liberación y Exhumación</u> Incluye información sobre el plan de trabajo y logística, responsabilidades de los trabajadores del criadero, reglas, liberación de crías y exhumación de nidos.</p>
	Formación de voluntarios internacionales	<p>La capacitación ocurre cuando nuevos voluntarios se unen al programa. Se ofrecen tres cursos:</p> <p><u>Curso 1 – Programa de voluntariado</u> Incluye información sobre la historia del programa, objetivos y organigrama, orientación, rol del voluntario, área de estudio, alojamiento, excursiones locales, seguridad y protección, plan de trabajo y logística.</p> <p><u>Curso 2 – Biología de la tortuga</u> Incluye información sobre la evolución de las tortugas, el ciclo de vida, el comportamiento de anidación, las especies, los peligros y las formas en que podemos proteger la naturaleza y el medio ambiente.</p> <p><u>Curso 3 – Metodología</u> Incluye información sobre reglas, patrullajes nocturnos, reubicación de nidos, liberación de crías y exhumación de nidos.</p>
1.5 and 2.5	Certificación y contratación de líderes locales	Al completar satisfactoriamente los tres cursos de capacitación y demostrar competencia en la ejecución de protocolos en el campo, los líderes locales pueden ser certificados como líderes de patrulla o trabajadores de criaderos. Los líderes contratados ganan ₡8,000 colones (\$ 16 dólares) por patrulla o turno de incubación, de los cuales donan el 25% (\$4 dólares) como contribución "en especie". La calidad del trabajo de los líderes se evalúa de forma rutinaria y la certificación puede retirarse si es necesario.
1.6 and 2.6	Clases de inglés	Las clases de inglés gratuitas para miembros de la comunidad se llevan a cabo una vez por semana. Las clases tienen formato de talleres relajados y son dirigidas por voluntarios. Las clases están diseñadas para complementar los cursos formales que ya se están llevando a cabo en Bahía Drake.
1.7	Educación ambiental (Bahía Drake)	Sobre la base de 10 años de enseñanza de educación ambiental en Bahía Drake, el educador ambiental continuará implementando clases semanales al menos en cuatro escuelas locales (El Progreso, Agujitas, Los Ángeles y Los Planes) y mantendrá al menos tres grupos de jóvenes en el área, durante el período escolar (no en enero). Se llevarán a cabo dos grandes festivales: el Festival del Árbol y el Festival de la Tortuga Marina, que incluirán importantes componentes de educación ambiental, como juegos, concursos y actuaciones. Este último, generalmente atrae alrededor de 200 lugareños y turistas cada año y crea conciencia sobre el programa y la difícil situación de las tortugas marinas.
2.7	Educación ambiental (Río Oro)	El educador ambiental (con sede en Bahía Drake) visitará las escuelas locales al menos 10 veces para iniciar clases y actividades de educación ambiental en las escuelas locales cerca de Río Oro y Carate, creando una alianza con los maestros locales. El Festival de la Tortuga Marina se llevará a cabo al final de la temporada y puede atraer a alrededor de 100 lugareños y turistas.

1.8	Módulos del taller de formación (Bahía Drake)	Además de proporcionar el programa estándar de capacitación en conservación, se planea una serie de módulos de talleres gratuitos: <u>Módulo 1:</u> Coordinación de voluntarios, desarrollo de páginas web y redes sociales. <u>Módulo 2:</u> Viabilidad empresarial, estudios de mercado, evaluación comparativa, análisis DAFO y elementos legales. <u>Módulo 3:</u> Lectura de estados financieros, viabilidad financiera, elaboración de presupuestos, gestión de flujo de caja e informes financieros. <u>Módulo 4:</u> Planificación empresarial y estratégica, evaluación y proceso de coaching.
2.8	Módulos del taller de capacitación y participación pública (Río Oro)	Además de ofrecer el programa estándar de capacitación en conservación, el programa se enfocará en interactuar con las comunidades cercanas de Río Oro, Carate, Peje Perro y Piro. Las reuniones se basarán en la alianza impulsada por Conservación Osa y MINAET, y se realizarán entrevistas para investigar las necesidades de la población local, su interacción con las tortugas marinas y sus expectativas del programa. Además, se ofrecerán una serie de módulos de taller gratuitos: <u>Módulo 1:</u> construcción de alianzas, cooperación comunitaria, empresas sociales, red de familias anfitrionas y desarrollo del turismo responsable. <u>Módulo 2:</u> coordinación de voluntarios, desarrollo de páginas web y redes sociales. <u>Módulo 3:</u> viabilidad empresarial, estudios de mercado, evaluación comparativa, análisis DAFO y elementos legales. <u>Módulo 4:</u> planificación empresarial y estratégica, evaluación y proceso de coaching.
1.9 and 2.9	Planificación estratégica	Se elaborará un plan estratégico de tres años para la conservación de las tortugas marinas en ambas comunidades, con la colaboración de actores locales, MINAET, COTORCO, Conservación Osa y el Consejo Local Peninsular.
1.10	Entrega de proyecto (Bahía Drake)	La responsabilidad de la conservación de las tortugas marinas en Bahía Drake será legalmente transferida a ACOTPRO, en colaboración con MINAET, sujeto a la consecución de los puntos de referencia acordados durante la temporada 2015.



Educación Ambiente	
Festival de la Tortuga Marina	
Cerrar operaciones de playa	

### Seguimiento y evaluación del proyecto:

Objetivo	Indicador	Métodología	Estado actual	Estado deseado
1.1 - 1.3 and 2.1 - 2.3	<p><b>Bahía Drake:</b> 1 patrulla matutina y 2 patrullas nocturnas realizadas diariamente durante 20 semanas.</p> <p><b>Río Oro:</b> 1 patrulla matutina y 2 patrullas nocturnas realizadas diariamente durante 33 semanas.</p>	Plan de trabajo semanal en pizarra y hoja de cálculo. Turnos locales coordinados por el coordinador de campo local.	En 2013 se realizaron 140 patrullajes matutinos y 360 patrullajes nocturnos (1.720 horas). Se contrataron 180 turnos localmente (720 horas, 42%).	<p><b>Bahía Drake:</b> 140 patrullas matutinas y 280 patrullas nocturnas (1.400 horas). 180 turnos contratados localmente (720 horas, 51%).</p> <p><b>Río Oro:</b> 231 patrullas matutinas y 462 patrullas nocturnas (2.310 horas). 270 turnos contratados localmente (1.080 horas, 47%).</p>
	<p><b>Bahía Drake:</b> Criadero supervisado 24 horas al día, 7 días a la semana durante 18 semanas. Diariamente se realizan 4 turnos de incubación.</p> <p><b>Río Oro:</b> sin criadero</p>	Plan de trabajo semanal en pizarra y hoja de cálculo. Turnos locales coordinados por el coordinador de campo local.	En 2013 se realizó 534 turnos de incubación (3.204 horas). Se contrató localmente 175 turnos, (1.050 horas, 33%).	<p><b>Bahía Drake:</b> 504 turnos de incubación (3.024 horas). 300 turnos contratados localmente (1.800 horas, 60%).</p> <p><b>Río Oro:</b> Sin criadero</p>
	Las patrullas nocturnas encuentran una proporción significativa de tortugas anidando. Las tortugas que anidan salen de la playa con dos etiquetas en su lugar. Los datos biométricos	% de tortugas avistadas calculado como proporción del total de tortugas que se arrastran descubiertas. Números de etiqueta y datos biométricos registrados en	En 2013, se avistó el 49% de las tortugas, de las cuales el 97% se quedó con dos etiquetas colocadas. Datos biométricos registrados para el 100% de las huellas, nidos y	<p><b>Bahía Drake:</b>&gt; 40% avistado, de los cuales&gt; 95% marcado.</p> <p><b>Río Oro:</b> &gt; 20% avistado, de los cuales&gt; 95% marcado. Se registran datos biométricos para el 100% de las huellas, nidos y / o tortugas avistadas.</p>

	se registran para cada rastro, nido y tortuga.	formularios de datos de campo.	tortugas avistadas.	
	<p><b>Bahía Drake:</b> &gt; 75% de los nidos reubicados en la playa o en el criadero. La caza furtiva se mantuvo &lt;10%.</p> <p><b>Río Oro:</b> &gt; 40% de los nidos reubicados en la playa. La caza furtiva se mantuvo &lt;20%.</p>	% de reubicación y % de caza furtiva calculada como proporciones del total de nidos de tortuga descubiertos.	En 2013, el 77% de los nidos fueron reubicados y el 11% fueron saqueados.	<p><b>Bahía Drake:</b> El objetivo es repetir los éxitos anteriores.</p> <p><b>Río Oro:</b> El objetivo es imitar el éxito en Bahía Drake. Las tortugas verdes marinas pasan más tiempo anidando que las tortugas golfinas, por lo que se anticipa que se avistarán menos, ya que se pasa más tiempo con cada tortuga. Sin un criadero se espera que se saquen más nidos en Río Oro que en Bahía Drake.</p>
	<p><b>Bahía Drake:</b> Las crías se liberaron con éxito de los nidos en el criadero.</p> <p><b>Río Oro:</b> Sin criadero.</p>	Los datos fueron registrados en el libro de registro de la planta de incubación.	En 2013, se liberaron 4.550 crías.	<p><b>Bahía Drake:</b> &gt; 5.000 crías liberadas del criadero</p> <p><b>Río Oro:</b> Sin criadero.</p>
	<p><b>Bahía Drake:</b> Se alcanzan tasas de eclosión similares a las de los nidos naturales y &gt; 75%.</p> <p><b>Río Oro:</b> Sin criadero.</p>	Los datos de exhumación de nidos se registran en el libro de registro y se utilizan para calcular las tasas de eclosión y emergencia.	Desde 2006, la tasa de eclosión media en el criadero es de 79,1 y la tasa de eclosión media de los nidos naturales en la playa es de 78,5.	<p><b>Bahía Drake:</b> Tasas de eclosión similares a las de los nidos naturales y &gt; 75% logradas.</p> <p><b>Río Oro:</b> Sin criadero.</p>
	<p><b>Bahía Drake:</b> Se alcanzó una proporción de sexos de las crías cercana al 50%.</p> <p><b>Río Oro:</b> Sin criadero.</p>	Proporción de sexos calculada por método indirecto.	En 2013, la relación obtenida fue 60% hombres, 40% mujeres	<p><b>Bahía Drake:</b> El objetivo es una proporción cercana al 50% en el criadero, aunque Playa Drake tiene un sesgo natural hacia los machos.</p> <p><b>Río Oro:</b> Sin criadero.</p>

**4.2 Translation from Spanish to English**

**Risk Management Plan for the Rincón de Drake Beach Sea Turtle  
Program**

**Corcovado Foundation**

DRAFT VERSION

Alejandra Monge

**2020**

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## General Information of the Organization

### General Data and Activities Developed by the Foundation

Corcovado Foundation is the main organization of the sea turtle conservation program at Rincón de San Josecito in Osa. This organization was created in 1991, but it opened until 1998 when a series of forest management plans worried the community of Bahía Drake due to the impending destruction of forest resources in the area. In its early stages, the foundation dedicated itself to create a program for the enhancement of the Corcovado's National Park. Since then, Corcovado Foundation has worked in three main topics: environmental education and community management, promotion of rural community tourism and good practices for sustainable tourism, and finally, the strengthening of protected wild areas. A program that has been implemented since 2006, and which covers all of the axes mentioned previously, was their sea turtle conservation program (Fundación Corcovado, 2017).

The main trigger of this program was the poaching of turtle's eggs at Progreso beach in Bahía Drake. Therefore, the organization proposed to create a local entity, which would eventually take over this project. Consequently, the organization obtained the first funds to recruit and train the locals who were interested in the conservation; moreover, it was carried out several exchanges with other communities, and the legal costs of formalizing ACOTPRO (the Progress Marine Turtle Conservation Association) were financed and assisted with the training of more than 50 people in the community.

In September of 2016, ACOTPRO informed Fundación Corcovado of their wish to run the project by their own. Therefore, from June 2016, the conservation of the sea turtle in the area has been ~~was~~ in charge of ACOTPRO.

In 2017, the foundation started activities at Rincón de Osa Beach, allying themselves with Fundación Osa, which is run by Jonathon Miller. The latter started the Sea Turtle Conservation Project in 2001 to protect the sea turtles that nest at Rincón Beach. Rincón de

San Josecito Beach is an important nesting beach in the region, where species olive ridley sea turtle (*Lepidochelys olivacea*), Pacific green sea turtle (*Chelonia mydas*), and Hawksbill turtle (*Eretmochelys imbricate*) are recorded, and which are especially endangered. The main objective of the project has always been to protect females and their nests, from both natural and human predation, which has increased ~~increasing~~ in recent years.

The Osa Foundation protected many nesting sea turtles and their nests for about 15 years, making the brave job of resisting nest hunters and discouraging this practice. This Mama Carey project of the Osa Foundation did not have sufficient funds to continue monitoring the beach in 2017, which included hiring locals and carrying out the construction of the hatchery, so they reluctantly decided to stop monitoring and patrolling the beach.

Then, the Osa Foundation decided to partner up with the Corcovado Foundation to continue this task. The Osa Foundation rented the facilities at Guaria de Osa as a camp to house volunteers and assistants of the Corcovado Foundation, and the material for the construction of the hatcheries. On the other hand, the Corcovado Foundation contributed with biologists and patrol materials, and recruited several international volunteers to support the patrols and the construction of hatcheries ~~nurseries~~.

The program normally has 3 biologists trained in sea turtles in nesting beaches management and 5 or 6 volunteers who accompany them to complete the different activities. Among the activities carried out by the team are morning censuses, night patrols, construction of a 40 square meter hatchery, and relocation of nests in the hatchery and release of baby turtles. In addition, the participants perform environmental education activities in schools, participate cleaning the camp, and carry out educational and recreational activities, such as coconut oil making workshops, trips to interesting tourist spots such as Río Claro or Playa de San Josecito.

## DESCRIPTION OF THE ACTIVITIES PERFORMED IN THE PROJECT

### Activities Developed with Volunteers

All volunteers who come to the project receive theoretical and practical training on the management of turtles in the beach. During the practical explanation in the beach, they are given more visual information on census rules and night patrols, nest relocation, hatchery rules, hatchling release, and nest excavation. Moreover, they explain how to recognize tracks and nests, search for nests, camouflage, and relocation. Upon completion of this course, volunteers are qualified to begin accompanying leaders during night patrols and censuses (Corcovado Foundation, 2019). Additionally, the project coordinator guides the volunteers on the camp rules and safety protocols. They are also informed about the broad work of the foundation, the program, the objectives, and the role of the volunteer, study area, accommodation, excursions, security, work plan, and logistics.

On a weekly basis, the project participants perform activities such as beach cleaning and the respective separation of garbage for recycling. In addition, once or twice a week, a documentary related to conservation is played and a discussion is opened at the end about the role of human beings in the conservation of natural resources, the protection of fauna, and the generation of solid waste. Another activity is the measurement of the spawning surface of the turtles (included between the high tide zone and the vegetation). This information is of special interest to determine how the rise in the sea level, as a result of climate change, is affecting the nesting of sea turtles.

### Nesting Beaches Monitoring

The monitoring of the nested female population is a fundamental activity to help any sea turtle conservation strategy, sine qua non it would be impossible to know the periodicity in which the turtles nest, the frequency changes, and the nesting places. These activities are carried out through patrols at Rincón nesting beach (1.7km).

### Morning Censuses

The morning census of the beach is carried out daily at 04:30 each day (if the tides allow it) in order to record the distance of the tracks in the sand left by the mothers. The census is used primarily to establish the opening of the nesting season, and, therefore, the start of night patrols. From then on, the census is routinely conducted to assess the work of the night patrols and to locate new traces that could have been missed or females that emerged after the night patrol had ended. The census is conducted by a patrol leader accompanied by two volunteers. In the case of Rincón Beach, it is very necessary to carry out the census in a timely manner, since around 5:00 a.m. the residents of the communities leave their homes to go to work, and their transit route is the beach. The censuses prevent the inhabitants from looting the nests early in the morning, whose footprints are easy to detect.

### Night Patrols

Night patrols take place on the beach every night during nesting season. This as long as the weather and tides allow it. Two work teams are organized every night, in which there is a patrol leader and one or two volunteers. Each team patrols at different times of the night or early morning. For maximum coverage and optimization of the personnel available, patrols are planned based on the tides, especially the low or dry tide and the phase of the moon, the two-half waxing and waning, which through empirical observation and data collected on the beach are the times with the most turtle activity.

The duration of the patrols is 3 to 4 hours. Only red lights or torches are used during patrols. White light is never used as it scares the mothers away and confuses the baby turtles.

### Relocation of Nests in Hatcheries

The construction of a beach hatchery has become a very effective activity to protect nests from illegal looting, reduction of nesting space, and sea levels rise. Nests discovered during patrols or during the census are always relocated in the hatchery.

The construction of the hatchery is a cumbersome task, which involves the work of the entire team for many hours a day. Volunteers find an ideal spot and begin the removal and shaking of all the sand, so that it is free of roots, stones, trash, or crab nests. It is also important that the sand is free of residues from past nests, and that it will not be contaminated with bacteria or fungi. Once the maintenance of the sand is completed, the participants build a structure in wood and saran or mesh that covers the entire nursery, both on the sides and on top of it. Leaving a sufficient height so that a human can walk inside it. The purpose of the nursery is to prevent animals such as birds, crabs, raccoons, or dogs from entering it.

All these activities described above involve the use of shovels, machetes, scissors, and hammers, among others, which could cause an occupational accident. Moreover, participants could suffer from heat stroke or dehydration due to the hard work on the beach.

#### Characteristics of the Facilities

The program camp is a two-story wooden house, with five fairly spacious rooms on the second floor, and a kitchen, dining room, and living room on the first floor. The house is spacious, but it is quite old. It requires preventive maintenance, mainly a substantial revision of the electrical system.

## Threat Assessment Tools (Caritas de Alemania, 2017)

**Sea Turtle Conservation Program at Playa Rincón de San Josecito de Osa (STCP)****Península de Osa, Puntarenas, Costa Rica**

Threats of Natural Origin	Cause/Origin	Effect	Frequency
Internal Geodynamics			
Landslides	The geomorphological formation of the area where the volunteer program is located in Playa Rincón has risk factors due to possible landslides, since the building is located on a slope-facing the sea.	In the event of large amounts of rain or an earthquake, the slope could give way causing the building to slide on the slope,	It has never happened in Rincon Beach.
Earthquakes	The Southern Zone presents a high seismicity. Between December 2014 and February 2020, there have been at least 6 earthquakes with a magnitude	In the worst-case scenario, the loss of life can occur due to the collapse of buildings and trees, as well as the loss of life could cause the area to be isolated due to the	Approximately every 6 months.

	greater than 5 degrees, due to the proximity of the Península de Osa with the Fracture Zone between the Cocos and Nazca plates.	collapse or damage of bridges necessary for transit between the different populations.	
Tsunami	The proximity of the Osa Peninsula to the fracture zone between the Cocos and Nazca plates could cause an earthquake off the coasts of the Southern zone or offshore, which could cause a tsunami (OVSICORI, 2020).	This could cause enormous damage to people patrolling the beach or living in the camp, with even the possibility of loss of life.	It has never happened.
Hydrometeorological			
Floods	This is the rainiest area of the country. Between 4000 and 6000 mm can be expected to fall per year (Solano et al., n.d.). The rainiest months of the year are from September to November, causing an enormous saturation of the	During certain months of the year, the team of biologists and volunteers STCP at Rincón Beach are isolated from civilization by land. In times of storm, the boats do not risk mooring on the beach for fear that strong waves could capsize the boat.	4 or 5 times a year during the rainiest months.

	soils and the flooding of the rivers, which prevent the passage of vehicles to the area.		
Storms and Hurricanes	Historically, hurricanes and tropical storms that form in the Caribbean generate a large amount of rainfall in the Pacific, impacting the already voluminous rainfall that affects the area between June and the end of November.	The increase in rainfall can cause isolation, landslides, marine accidents, and traffic accidents, as well as the fall of trees on the roads or infrastructure. Increased rainfall also reduces the possibility of conducting beach patrols.	4 or 5 times a year during the rainiest months.
Biological			
Outbreaks of epidemic diseases such as diarrhea, flu, COVID-19, influenza, Zika, Malaria, and other person-to-	Hosting volunteers and biologist teams in relatively small spaces, where two or more people share a room or sleep in bunk beds/cabins can lend themselves to the spread of person-to-person or	The accommodation of volunteers in common spaces implies the easy transmission of diseases such as those initially mentioned. In conditions of relative proximity and being so far away from population centers and therefore	At least once a year, a viral illness is transmitted among volunteers and biologists, whether it is influenza, viral

person transmitted diseases.	mosquito-to-person transmitted diseases.	from medical care centers, health complications could be fatal.	diarrhea, or something else. In light of the COVID-19 pandemic, the problem could be worse.
Snake Bites	Working in the field and exploring the beaches at night to protect sea turtles exposes volunteers and biologists to being bitten by a snake. At night snakes are difficult to see and the practice of avoiding the spotlight so as not to affect the turtles puts the project participants in danger.	The attention of a snake bite should be immediate. The Foundation must be able to guarantee the immediate evacuation of the affected person for care in a health center.	Since 2003, only one project participant has been bitten by a snake, but according to the Clodomiro Picado Institute between 30 and 40 people are affected by snake bites in the canton of Puntarenas.
Natural Origin Partner Threats			

Forest fires or fires in vacant lots	The practice of burning their farms to open a field for planting or burning garbage, can cause enormous impacts on air quality and threaten camp facilities.	In the past, forest burns have affected the health of project participants with asthma, who have had to receive medical attention. In addition, the out-of-control burns could burn the camp facilities, putting the lives of the participants at risk.	It happened in 2018.
Landslides	The vast majority of the facilities and infrastructures in Playa Rincón are located on a hillside. Although, there have been no accidents in the past, there are no geomorphological studies that allow us to conclude that these constructions are safe.	The location of infrastructure and increased rainfall can cause landslides and loss of life and infrastructure.	It has not happened.
Threats of Anthropic Origin			
Workplace Accidents	Beach patrol activities are carried out at night with minimal light, red light, or	Cuts, broken bones, burns, or other accidents could happen during the	At least twice a season, it is necessary to take a

	<p>preferably no light at all, which is why it is easy for program participants to hit, trip, or even tear off a toenail when walking with low light on the beach.</p> <p>The construction of the beach hatchery also carries a risk, since participants are handling a series of tools such as shovels and hammers that could cause injury.</p> <p>Other accidents related to the activities carried out could be related to cuts or burns during the preparation of food, or the ingestion, or inhalation of gases or poorly labeled toxic products, during</p>	<p>execution of the daily activities of the project. The project staff and/or participants should be warned of the precautions they should take, but it is also important to establish a response system to possible situations that may occur such as lacerations, breaks, etc.</p>	<p>project participant to the doctor for first aid, since they have had a injury, break, or sprained foot.</p>
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	the disinfection processes of the facilities.		
Third-party Attacks	In the past, the protection of turtle nests on the country's beaches has caused confrontations with people who have historically extracted them for sale or consumption.	Project participants can be threatened and even attacked by people they meet on the beach. In some beaches, the participants in the patrols have been attacked by people with machetes or even guns. In 2013, conservationist Jairo Mora was murdered on a beach in Limón while on patrol, after making a complaint against egg producers in the area (Miranda, 2013)	It has happened on one or two occasions per season that the patrol teams come across an egg grower who confronts them.
Structural Fires of the Building	Food processing, overloading of electrical systems by charging cell phones, computers and other equipment could cause a fire in the camp.	The camp, built in wood and with a rather archaic electrical system, could not be able to respond to the electrical consumption needs of the participants, causing a short circuit and leading to a fire. Furthermore, the use of candles on days	It has never happened.

	<p>In addition, the use of candles during electricity outages could also endanger the property.</p>	<p>when there is no electricity could cause a fire to break due to carelessness.</p>	
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Threats of Natural Origin	Identification Tools	Probability Assessment
Internal Geodynamics		
Landslides	<p>Evaluation of previous events and historical data, geological soil studies of the most populated areas can determine areas where the soils are not well compacted or where the rains could generate a landslide.</p>	<p><b>Very likely.</b> During the rainy season in the area, landslides are frequent at least 6 times a year on the roads that connect</p>

	The roads in Bahía Drake are especially vulnerable, so it is necessary for communities to organize themselves to inform users of the danger of landslides or their occurrence.	Bahía Drake with Sierpe and/or Rincón.
Earthquakes	The use of remote tools such as overflights or topographic maps to detect tectonic faults and deposits of unconsolidated materials that can cause landslides, mainly in populated areas.	Very likely
Tsunami	SINAMOT in Costa Rica recommends that, if a strong coastal earthquake is felt, which causes objects to fall and/or is of long duration, if an abnormal noise is heard at sea, such as the engine of an airplane, or if the sea recedes people should move away from the sea quickly and climb to high places. (SINAMOT-RONNMAC, 2020)	Unlikely. According to SINAMOT, in Costa Rica Tsunamis have occurred on both coasts, but their occurrence is low.
Hydrometeorological		
Floods	In general, flood-prone areas can be predicted using topographic maps. However, in the case of the project, it is important to locate vulnerable points in the community and	Very likely

	to communicate with people who, due to their proximity, could detect a flood or saturation of streams or rivers.	
Storms and Hurricanes	The CNE and the National Meteorological Service maintain strict control of climatic changes and notify local committees about the possible impacts of these events. The local committee should recommend actions based on past historical events. Normally, the effects of this climatic activity cause floods and landslides.	Very likely
<b>Biological</b>		
Outbreaks of epidemic diseases such as diarrhea, flu, COVID-19, influenza, Zika, Malaria, and other person-to-person transmitted diseases	The area has limited access to quality medical services, so a contagion must be identified as immediately as possible. The patient must be transferred to the nearest health center to be diagnosed and must remain close to it and away from the rest of the team during the process of determining the disease that affects them.	Very likely
Snake Bites	Detecting if a person has been bitten by a venomous snake is essential to give them immediate attention, which is the	A probability of 1 in 600 project participants.

	<p>difference between life and death. According to the Merck manual for public use, in order to determine whether the subject has been exposed to a venomous snake bite the following reactions should be observed:</p> <p>Within the first 30 to 60 seconds: redness and swelling. Bruising and a feeling of tightness. After 3 and 6 hours: blood-filled blisters near the bite. If the snake had a lot of venom: weakness and confusion, nausea (upset stomach) and vomiting, bleeding gums, blood in its urine, feces and vomit, feces. (Merck, 2020).</p>	
<p>Natural Origin Partner Threats</p>		
<p>Forest Fires or Vacant Lots</p>	<p>Forest fires is detected by the residents of the affected farms and are reported to MINAE or the local emergency committee, depending on the impact that this activity may have. Normally, this activity has little impact on homes or population centers; however, it has a huge impact on people with respiratory problems.</p>	<p>Unlikely</p>

Threats of Anthropic Origin		
Workplace Accidents	<p>The coordinating team can detect some areas of weakness in the program that could cause occupational accidents among project participants. For example, the poor labeling of cleaning chemicals could be a trigger for the misuse of these products and consequent poisoning. Other element is working on the beach without white or red light, as it could cause an accident. The coordinator must determine if the tide is low enough for participants to walk on high tide where there is normally more debris, such as tree trunks and branches, garbage such as cans, bottles, and/or plastics that could cause a fall or cut.</p> <p>They are usually identified by the affected subjects. Its seriousness should be evaluated immediately to determine if it requires medical attention.</p>	Very likely, at least 3-4 times per season.

Third-party Attacks	Patrol participants must be very careful with the presence of third parties on the beach. The possibility of people loitering on the beach to extract the turtle eggs are very high, as well as the presence of people who could be attending drug boats. Participants must be alert to the possibility of people on the beach, which is easily detectable by the use of white light bulbs. Staying away from these people is essential to prevent a confrontation or attack.	Very likely
Structural Fires of the Building	Frequent power outages and the use of gas to cook food could cause a fire in the building. For the detection of these, it is important to use fire alarms, both heat and smoke.	Unlikely

## Project Risk Management Policy

The main policy related to project risk management is to protect the integrity and health of the project team, both volunteers and staff. This above anything else. The biologists and volunteers of the program are extremely passionate about sea turtle conservation, and this puts their lives at risk in exchange for the conservation of sea turtles. This is why it is important to emphasize their responsibility to protect their lives and the lives of their team above anything else.

The program has implemented a series of guidelines that are shared in the Volunteer Training Manual. The program has raised some premises that serve as guidelines in order to appropriately manage risk; however, it is evident that project coordination must have more aggressive measures in place to carry out more efficient risk management.

Among the policies that the organization has are:

**Patrolling should not be conducted during electrical storms:** Participants patrol the beach on multiple occasions in the rain, but they are seriously entrusted to seek shelter from it, if lightning begins to strike.

**Patrolling should not be conducted at high tide:** The practice of patrolling with moonlight or red-light bulb limits the visibility of patrols, so it is prohibited during high tide, since the space to move is very limited and is filled with branch residues, tree trunks, garbage such as bottles and others that can cause a trip, a break, a cut, or a scrape.

**The construction of the nursery:** The construction of the nursery is made in divided days. It starts very early in the morning and work stops at 10:00 a.m. when the sun starts to get stronger. Then, work stops, resuming at 3:00 in the afternoon and stopping again at 5:30 p.m. at sunset. A gallon of water is also placed near the construction site, so that participants can constantly refill

their water bottles. This is done in order to prevent participants from getting sunstroke or dehydration.

**Winning the nest:** In the past, participants have wanted to face egg traders who steal nests from the beach. Although it is true that the extraction of nests from the beach is illegal, project participants have neither the authority, nor the training, nor the necessary tools to confront an egg collector. In some places, the egg collectors are even armed with daggers. Some of them carry out illegal activities on the beach and take advantage of the wait on the beach to remove a turtle nest. For this reason, it is essential that program participants do not confront the egg collectors to avoid an attack. The program's policy is that if a participant or a group of participants detect someone stealing a nest, they should avoid a confrontation. If it is possible to determine who committed the crime, it is important to be able to document it, in order to eventually speak with the person or report the crime.

The volunteer is given a series of recommendations in order to make their stay more pleasant:

- Bring your sun hat, sunscreen, sunglasses, a lock, a photocopy of your passport, a small hiking backpack, a bottle of water, Ziplock®-type plastic bags or foldable dry bags to protect your gear, and silica gel sachets to combat humidity.
- Long-sleeved shirts and long pants are recommended to prevent insect bites and provide some warmth during colder nights.
- Insect repellent: to avoid insect bites.
- Medications: if the participant is taking any specific medication, including those for asthma or allergies, it is recommended to bring enough for the duration of their stay.

There is an extensive medical kit available in the program, but you should also bring your own personal kit. There is no malaria in the region, so you do not need to take antimalarial tablets.

**Additionally, it is recommended the organization to adopt the following policies:**

The coordinators of the Rincón de Osa sea turtle conservation program (STCP) will guarantee at all costs the protection of human life and the integrity of all program participants, themselves, and the communities served by the organization.

The STCP coordinators will perform the annual update of the emergency plan, beginning with the necessary coordination with the local emergency committee, so that everybody is fully aware of the operations. Furthermore, the STCP coordinators will present the different risks contemplated in this emergency plan in order to know the position and the management proposals for the different emergencies that may occur and to know the procedures for the activation of an early warning, the areas of vulnerability, and the agents responsible for coordination.

The STCP risk management plan will carefully take into account all the existing legislation regarding the general provisions on human safety, fire protection, and the basic guidelines for the granting of operating permits of the Ministry of Health.

### Organization for Preparedness and Response Organization

The officials responsible for emergency preparedness, attention, and response within the program are the STCP team coordinator and his/her assistants. In order for them to respond to it, they must have the minimum tools to inform and coordinate the risk situations that the project participants may face.

This is why a detailed induction of the area and the possible risks they may face must be carefully carried out with both, the STCP team and the program participants. The threats that exist in the area must be evaluated and discussed proactively with all the people who come to the program.

Both the program coordinator and the assistants should be trained in first aid and CPR before the start of the season. In addition, a visit from a fire extinguisher technician should be arranged to locate fire extinguishers and train participants in their use.

### Functions of the emergency preparedness and response committee

The STCP coordinator must perform a series of necessary functions to ensure that the team is prepared to handle an emergency.

The Coordinator must ensure that they have a first aid kit and other equipment necessary for emergency management is properly equipped, charged, and functioning.

The coordinator must also have an updated first aid manual and a list of emergency telephone numbers, both of which must be updated periodically, so that they have the most up-to-date telephone numbers and contacts.

Maintain agile communication and coordination with the local emergency committee. If the coordinator finds that the committee is not coordinating in an agile way, he should try to strengthen his efforts through an analysis of the issues that are being left out.

Have a preventive maintenance checklist and review that these activities are carried out.

Have the required labeling and equipment necessary for emergency management, and the efficient evacuation of the building, including labeling, reflective tape in steps and walkways, fire extinguishers, smoke and heat alarms for the kitchen, electrical overload switches, among others.

Ensure that the policies and procedures are understood and applied by all program participants, for which additional information must be included in the volunteer manual. Moreover, exhaustive training must also be carried out with each and every new program participant. In addition, both the coordinator and the assistants must keep a log of events, incidents, and accidents reported by program participants. To do this, those responsible for the program should request specific

information about new events or unforeseen events, in addition to ask specific questions about what happened.

The coordinator and, in his absence, the program assistants must be prepared to provide early warning in response to the situation that affects the camp, whether due to the effects of a natural event or an occupational accident.

## Action Plan

### General Objective

Develop Prepare a risk management plan for Rincón de San Josecito de Osa Beach STCP.

### Specific Objectives

- Characterize and evaluate the existing risks in Playa Rincón de San Josecito de Osa community and determine the vulnerability of the project participants and the community to be affected by them.
- Plan actions that proactively reduce the vulnerability of the population and the participants of the STCP.
- Prepare response actions and train employees to actively participate in early warning and emergency response.

### General Actions:

#### Training and Coordination:

Program coordinators and assistants are responsible for leading and taking precautionary and emergency response measures. To do this, before starting the program in July, everyone must complete a first aid course and a training on how to handle fire extinguishers. Both, the coordination team and the program participants should receive an initial induction on the dangers they could face in the area and the type of response for the different natural events that could occur.

### Safety Zones and Evacuation Routes:

The property will be carefully marked by signs, reflective stripes, and emergency lights, which will establish an evacuation route to security zones.

### First Responder Equipment:

- Bandages
- Gauze to stop bleeding
- Band-aids to fix bandages and dressings
- Band-Aids, to cover a cut or burn once disinfected
- Paracetamol or acetaminophen to reduce fever
- Ibuprofen or other non-steroidal anti-inflammatory drug to reduce inflammation, pain, and fever
- Benadryl or another antihistamine to treat pain and itching caused by insect bites, hay fever, allergies, cold symptoms, and insomnia
- Alcohol to disinfect wounds and the implements to be used
- Soap for washing wounds, hands, and area to be treated
- Sunscreen
- Antihistamine lotion when applied topically serves to reduce or eliminate the effects of allergies, minor cuts, burns, poison ivy
- Insect repellent to avoid insect bites
- Flashlight or spotlight with batteries
- Enough water for emergency responding to an emergency
- Auxiliary chargers charged to maintain cell phone contact
- Blankets
- Radio with batteries
- Charged communication radios

- Smoke and heat alarms
- Fire extinguishers
- Reflective tapes
- Emergency lights
- Stretcher

## Activation, Response and Evacuation Plan by Event:

### Landslides

#### Activation:

The coordinating team must establish, together with the emergency committee, the areas of greatest vulnerability based on previous events and historical data. In the areas of greatest vulnerability, the STCP could request the foundation to apply geological soil studies to determine areas where the soils are not well compacted or where the rainfall could generate a landslide. Landslides are especially frequent on the roads between Drake Bay and Rancho Quemado, leaving the community isolated by land.

#### Response Mechanism

It is necessary for the STCP to coordinate well to inform users of the danger of landslides or their occurrence, so that they use an alternative means of entry, either by boat or by light aircraft. This situation also affects the entry of food into the project, so it is necessary for the program coordinator to plan the purchase of non-perishable food for at least two weeks.

#### Evacuation Procedure

A landslide on the roads does not affect the normal operation of the program, as long as there is enough food to meet the needs of the participants; however, if someone needs to leave, their departure would be very limited. The coordinator must coordinate with a boat captain to pick up the person at the southern end of the beach and take them to Agujitas Beach or Sierpe depending on how they are departing.

## Earthquake

### Activation:

There are few early warning options for earthquakes in Costa Rica. The coordinator must have explained to the participants, many of whom are foreigners, how Costa Rica is a highly seismic country, and that it is possible that tremors and even earthquakes may occur during their stay in the program. It is important that the project coordinator has carefully reviewed the exit and meeting points of the participants during the event of an earthquake.

### Response Mechanisms and Evacuation Procedure

The STCP participants must have been trained to recognize and act in the event of an earthquake:

1. In the first few seconds after the shaking begins, keep away from anything that could fall and hurt you.
2. Get down and walk or crawl away from hazards like windows, cabinets, televisions, and bookshelves.
3. If the earthquake is so strong that you cannot walk, remember the phrase "get down, cover your head and wait," which is the course of action recommended by international emergency management organizations.
4. If you are outside, stay away from building, trees, coconut palms, and power lines.
5. Stay close to the ground for balance as you get to safety and watch for falling debris.
6. Stay still until the shaking has stopped for 1 to 2 minutes.
7. Be alert when you get up, as aftershocks can occur at any time after an earthquake.
8. In the event of an earthquake, the team should meet at the designated safe place.
9. In the event that the earthquake could be very strong, and that the building could suffer structural damage, it is important that the coordinator or assistant in charge of the

building raises the alarm. The exits of the building, the corridors, and the bleachers must have been previously prepared with reflective tape.

Additionally, STCP managers must have a response kit for this type of emergency, which may include blankets, rain ponchos, spotlights or flashlights, drinking water, some canned foods. Moreover, the coordinator should immediately contact the CNE, the local emergency committee, and listen to the radio to determine the location of the epicenter of the earthquake. If the epicenter of the earthquake is offshore, it is important that the coordinator or assistants take measures to seek shelter in high ground. This procedure should be carefully reviewed in advance with all participants, so that the patrol teams know what to do in the event of an earthquake. The patrols must be equipped with communication radios that allow them to inform beach teams of the danger of a tsunami.

### Tsunamis

Tsunamis are waves caused by the displacement of water in the sea, either as a result of an underwater earthquake or a volcanic event on the ocean floor. These waves can be large enough to devastate a town (SINAMOT-RONMAC, 2020).

### Alarm Activation

It is important that all program participants know how to determine a possible Tsunami and what measures they should take, whether they are in the camp or patrolling the beach. SINAMOT recommends that:

- If a strong coastal earthquake is felt, which causes objects to fall and / or is of long duration,
- If you hear an abnormal noise in the sea, such as an airplane engine,
- Or if you see the sea receding, people must quickly get away from the sea and climb to high places (SINAMOT-RONMAC, 2020). This is of especially importance considering

the work of the teams is night patrolling of the beach and that the camp is located 50 meters from high tide at about 20 meters above sea level.

#### Response Mechanism and Evacuation Procedure:

In the event of a tsunami threat, it is important that all participants are alerted and find a high place to take shelter. The topography of the coast at Playa Rincón allows participants to climb from 20 to 30 meters in a matter of minutes. It is important to remind them that they should only carry only some communication equipment that they have, but that the evacuation must be done as quickly and easily as possible. The coordinator or assistant in charge will be in contact with the local committee of Playa Rincón to determine the most up-to-date information generated by the CNE and SINAMOT.

All the patrol teams, as well as those that are in the camp, must meet on the main road, in front of the Bella Vistas Cabins, which is located 50 meters above sea level and also has a good mobile connection.

Once, it is verified that there is no danger of tsunami the coordinator can inform the team that it is safe to return to the camp. There, he must check that all participants are well. If, on the contrary, if there has been a tsunami, the coordinator should not allow participants to enter until the condition of the building has been verified.

## Structural Fires in the Building

#### Activation:

Frequent power outages, requiring the use of candles and the use of gas for cooking could cause a fire in the building. For the detection of these fires, it is important to use fire alarms based on heat and smoke.

#### Response and Evacuation Mechanism

It is important that the presence of fire can activate an alarm, in order to allow participants enough time to evacuate the building. The exits from the building, corridors and bleachers must have been previously prepared with reflective tape and emergency lights.

Besides, STCP managers must have fire extinguishers to control the fire. All program participants will receive training on evacuation routes and primary response to a fire outbreak. They will also learn the location of the survival kit, which will include a first aid kit, spotlights, chargers, and medications.

Program coordinators and assistants could evaluate the seriousness and intensity of the fire to try to mitigate it with fire extinguishers and hoses, while one program participant calls 911 and another takes out the survival kit, which should be located on the first floor near the camp's exit.

In the event that the fire cannot be contained, participants must move away from the building and let it run its course. The arrival of the fire trucks can take between one and three hours.

## Floods

### Activation:

The area where the project is located has no risk of flooding; however, for the operation of the program it is crucial to determine when the floods begin to generate flooding, since this prevents land transportation, limiting the entry and exit of personnel by land, as well as entry of food. It is important that the committee has constant communication with the local emergency committee in order to monitor the progress of the situation and take the necessary precautions.

### Response Mechanisms

In this case, the coordinator must take the following measures:

1. Ensure that they have the necessary amount of food to be able to provide sustenance to the team participants who are in the camp.
2. Alert the local committee authorities of the number of people housed in the camp.

3. Alert the volunteer coordinator about the situation, so that she can inform the incoming volunteers and postpone their entry or make the necessary arrangements for their entry by other means.
4. Coordinate with the boat captains at home that there is an emergency exit (contact list is attached).

### Evacuation Procedures

Floods do not affect the normal operation of the program, as long as there is enough food to meet the requirements of the collaborators, but if someone needs to leave, their departure would be limited to leaving by boat via Sierpe. The coordinator must coordinate with a boat captain to pick up the person at the southern end of the beach and take them to the port of Sierpe, where they would be contacted a taxi or bus to take them to Palmar. In Palmar, the participant can take a bus or plane to San Jose. If your departure is due to an emergency due to an illness or accident, the coordinator can contact a taxi driver to pick them up at Sierpe and take you to the Puerto Cortez Hospital.

## Storms and Hurricanes

### Activation:

Like floods, storms and hurricanes can affect the area. Thanks to the CNE and the National Meteorological Service, STCP teams can be informed a few days in advance about the possibility of a tropical storm or hurricane. The most likely scenario is that the area will be affected by a substantial increase in rainfall, in which case the CNE could issue a yellow or red alert, since this could result in floods, loss of infrastructure such as bridges and landslides, especially in roads (IMN, 2020).

### Response Mechanism

This is of vital importance, since it is not advisable to bring participants to the project either by land or by sea during stormy weather. In addition, during storm and hurricane seasons, although the area is not directly affected, the large amount of rainfall affects the electrical flow, limits the pumping of water, and the entry of food. Moreover, if there is an emergency of another nature, getting those affected out of the area is extremely difficult. For all these reasons, it is recommended that for dates when hurricane activity is expected, it is better to postpone the entry of volunteers. The coordinator must make the early warning for which he must take the steps mentioned above.

In the event that the CNE issues a red alert for the Osa Peninsula, the project coordinator will coordinate the departure of all project participants and will install them in a hotel in Sierpe or Palmar Sur. If there is no danger of direct impact, the coordinator and the team may remain in the area but must

1. Ensure that they have the necessary amount of food to be able to sustain the team participants.
2. Alert the local committee authorities of the number of people housed in the camp.
3. Alert the volunteer coordinator about the situation, so that she can inform the incoming volunteers and postpone their entry or make the necessary arrangements for their entry by other means.
4. Probably cancel patrols during torrential rainy days.

### Evacuation Procedure

In the event that the CNE issues a red alert or a program participant has to leave the area, the coordinator will contact a boatman in the area and coordinate the location on the beach to evacuate the team or the individual. The boat captain will take the individuals to the port of

Sierpe, where they can look for lodging or they can take a taxi to the airport, the bus stop, or in the worst case, to the Puerto Cortes Hospital.

## Outbreaks of epidemic diseases, work accidents, snake bites:

### Activation:

**Epidemic diseases:** In the area, it is typical for project participants to suffer from diarrhea some of them viral, as well as flu and influenza. All of these have an easy transmission, since the participants share their bedrooms, kitchen utensils, and remain in close contact. Currently, with the appearance of COVID-19, the program must take much more aggressive measures to prevent the spread of viral diseases, including reducing the number of people per room, improving the general hygiene measures of the building and personal hygiene of the participants.

In the case of other diseases such as Zika, Dengue, and other mosquito borne diseases, it is necessary for the program to have mosquito nets and other devices to prevent mosquitoes from biting participants. In addition to this, they should be recommended to wear long pants and long-sleeved shirts that protect them against mosquito bites, as well as repellent.

**Snake bites:** The person who has been the victim of a snakebite does not always know if it is a venomous snake or not. Detecting whether a person has been bitten by a venomous snake is critical to provide appropriate care. In order to determine if the subject has been exposed to a venomous snake bite, the following reactions should be observed (Merck, 2020):

Within the first 30 to 60 minutes, there is a redness of the affected area, swelling, bruising, and a feeling of tightness. After 3 and 6 hours, bloody blisters develop around the bite. If the snake had a lot of venom, the patient begins to develop weakness and confusion, nausea (feeling upset stomach) and vomiting, bleeding gums, blood in urine, feces and vomit, feces (Merck, 2020).

If the patient begins to have any of these symptoms, it is vital to take him to a hospital immediately.

**Workplace accidents:** The coordinating team can detect some areas of weakness in the program that could cause workplace accidents among project participants. For example, the bad labeling of cleaning chemicals could be a trigger for the misuse of these products and consequent poisoning. Other elements is working on the beach work without white or red light because it could cause an accident. The coordinator must determine if the tide is low enough for participants to walk on high tide where there is normally more debris, such as tree trunks and branches, garbage such as cans, bottles and or plastics that could cause a fall or cut. They are usually identified by the affected subjects. Their seriousness should be evaluated immediately to determine if they requires medical attention.

### Response and Evacuation Mechanisms

#### Training

Both STCP coordinators and assistants will receive CPR and first aid training prior to the start of the season. This so they can respond to an accident or incident, and stabilize a patient while an ambulance arrives, or a boat is obtained to remove the patient.

In the event that any of the participants may have symptoms of illness, may have had an accident, or have been attacked, they must be taken to the nearest health center to be diagnosed and must remain close to it and isolated from the rest of the team during the process of diagnosing the illness. A staff member, either the coordinator or an assistant of the project, must accompany the person during the transfer and treatment.

- **Cases of medium severity:** In case of minor cuts or wounds, stomach pain, sprained ankle, or some minor ailment, the subject can be transferred by land to the private Clinic in Bahía Drake (20-30 minutes by land in 4X4 vehicle). It is a private clinic, but they accept

people with travel medical insurance. They have a 4x4 ambulance that can go to the end of the beach to pick up the patient. The program has already established a procedure for handling these types of situations with the clinic.

- **Very severe cases:** For cases that may require to be seen in the emergency room of the Cortes Hospital, such as severe diarrhea, snake bite, broken bones, suspected COVID19, among others, the following options are presented:
  1. The Drake Bay private clinic can pick up the volunteer with their ambulance and take them to the Bahía Drake airport (40 minutes by car). There is an agreement with an airline to transfer patients to a hospital in San José if necessary. This is the protocol recommended by the clinic in Bahía Drake, so that they can stabilize the patient before the flight and evaluate whether it is necessary to go to San José or not.
  2. There is also the option of taking the person out by boat and taking the injured person to Sierpe in approximately 75 minutes, where an ambulance will be waiting for him, and then, they will take him to the Puerto Cortes Hospital (15 minutes by car).
  3. The last option would be to land a helicopter at the end of the beach, in an old soccer field where there is enough space for it.

The private clinic in Bahía Drake is called Medical Center, they work in conjunction with Continental Emergency System, and the Hospital in San José where they send the patient if necessary

## Assessment and Recovery

Once the event or emergency has passed, the coordinating team must determine the severity of the damage in order to restart functions. If the damage was to the building, the coordinators should consult the foundation about re-entry to the building. The foundation will assess the damage with the help of a team of engineers who support the work of Corcovado Foundation. Only once the building has been given the go-ahead, it will be possible to enter the building;

meanwhile the participants can be transferred to Drake or can be accommodated at the Rincón School.

Apart from this, the coordinators and the participants must evaluate the damages and losses to the property and equipment. The team will also evaluate the efficiency of the evacuation and or response to the situation. It will be evaluated what equipment is required for emergency care, what equipment could have been useful, what procedure was not implemented correctly, what information was missing. All these details will be incorporated into the emergency plan in order to prevent them from happening again.

For this, the coordinator will hold a meeting with the entire team to obtain their opinion on the situation. These reports should be integrated into the management plan and should be reported to the Corcovado Foundation for its in other programs.

## Appendix 1

### Important Contact Numbers

#### **Emergency Numbers**

Emergencies 911

Local Emergency Committee: Mayra Cano +506 8674-0490

Drake Bay Medical Center: +506 8408 5649

Clinic Center of Bahía Drake: Telephone +506 2775 1975

#### **Organization information**

Telephone: +506 2297 3013 (San José office) Fax: +506 2241 2906

Email: [info@corcovadofoundation.org](mailto:info@corcovadofoundation.org)

Aida García - Volunteer consultations and logistical support in Costa Rica.

Phone: +506 8447 8557

Email: [aida@corcovadofoundation.org](mailto:aida@corcovadofoundation.org)

#### **Sierpe - Palmar Norte**

- Taxi: Pedro +506 8703 2121

- Pulpería (Hermanos Mora-Palmar Norte): +506 2786 7850

- Pulpería (Super Sierpe): +506 2788 1026

#### **Drake**

- Taxi: Eric +506 8503 7678

- Taxi: Delfín +506 8937 2020

- Taxi: Freiser +506 8736 2153

- Air Taxi: Alvaro +506 8662 7979

- Pulpería (Súper Santa Fe): +506 2775 1639

#### **Los Planes**

- Taxi: Hendry +506 8330 0368

- Quadricycle: Chepingo +506 8861 5508

**Boat Transportation Sierpe-Drake-San Josecito**

- Chancha: +506 8853 5168

- Dago: +506 8720 0925

- Eligio: +506 8703 7890

- Oldemar: +506 8316 0703

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**Subject****“Regulations to prevent, investigate and punish sexual harassment at the Corcovado Foundation”**

The Board of Directors, through resolution number XXXXXXXXX, taken in session number XXXXXXXXXXXX, agreed to approve the “Regulations to prevent, investigate and punish sexual harassment in Corcovado Foundation”, which was decreed in the following terms:

**“REGULATIONS TO PREVENT, INVESTIGATE , AND SANCTION SEXUAL HARASSMENT AT THE****CORCOVADO FOUNDATION”**

## CHAPTER I

## OBJECTIVES OF REGULATION

**ARTICLE 1: OBJECTIVES:**

The objectives of the regulation to prevent, investigate and punish Sexual Harassment at Corcovado Foundation are:

1. Maintain conditions that guarantee a work environment free of sexual harassment, as well as discriminatory practices through respect between officials, volunteers, service users, and external contracted personnel of the Corcovado Foundation.
2. Avoid any form of manifestation of sexual harassment, which is detrimental to working conditions, as well as the general state of personal well-being.
3. Make known that sexual harassment constitutes an undesirable conduct for those who receive-it and that it is a discriminatory practice based on sex, against the dignity of women and men in labor relations, and that the Corcovado Foundation has a policy aimed at preventing, investigating, and sanctioning it.

4. Establish, within the existing legal parameters, an adequate, effective, and confidential internal procedure that allows complaints of harassment, its investigation and, if responsibility is determined, impose the pertinent sanctions on the harasser, without prejudice to other actions taken by the victim.

#### **ARTICLE 2: DEFINITIONS:**

1. **Sexual harassment:** Sexual harassment or harassment is defined as any written, verbal, or non-verbal or physical sexual conduct, unwelcome by the recipient, repeated or isolated, that causes substantial interference with a person's work or educational performance, or creates an intimidating, hostile, or offensive environment.
2. **Victim:** is the person who suffers the harassment. For the purposes of these regulations, it includes civil servants, volunteers, service users, and outsource personnel of the Corcovado Foundation.
3. **Complainant:** The person who an alleged conduct constituting sexual harassment is attributed.
4. **Sexual Harassment Technical Unit:** body responsible for receiving, processing, and resolving complaints of sexual harassment in accordance with the provisions of these regulations.

#### **ARTICLE 3: SCOPE OF COVERAGE**

These regulations shall apply to all the civil servants, volunteers, service users, and outsource personnel of the Corcovado Foundation.

#### **CHAPTER II**

#### **MONITORING AND DISCLOSURE POLI**

#### **ARTICLE 4: PERSON IN CHARGE OF THE FOLLOW-UP POLICY:**

The follow-up work regarding the implementation of the regulations and the Law against Sexual Harassment in Employment and Teaching shall be the responsibility of the Sexual Harassment Technical Unit.

**ARTICLE 5: PERSON IN CHARGE OF THE DISSEMINATION POLICY:**

The work of disseminating the regulations and the Law against Sexual Harassment in Employment and Teaching shall be the responsibility of the Sexual Harassment Technical Unit. To this work, the Corcovado Foundation will provide all the necessary human and material resources.

**ARTICLE 6: DISSEMINATION MECHANISMS**

The dissemination mechanisms of the Law against Sexual Harassment in Employment and Teaching, as well as the Internal Policy to prevent, discourage, avoid, and eventually punish sexual harassment behaviors, will be:

1. Posting, in visible places in each office or work center, a copy of both normative instruments.
2. Incorporate into the Institutional Induction and Training Programs, all those mechanisms that allow the transmitting and raising awareness of the contents of the institutional policy against sexual harassment and the application of the regulations and the Law in force on this matter.
3. Any other that may be is considered pertinent.

**CHAPTER III**

**PREVENTION POLICY**

**ARTICLE 7: PREVENTION MECHANISMS:**

Without prejudice to other mechanisms to be implemented in the future, the prevention of conducts constituting sexual harassment shall be the responsibility of the Sexual Harassment Technical

Unit, who shall promote, at the institutional level, the implementation of activities of a different nature, in order to meet the objectives established in the policy against Sexual Harassment.

#### **CHAPTER IV**

#### **OF THE ORGANS, ATTRIBUTIONS, AND POWERS**

#### **ARTICLE 8: THE SEXUAL HARASSMENT TECHNICAL UNIT**

The Sexual Harassment Technical Unit shall be composed of the Board of Directors.

#### **ARTICLE 9: ABOUT THE COMPETENCES**

The Sexual Harassment Technical Unit shall ~~will~~ have the following attributions and powers:

1. Receive complaints of sexual harassment.
2. Process complaints of sexual harassment.
3. Receive testimonial evidence and collect other evidence offered by the parties, which were admitted.
4. Request from any official, the necessary collaboration to conclude the investigation.
5. Verify that in the process there are no errors or omissions capable of producing nullity or defenselessness.
6. Resolve requests for precautionary measures.
7. Resolve whether or not to impose a disciplinary sanction.
8. Temporarily suspend the accused, with pay ~~salary~~ when appropriate or to transfer the complainant.
9. Issue the resolution on the merits of the procedure.

#### **ARTICLE 10: DUTY OF COLLABORATION OF THE FOUNDATION'S EMPLOYEES**

Any officer or official, whose collaboration is requested by the Sexual Harassment Technical Unit, for the investigation of a complaint of sexual harassment, is under the obligation to provide it. The unjustified refusal of the head of office or official will be considered as a misconduct that gives scope for the application of the disciplinary regime, in accordance with Article 81 of the Labor Code.

#### ARTICLE 11: DUTY TO REPORT

Any official, volunteer, service user and outsourced personnel who becomes aware of a situation of sexual harassment, in any of its manifestations, is obliged to report the harasser to the appropriate body, even against the will of the alleged victim. In these cases, the investigation will only begin when the alleged victim ratifies the complaint; otherwise, the complaint will be dismissed, unless the sexual harassment is public and notorious.

### CHAPTER V

#### PROCEDURE FOR INVESTIGATING COMPLAINTS

The complaint shall be received by the Sexual Harassment Technical Unit, which shall validly meet with half plus one of its members, in private and shall be recorded in writing. It shall necessarily contain:

1. Name and complete qualifications of the alleged victim and the accused.
2. Precise identification of the labor relationship between the alleged victim and the accused.
3. Objective description of all those situations that could constitute manifestations of sexual harassment, with an approximate mention of the date.
4. Determine whether the conduct had an unwanted sexual connotations; that is, not wanted or not accepted by the alleged victim.
5. Enumeration of the means of proof that support the complaint.
6. Designation of place to attend notifications.
7. Place and date of the complaint.

8. Signature of the complainant.

#### **ARTICLE 13: THE VICTIM AS A PARTY IN THE PROCESS**

The victim shall be expressly recognized as a party to the process, with all the rights inherent to this condition, including the possibility of being assisted by a legal professional.

#### **ARTICLE 14: PRECAUTIONARY MEASURES**

The Sexual Harassment Technical Unit may order, provisionally and at any time, as of the filing of the complaint, the following precautionary measures:

1. The temporary suspension, when appropriate.

It shall be arranged in relation to the denounced, in the following cases:

- a) When their presence may cause greater aggravation to the alleged victim;
- b) When it may hinder the investigation;
- c) When it can influence eventual witnesses.

Said suspension may not be extended beyond one calendar month, but it may be arranged in installments and shall not entail the loss of any right or benefit.

2. That the alleged harassing person refrains from disturbing the complainant.
3. That the alleged harassing person refrains from interfering with the complainant's use and enjoyment of the complainant's work tools.
4. The transfer of the accused:

It shall be provided, in relation to the person denounced, in the following cases:

- a) When both parties work in the same department or office, or when there is a relationship of subordination.

- b) When there is a clear presumption that the harassment will continue;
  - c) In the event of a transfer as a precautionary measure, it must be to a position of equal rank, respecting all the rights and benefits of the accused.
5. Other measures may be dictated that tend to protect the witnesses and the complainant to avoid any type of re-victimization.

The aforementioned measures may be appealed, in writing, within the third working business day after their notification, before the Board of Directors. The Board of Directors must resolve the appeal within five working days.

#### **ARTICLE 15: CONFIDENTIALITY OF THE INVESTIGATION**

Except for the final reports that must be sent to the National Directorate and Labor Inspection of the Ministry of Labor and Social Security, it is prohibited to disclose information on the complaints filed, the investigation process, and the results thereof. This prohibition affects the departments and officials whose collaboration is required for the purposes of the investigation, the witnesses offered who have the status of employees, the members of the Sexual Harassment Technical Unit, those who hold the status of complainants and the parties involved in the investigation.

#### **ARTICLE 16: TRANSFER OF THE COMPLAINT AND DETERMINATION OF THE TIME PERIOD FOR INVESTIGATION**

Once the Sexual Harassment Technical Unit has received the complaint, it shall notify the person accused, personally and privately, by means of an act that must be signed as proof of receipt. In this act, a hearing will be given for a term of five working days, on the content of the complaint and on the evidence offered by the complainant, for the purpose of expressing in writing, his/her defense and offer his/her evidence and he/she will be notified to indicate a means to receive notifications, either by fax or email.

In the same resolution ordering the transfer of the complaint, the Sexual Harassment Technical Unit, will warn the parties that the term of the investigation may not exceed three months and that, for labor purposes, it suspends the statute of limitations for the exercise of disciplinary authority. In addition, the Sexual Harassment Technical Unit may summon both parties to a voluntary, oral, and private appearance within the five working days, after notification of the complaint.

#### **ARTICLE 17: HEARING ON THE RESPONSE TO THE COMPLAINT**

Once the complaint has been answered, in a timely manner, the Sexual Harassment Technical Unit shall give a hearing for three working days, of it and of the evidence offered, to the complainant. Once this hearing has been completed, it will proceed to resolve the preliminary exceptions proposed by the denounced party.

#### **ARTICLE 18: HEARING FOR THE RECEIPT OF EVIDENCE**

The Sexual Harassment Technical Unit shall set a time and date to receive in a single hearing, the testimonial evidence offered by both parties, with express mention of the names of the admitted witnesses.

Each witness will be received separately, with the sole presence of the Sexual Harassment Technical Unit, both parties, and their lawyers. The witnesses, under oath and aware of the duty to tell the truth under penalty of being denounced for false testimony, will be interrogated by the Sexual Harassment Technical Unit, only in relation to the facts on which the complaint is based ~~relates~~.

Witnesses may be cross-examined by the parties and their attorneys, and the Sexual Harassment Technical Unit shall ensure that everything is done with the utmost respect and restraint. A record will be drawn up of their statements, which will be signed at the end by all those present. If any of the proposed witnesses does not appear at said hearing, their statement will be disregarded dispensed, unless the

Sexual Harassment Technical Unit considers it essential, in which case a new appointment will be made within the next five working days.

**ARTICLE 19: EVACUATION OF OTHER EVIDENCE**

Between the time of the appearance and the hearing for the reception evidence is held, the Sexual Harassment Technical Unit, shall evacuate or send all kinds of evidence, admitted to the parties and those that on its own initiative it considers fundamental for the outcome of the investigation.

## **CHAPTER V**

### **Data Analysis**

In this chapter, there will be analyzed each of the document which were translated, with the purpose of comprehending the stylistic and semantic decisions, whilst learning about the adequate techniques used by the researcher. The purpose of this section is to give a visual image of each technique applied in the translation; therefore, giving information about the decisions taken, and make some conclusions about them. Moreover, this chapter will show the results obtained after translating the documents Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake from Spanish into English and Para traducir project summary from English into Spanish. Furthermore, it will also include the text analysis section, the color-coding process, and the translated paragraphs. First, it can be found a paragraph taken from the original document, and below the paragraph its translated version with its corresponding color-coding. Finally, the glossaries made during the elaboration of the translations are provided. These include specific words from each of the documents given to the translator.

#### **5.1 Analysis and Interpretation of the Results**

In this section, the objectives from Chapter I will be developed in order to analyze the translated documents and to guarantee that a faithful translation is delivered. Text analysis of the documents which include the text styles, stylistic scales, scales of formality, generality or difficulty, emotional tone, text function, and translation methods is provided, as well as the color-coding, and glossaries. This will help the translator to analyze and effectively translate any given document.

### 5.1.1 Text Analysis

The first part of the translation process was the text analysis. The first aspect taken into consideration was the text styles. As discussed in Chapter II, there are several types of text styles, which include narrative, descriptive, discussion, and dialogue. It can be stated that both documents, Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake and Para traducir project summary, are narrative. These particular documents are projects that are meant to inform the reader about a specific topic; therefore, they provide all the information about the project in a very detailed manner. The document Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake is about an action plan to check the risks of the sea turtle program in Bahía Drake; while the other document is a summary of how well the sea turtle program is going, and a guide plan of improvement for it so far.

In terms of the stylistic scale of formality, the language in both documents is formal. The documents are part of Corcovado Foundation resume; therefore, its formality. The predominant type of language used in both documents is neutral language. The reader is able to understand the idea and the topic of each document, yet the documents have some technical language in regards of the vocabulary used to explain the sea turtles' environment, species, and tools used. Words that only people that is acquainted with the sea turtle conservation area would understand.

For the scale of generality or difficulty, both documents are considered educated. They use formal terminology specific for each branch of knowledge. Regarding the emotional tone, both documents are understandable or factual, as they go straight to the point. Both documents attempted the use of a text with several intensifiers that categorizes it as factual. In addition, both documents are informative papers that try to prove a point by stating facts and evidence to support their ideas. Finally, after analyzing the documents the translator opted to categorize both

documents as semantic, for the main objective is to deliver a message that is true to the original text and the literal translation procedure was widely used.

The following chart is a summary of the elements used to analyze the translated documents:

<b>Text Analysis</b>	<i>Para Traducir Project Summary</i>	<i>Plan de Gestión de Riesgos Playa Rincón de Drake - para Traducir</i>
<b>Text Style</b>	Narrative	Narrative
<b>Stylistic Scale of Formality</b>	Formal	Formal
<b>Stylistic Scale of Generality</b>	Educated	Educated
<b>Stylistic Scale of Emotional Tone</b>	Understandable/factual	Understandable/factual
<b>Text Function</b>	Informative	Informative
<b>Type of Translation</b>	Semantic	Semantic

*Text Analysis Chart. Source: Researcher's own creation*

### 5.1.2 Color Coding

The color-coding technique will be used to identify the translation techniques applied to the documents. Each color is assigned to a procedure; green is assigned to transposition, blue to modulation, yellow to omission, red to amplification, orange to explicitation, pink to literal translation, violet to punctuation changes, navy blue to compensation, light blue to equivalence, teal to adaptation, gray to borrowings, dark yellow to calque, and dark red for sentence inversion. The comparison will be made between two paragraphs, the first one will be the paragraph of the original source language text and the second one, marked with colors, will be the target language text. Some colors will be present in the first paragraph to mark omissions.

Transposition
Modulation
Omission
Amplification
Explicitation
Literal Translation
Punctuation Changes
Compensation
Equivalence
Adaptation
Borrowing
Calque
Sentence Inversion

*Color coding. Source: Researcher's own creation*

### 5.1.2.1 Tranlastion from Spanish into English of the document Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake

#### Paragraph 1

La Fundación Corcovado es la organización madre del programa de conservación de tortugas marinas en Rincón de San Josecito de Osa. Esta organización fue creada en 1991, pero solo fue activada hasta 1998, cuando se aprobaron una serie planes de manejo forestales que preocuparon a la comunidad de Bahía Drake por la inminente destrucción de los recursos forestales de la zona. En sus inicios la fundación se dedicó a crear un programa para el fortalecimiento para el Parque Nacional Corcovado. Desde entonces la Fundación Corcovado ha trabajado en tres ejes principales: educación ambiental y gestión comunal, la promoción del turismo rural comunitario y buenas prácticas para el turismo sostenible, y finalmente el fortalecimiento de áreas silvestres protegidas.

#### Tranlastion

Corcovado Foundation is the main organization of the sea turtle conservation program at Rincón de San Josecito in Osa. This organization was created in 1991, but it opened until 1998 when a series of forest management plans worried the community of Bahía Drake due to the impending destruction of forest resources in the area. In its early stages, the foundation dedicated itself to create a program for the enhancement of the Corcovado National Park. Since then, Corcovado Foundation has worked in three main topics: environmental education and community management, promotion of rural community tourism and good practices for sustainable tourism, and finally, the strengthening of protected wild areas.

## Paragraph 2

El saqueo de huevos **de** tortugas en la playa **del** Progreso en Bahía Drake fue el primer detonante de este programa, la organización se propuso la creación de una **entidad local**, que eventualmente se hiciera cargo de este proyecto. **Así fue como** la organización consiguió los primeros fondos para reclutar y capacitar personas locales que les interesara la conservación, así realizó varios intercambios con otras comunidades, financió los costos legales de formalización de ACOTPRO (la Asociación de Conservación de la Tortuga Marina del Progreso) y la asistió con la capacitación de más de 50 personas de la comunidad. En Setiembre del 2016, ACOTPRO informó a la Fundación Corcovado de su deseo de llevar el proyecto por su cuenta.

## Translation

The main trigger of this program was the poaching of turtle's eggs at Progreso beach in Bahía Drake. Therefore, the organization proposed to create a local entity, which would eventually take over this project. Consequently, the organization obtained the first funds to recruit and train the locals who were interested in the conservation, moreover, it was carried out several exchanges with other communities were carried out, and the legal costs of formalizing ACOTPRO (the Progress Marine Turtle Conservation Association) were financed and assisted with the training of more than 50 people in the community. In September of 2016, ACOTPRO, informed Fundación Corcovado of their wish to run the project by their own.

### Paragraph 3

En el 2017, la fundación inicia actividades en la Playa Rincón de Osa, aliándose con la Fundación Osa, dirigida por Jonathon Miller. Esta última comenzó el Proyecto de Conservación de Tortugas Marinas en 2001, para proteger a las tortugas marinas que anidan en la playa de Rincón. La playa Rincón de San Josecito es una importante playa de anidación en la región donde se registran las especies de tortuga golfina (*Lepidochelys olivacea*), tortuga verde del Pacífico (*Chelonia mydas*) y tortuga carey (*Eretmochelys imbricate*), las cuales están especialmente en peligro de extinción. El objetivo principal del proyecto siempre ha sido proteger a las hembras y sus nidos, tanto de la depredación natural como humana, aumentando en los últimos años.

### Translation

In 2017, the foundation started activities at Rincón de Osa Beach, allying themselves with Osa Foundation, which is run by Jonathon Miller. The latter started the Sea Turtle Conservation Project in 2001 to protect the sea turtles that nest at Rincón Beach. Rincón de San Josecito Beach is an important nesting beach in the region where species such as olive ridley sea turtle (*Lepidochelys olivacea*), Pacific green sea turtle (*Chelonia mydas*) and Hawksbill turtle (*Eretmochelys imbricate*) are recorded, and which are especially endangered. The main objective of the project has always been to protect the females and their nests, from both natural and human predation which has increased in recent years.

#### Paragraph 4

La Fundación Osa protegió a muchas tortugas marinas que anidan y sus nidos durante unos 15 años, haciendo el valiente trabajo de resistir a los cazadores de nidos y desalentando esta práctica. Este proyecto de Mama Carey de la Fundación Osa no tenía fondos suficientes para continuar monitoreando la playa en 2017, lo que incluía contratar locales y llevar a cabo la construcción del vivero, por lo que decidieron a regañadientes dejar de monitorear y de patrullar la playa. La Fundación Osa decidió entonces asociarse con la Fundación Corcovado, para continuar con este esfuerzo. La Fundación OSA alquiló las instalaciones de Guaria de Osa como un campamento para albergar a los voluntarios y asistentes de la Fundación Corcovado, y el material para la construcción de la guardería mientras tanto la Fundación Corcovado contribuyó con los biólogos y materiales de patrulla, y reclutó a varios voluntarios internacionales para apoyar las patrullas y la construcción de viveros.

#### Translation

The Osa Foundation protected many nesting sea turtles and their nests for about 15 years, making the brave job of resisting nest hunters and discouraging this practice. This Mama Carey project of Osa Foundation did not have sufficient funds to continue monitoring the beach in 2017, which included hiring locals and carrying out the construction of the hatchery, so they reluctantly decided to stop monitoring and patrolling the beach. Then, the Osa Foundation, decided to partner up with the Corcovado Foundation to continue this task. The Osa Foundation rented the facilities at Guaria de Osa as a camp to house volunteers and assistants of the Corcovado Foundation, and the construction material of the hatcheries. On the other hand, the Corcovado Foundation contributed with biologists and patrol materials, and recruited several international volunteers to support the patrols and the construction of hatcheries.

### Paragraph 5

El programa normalmente cuenta con 3 biólogos entrenados en el manejo de tortugas marinas en playas de anidación y 5 o 6 voluntarios que los acompañan a realizar las diferentes actividades. Entre las actividades que el equipo realiza están censos matutinos, patrullajes nocturnos, construcción de un vivero de unos 40 metros cuadrados, reubicación de los nidos en el vivero y liberación de tortuguitas. Adicionalmente, los participantes realizan actividades de educación ambiental en las escuelas, participan en la limpieza del campamento y realizan actividades educativas y recreativas, como talleres de elaboración de aceite de coco, paseos a puntos turísticos interesantes como el Río Claro o la Playa de San Josecito.

### Translation

The program normally has 3 biologists trained in the management of sea turtles in nesting beaches and 5 or 6 volunteers who accompany them to complete different activities. Among the activities carried out by the team are morning censuses, night patrols, construction of a 40 square meter hatchery, and relocation of nests in the hatchery and release of baby turtles. In addition, the participants perform environmental education activities in schools, participate cleaning the camp and carry out educational and recreational activities, such as coconut oil making workshops, trips to interesting tourist spots such as Río Claro or Playa de San Josecito.

**Paragraph 6**

Todos los voluntarios que llegan al proyecto reciben una capacitación teórica y práctica sobre el manejo de tortugas en la playa. Durante la explicación práctica en la playa, se les da información más visual sobre reglas de censos y patrullas nocturnas, reubicación de nidos, normas del vivero, liberación de crías y excavación de nidos. Además de como reconocer los rastros y nidos, búsqueda de nidos, camuflaje y reubicación. Al completar este curso, los voluntarios están cualificados para comenzar a acompañar a los líderes durante las patrullas nocturnas y censos (Fundación Corcovado, 2019). Adicionalmente el coordinador del proyecto orienta a los voluntarios sobre las normas del campamento y protocolos de seguridad.

**Translation**

All volunteers who come to the project receive theoretical and practical training on the management of turtles in the beach. During the practical explanation in the beach, they are given more visual information on census rules and night patrols, nest relocation, hatchery rules, hatchling release, and nest excavation. Moreover, they explain how to recognize tracks and nests, search for nests, camouflage, and relocation. Upon completion of this course, volunteers are qualified to begin accompanying leaders during night patrols and censuses (Corcovado Foundation, 2019). Additionally, the project coordinator guides the volunteers on the camp rules and safety protocols.

### Paragraph 7

También se les informa sobre el trabajo amplio de la fundación, el programa, los objetivos, el rol del voluntario, área de estudio, alojamiento, excursiones, seguridad, plan de trabajo y logística. Otras actividades que realizan los participantes del proyecto de manera semanal es la limpieza de playa y su respectiva separación de la basura para su reciclaje. Además, una o dos veces a la semana se reproduce un documental relacionado con la conservación y se abre también una discusión al final sobre el rol de los seres humanos en la conservación de los recursos naturales, la protección de fauna y la generación de residuos sólidos.

### Translation

They are also informed about the broad work of the foundation, the program, the objectives, and the role of the volunteer, study area, accommodation, trips, security, work plan and logistics. On a weekly basis, the project participants perform activities such as beach cleaning and the respective separation of garbage for recycling. In addition, once or twice a week a documentary related to conservation is played, and a discussion is opened at the end about the role of human beings in the conservation of natural resources, the protection of fauna, and the generation of solid waste.

**Paragraph 8**

El censo matutino de la playa se realiza diariamente a partir de las 04:30 cada día (si las mareas lo permiten) con el fin de registrar la distancia de los rastros en la arena dejada por las madres. El censo se utiliza primeramente para establecer la apertura de la temporada de anidación, y por lo tanto el inicio de patrullas nocturnas. A partir de ese momento, el censo se realiza rutinariamente para evaluar el trabajo de las patrullas nocturnas, y para localizar nuevos rastros que se hubieran podido obviar o de hembras que emergieron después de que la patrulla nocturna había finalizado. El censo es realizado por un líder de patrulla acompañado de dos voluntarios.

**Translation**

The morning census of the beach is carried out daily at 04:30 each day (if the tides allow it) in order to record the distance of the tracks in the sand left by the mothers. The census is used primarily to establish the opening of the nesting season, and therefore the start of night patrols. From then on, the census is routinely conducted to assess the work of the night patrols, and to locate new traces that could have been missed, or females that emerged after the night patrol had ended. The census is conducted by a patrol leader accompanied by two volunteers.

**Paragraph 9**

Las patrullas nocturnas se realizan en la playa todas las noches durante la temporada de anidación. Esto mientras que el clima y las mareas lo permitan. Se organizan dos equipos de trabajo todas las noches, en los cuales hay un líder de patrulla y uno o dos voluntarios. Cada equipo patrulla en diferente horario de la noche o madrugada. Para una máxima cobertura y optimización del personal con el que se cuenta, se planean las patrullas en función de las mareas, especial de la marea baja o seca y la fase de la luna, las dos medias creciente y menguante, que a través de la observación empírica y los datos recopilados en la playa son los momentos con más actividad de tortugas.

**Translation**

Night patrols take place on the beach every night during nesting season. This as long as the weather and tides allow it. Two work teams are organized every night, in which there is a patrol leader and one or two volunteers. Each team patrols at different times of the night, or early morning. For maximum coverage and optimization of the personnel available, patrols are planned based on the tides, especially the low or dry tide and the phase of the moon, the two-half waxing and waning, which through the empirical observation and data collected on the beach are the times with the most turtle activity.

**Paragraph 10**

La construcción de un vivero en playa se ha convertido en una actividad muy efectiva para proteger a los nidos del saqueo ilegal, la reducción del espacio para anidación, el aumento del nivel del mar. Los nidos descubiertos durante las patrullas o durante el censo son siempre reubicados en el vivero. La construcción del vivero es una tarea engorrosa, que conlleva el trabajo de todo el equipo por muchas horas al día. Los voluntarios encuentran un punto óptimo y empiezan la remoción y zarandeo de toda la arena, de manera que esta no tenga raíces, piedras, basura, o nidos de cangrejos.

**Translation**

The construction of a beach hatchery has become a very effective activity to protect nests from illegal looting, reduction of nesting space, and sea levels rise. Nests discovered during patrols or during the census are always relocated in the hatchery. The construction of the nursery is a cumbersome task, which involves the work of the entire team for many hours a day. Volunteers find an ideal spot and begin the removal and shaking of all the sand, so that is free of roots, stones, trash, or crab nests.

**Paragraph 11**

También se trata que la arena no tenga residuos de nidos pasados, y que no vaya a estar contaminada de bacterias u hongos. Una vez completada el mantenimiento de la arena, los participantes levantan una estructura en madera y sarán o malla que cubre la totalidad del vivero, tanto a los costados como encima de esta. Dejando una altura suficiente, como para que un humano pueda caminar dentro de él. El vivero tiene como fin evitar que animales como aves, cangrejos, mapaches o perros puedan ingresar al mismo. Todas estas actividades antes descritas conllevan el uso de palas, machetes, tijeras, martillos, entre otros, los cuales podrían causar un accidente laboral.

**Translation**

It is also important that the sand is free of residues from past nests, and that it is not contaminated with bacteria or fungi. Once the maintenance of the sand is completed, the participants build a structure in wood, and saran or mesh that covers the entire nursery, both on the sides and on top of it. Leaving a sufficient height so that a human can walk inside it. The purpose of the nursery is to prevent animals such as birds, crabs, raccoons, or dogs from entering it. All these activities described above involve the use of shovels, machetes, scissors, hammers, among others, which could cause an accident at work.

**Paragraph 12**

La política principal relacionada con la gestión de riesgos del proyecto es proteger la integridad y la salud del equipo del proyecto, tanto los voluntarios como el staff. Esto por encima de cualquier cosa. Los biólogos y los voluntarios del programa son **personas** sumamente apasionadas por la conservación de la tortuga marina y esto los hace poner en riesgo sus vidas a cambio de la conservación de estas. Es por esto **por lo que** es importante recalcar su responsabilidad por proteger sus vidas y las vidas de su equipo por encima de cualquier otra cosa. El programa ha implementado una serie de lineamientos que se comparten en el Manual de capacitación de Voluntarios.

**Translation**

The main policy related to project risk management is to protect the integrity, and health of the project team, both volunteers and staff. This above anything else. The biologists and volunteers of the program are extremely passionate about sea turtle conservation, and this puts their lives at risk in exchange for the conservation of sea turtles. This is why it is important to emphasize their responsibility to protect their lives and the lives of their team above anything else. The program has implemented a series of guidelines that are shared in the Volunteer Training Manual.

### Paragraph 13

Ganar el nido: En el pasado los participantes han querido enfrentar a los hueveros que roban los nidos de la playa. Si bien es cierto, la extracción de nidos de la playa es ilegal, los participantes del proyecto no tienen ni la potestad, ni la capacitación, ni las herramientas necesarias para enfrentar a un huevero. En algunos lugares los hueveros andan hasta armados con puñales. Algunos de ellos, realizan actividades ilícitas en la playa, y aprovechan la espera de la playa para sacar algún nido de tortuga. Es por esta razón, que es fundamental que los participantes del programa no enfrenten a los hueveros para evitar un ataque.

### Translation

Winning the nest: In the past, participants have wanted to face the egg traders who steal nests from the beach. Although it is true that the extraction of nests from the beach is illegal, project participants have neither the authority, nor the training, nor the necessary tools to confront an egg-collector. In some places, the egg-collectors are even armed with daggers. Some of them carry illegal activities on the beach, and take advantage of the wait on the beach to remove a turtle nest. For this reason, that it is essential that program participants do not confront the egg-collectors to avoid an attack.

### **Paragraph 14**

Los coordinadores del programa de conservación de tortugas marinas de Rincón de Osa (PCTM) garantizarán a toda costa la protección de la vida humana y de la integridad de todos los participantes del programa, de ellos mismos y de las comunidades a la que sirve la organización. Los coordinadores PCTM realizarán la actualización anual del plan de emergencia, iniciando con la coordinación necesaria con el comité de emergencia local, de manera que tanto uno como los otros conozcan a cabalidad las operaciones. Adicionalmente, los coordinadores del PCTM presentarán los diferentes riesgos contemplados en este plan de emergencias con el fin de conocer la posición y las propuestas de manejo de las diferentes emergencias que puedan acontecer y conocer los procedimientos para la activación de una alerta temprana, las zonas de vulnerabilidad y las agentes responsables de la coordinación.

### **Translation**

The coordinators of the Rincón de Osa sea turtle conservation program (STCP) will guarantee at all costs the protection of human life and the integrity of all program participants, themselves and the communities served by the organization. The STCP coordinators will perform the annual update of the emergency plan, beginning with the necessary coordination with the local emergency committee, so that everybody is fully aware of the operations. Furthermore, the STCP coordinators will present the different risks contemplated in this emergency plan in order to know the position and the management proposals for the different emergencies that may occur and to know the procedures for the activation of an early warning, the areas of vulnerability, and the agents responsible for coordination.

**Paragraph 15**

Los funcionarios responsables de preparación, atención y respuesta a una emergencia dentro del programa **son el o la** coordinadora del equipo del PCTM y sus asistentes. Con el fin de que estos puedan responder al mismo deben de contar con las herramientas mínimas para poder informar y coordinar de las situaciones de riesgo que pueda estar enfrentando los participantes del proyecto. Es por esto por lo que una inducción detallada de la zona y de los posibles riesgos que pueden enfrentar debe ser realizada de manera cuidadosa tanto con el equipo del PCTM, como como los participantes del programa. Las amenazas que hay en la zona deben de ser evaluadas y conversadas de manera proactiva con todas las personas que llegan al programa.

**Translation**

The officials responsible for emergency preparedness, attention, and response within the program are the STCP team coordinator and his/her assistants. In order for them to respond to it, they must have the minimum tools to inform and coordinate the risk situations that the project participants face. This is why a detailed induction of the area, and the possible risks they may face must be carefully carried out with both the STCP team and the program participants. The threats that exist in the area must be evaluated, and discussed proactively with all the people who come to the program.

### 5.1.2.2 Tranlastion from English into Spanish of the document Para traducir project summary

#### Paragraph 1

The Corcovado Foundation (CF) Sea Turtle Conservation Program (the Program) will utilize a proven model of community-led conservation to protect sea turtles nesting at the Río Oro National Wildlife Refuge (RONWR) (8.429208, -83.418982) and support the sustainable development of the local communities with which these turtles interact. This objective will be realized through three complementary areas of work: 1) sea turtle conservation, 2) environmental education, and 3) the development of responsible community-based tourism. Since 2006, the Program has protected 90% of sea turtle nests in Drake Bay in the Osa Peninsula. Through the establishment of a local turtle conservation association, and the implementation of environmental education in 14 schools in the area, the Program succeeded in changing the attitudes of local residents toward their natural resources (Le-Garec et al. 2010, James 2014, James & Melero 2015).

#### Translation

El programa para la conservación de tortugas marinas de la Fundación Corcovado utilizará un modelo dirigido por la comunidad para proteger a las tortugas marinas que anidan en el Refugio de Vida Silvestre Río Oro (8.429208, -83.418982) y apoya el desarrollo sostenible de comunidades locales con las que las tortugas interactúan. El objetivo se realizará mediante tres áreas de trabajo complementarias. Estas siendo: 1) la conservación de las tortugas marinas, 2) educación ambiental y 3) el desarrollo responsable de comunidades turísticas. Desde el 2006, el programa ha protegido el 90% de los nidos de las tortugas en Bahía Drake en la Península de Osa. A través del establecimiento de una asociación para la conservación de la tortuga local y la

implementación de la educación ambiental en 14 escuelas del área, el programa tuvo éxito al cambiar las actitudes de lugareños hacia sus recursos naturales (Le-Garec et al. 2010, James 2014, James & Melero 2015).

## Paragraph 2

Numerous preliminary studies have identified the need to protect the sea turtle nesting habitat of the RONWR, noting an increasing number of East Pacific Green turtle (*Chelonia mydas*) nests, the largest solitary Olive Ridley (*Lepidochelys olivacea*) nesting population in the region, and an increase in the incidence of poaching and predation by dogs (Drake 1996, Govan 1998, Bedoya & Nahill 2000, Chacón 2002, Bernal Castro et al. 2013). There have been several exploratory attempts at protecting the beach since 1994; however, a reduction in the size of the local population over the last 20 years, coupled with a lack of will and/or funds on the part of conservation organizations and local stakeholders, has precluded the establishment of a permanent project at the site. Disturbingly, despite its importance, the beach now remains abandoned and is the only major nesting habitat in the Osa Peninsula without routine monitoring or protection.

## Translation

Numerosos estudios preliminares han identificado la necesidad de proteger el hábitat de anidación de la tortuga marina del Refugio de Vida Silvestre Río Oro, haciendo notar un número creciente de nidos de la tortuga verde del Pacífico Oriental (*Chelonia mydas*), la más grande población de anidación de la solitaria tortuga golfina (*Lepidochelys olivacea*) en la región, y el aumento en la incidencia de caza furtiva y depredación por parte de los perros. (Drake 1996, Govan 1998, Bedoya & Nahill 2000, Chacón 2002, Bernal Castro et al. 2013). Han habido varios intentos exploratorios al proteger la playa desde 1994, sin embargo, la reducción en el tamaño de

la población del lugar en los últimos 20 años, más la falta de voluntad o fondos por parte de las organizaciones de conservacionistas y los participantes lugareños ha excluido el establecimiento del proyecto permanente en el sitio. Inquietantemente, a pesar de su importancia, la playa permanece abandonada y es el único y principal hábitat de anidación en la Península de Osa sin rutinas monitoreadas o protección alguna.

### Paragraph 3

The Program has already secured a grant of \$31,230 from Pacsafe to establish a new project in the RONWR, and is in the final stages of obtaining permission from MINAE to operate at the site. The Program has also reached agreement with the local land owner regarding building rights and access, and has fostered collaborations with Osa Conservation, COTORCO and various volunteering organizations. All of the logistics and preparations are in place to begin protecting sea turtles at the site during the 2015-16 nesting season; however, sufficient funds have yet to be secured. The Program seeks match-funded financial support from the USFWS Marine Turtle Conservation Fund to assist with the establishment and delivery of a permanent conservation project at RONWR. These funds will be used specifically to investigate and protect the nesting East Pacific Green sea turtle population.

### Translation

El programa ya obtuvo una subvención de \$31,230 dólares por parte de Pacsafe para establecer un nuevo proyecto en el Refugio de Vida Silvestre Río Oro y es en las etapas finales de obtener el permiso de MINAE para operar en el sitio. El programa también logró el acuerdo con el propietario de la tierra local de acuerdo a los permisos de construcción y accesos, y fomentó las colaboraciones con la Conservación Osa, COTORCO y varias organizaciones de voluntariado. Toda la logística y preparaciones están listas para comenzar a proteger el mar y las tortugas marinas en el sitio durante la temporada de anidación de 2015-2016, no obstante, aún no se han obtenido los fondos suficientes. El programa busca partidas presupuestarias como soporte financiero por parte del Fondo de Conservación de Tortugas Marinas del Servicio de Pesca y Vida Silvestre de EE. UU. para apoyar con la creación y entrega de un proyecto de conservación

permanente en el Refugio de Vida Silvestre Río Oro. Estos fondos se usarán específicamente para investigar y proteger las anidaciones de las tortugas golfinas.

#### **Paragraph 4**

The proposed project will carry out nightly patrols of Río Oro beach, monitor and tag nesting Pacific Green sea turtles, determine the temporal and spatial distribution of nests, and collect baseline information to assess and quantify the impacts of anthropogenic activities (e.g. climate change, poaching and predation) on the reproductive output of the Pacific Green turtles nesting in the region. The project will also relocate a sample of Pacific Green turtle nests to a hatchery, determine the current incidence of poaching and unnatural predation, and will attempt to maintain this rate below 25% of nests. The project will engage with the local communities through the empowerment of the local turtle association, COTORCO, and will build capacity through a series of training workshops and strategic planning exercises and offer regular contracted night patrol shifts.

#### **Translation**

El proyecto propuesto llevará a cabo patrullas nocturnas de la playa Río Oro, monitorearán y etiquetarán a las tortugas golfinas, se determinará la distribución temporal y espacial de los nidos, y recolectarán información de referencia para evaluar y cuantificar los impactos de actividades antropogénicas (por ejemplo, el cambio climático, caza furtiva y depredadores) en la producción reproductiva de las tortugas golfinas que anidan en la región. El proyecto también reubicará una muestra de nidos de tortugas golfinas en un criadero, determinará la incidencia actual de caza furtiva y depredación no natural e intentará mantener esta tasa por debajo del 25% de los nidos. El proyecto se involucrará con las comunidades vecinas a través del empoderamiento de la asociación local de tortugas, COTORCO, y desarrollará la capacidad a

través de una serie de talleres de capacitación y ejercicios de planificación estratégica y ofrecerá turnos de patrulla nocturna contratados regularmente.

### **Paragraph 5**

The CF is committed to the conservation and sustainable development of the Osa Peninsula, which is considered the country's last wilderness frontier and one of the most biodiverse places on Earth. This remote corner of the country harbors 2.5% of the biodiversity of the entire planet in an area half the size of Rhode Island. It is also the only remaining region along the Pacific coast of Costa Rica where 'eco-tourism' is still the predominant tourism model, yet it currently stands on the precipice of an inevitable expansion of the industry over the next decade which has the potential to either gravely threaten or positively guarantee the integrity of the local natural heritage (CREST 2010).

### **Translation**

La Fundación Corcovado está comprometida con la conservación y el desarrollo sostenible de la Península de Osa, la cual es considerada la última frontera salvaje del país y uno de los lugares con mayor biodiversidad de la Tierra. Este remoto rincón del país alberga el 2,5% de la biodiversidad de todo el planeta en un área de la mitad del tamaño de Rhode Island. También es la única región restante que queda a lo largo de la costa del Pacífico de Costa Rica donde el 'ecoturismo' sigue siendo el modelo de turismo predominante, sin embargo, actualmente se encuentra al borde de una expansión inevitable de la industria durante la próxima década que tiene el potencial de amenazar gravemente o garantizar positivamente la integridad del patrimonio natural local. (CREST 2010).

## Paragraph 6

By enhancing the protection of a keystone endangered species and demonstrably lucrative source of revenue from eco-tourism: the sea turtle, the Program will utilize a proven model of community-led conservation (Le-Garec et al. 2010, James 2014, James & Melero 2015) to reduce the consumptive use of sea turtles while facilitating the development of responsible tourism initiatives Río Oro and Carate. The Osa Peninsula is located in the second poorest province of Costa Rica. The primary sector (agriculture and livestock) is the main source of income for communities, estimated at 52.6% of labor occupancy. The human development index for the Osa Peninsula is estimated to be 0.67% and the poverty rate 40.4% (PNUD Costa Rica).

## Translation

Al mejorar la protección de una especie clave en peligro de extinción y una fuente de ingresos demostrablemente lucrativa del ecoturismo: la tortuga marina, el programa utilizará un modelo probado de conservación liderada por la comunidad (Le-Garec et al. 2010, James 2014, James & Melero 2015) para reducir el uso consumista de tortugas marinas mientras que se facilita el desarrollo de iniciativas de turismo responsable Río Oro y Carate. La Península de Osa está ubicada en la segunda provincia más pobre de Costa Rica. El sector primario (agricultura y ganadería) es la principal fuente de ingresos de las comunidades, estimado en 52,6% de ocupación laboral. El índice de desarrollo humano para la Península de Osa se estima en 0,67% y la tasa de pobreza en 40,4% (PNUD Costa Rica).

### **Paragraph 7**

There are few economic options available to those residents who do not have access to the skilled jobs offered by the burgeoning tourism industry, and the extractive use of local natural resources to generate income is commonplace and unsustainable. The CF has a proven track record of creating viable socio-economic alternatives to local residents in the Osa Peninsula. In 2005, the CF built five new ranger stations bordering the Corcovado National Park, created over 50 new permanent jobs, and contracted 75 employees (55% of the workforce of ACOSA) from 2005 to 2007. So far the CF has administered over \$3,000,000 in funds to support the protected areas of ACOSA.

### **Translation**

Hay pocas opciones económicas disponibles para aquellos residentes que no tienen acceso a los trabajos cualificados que ofrece la floreciente industria del turismo, y el uso extractivo de los recursos naturales locales para generar ingresos es común e insostenible. La Fundación Corcovado tiene un historial comprobado de creación de alternativas socioeconómicas viables para los residentes locales en la Península de Osa. En 2005, la Fundación Corcovado construyó cinco nuevas estaciones de guardabosques que bordean el Parque Nacional Corcovado, creó más de 50 nuevos empleos permanentes y contrató a 75 empleados (55% de la fuerza laboral del Área de Conservación Osa (ACOSA) de 2005 a 2007. Hasta el momento, la Fundación Corcovado ha administrado más de \$ 3,000,000 dólares en fondos para apoyar las áreas protegidas de ACOSA.

## Paragraph 8

According to preliminary studies, the beaches (from North to South) of Carate, Río Oro, Pejeperro and Piro receive between 3,000 and 4,000 nesting turtles each season, of which Río Oro beach receives around 70%, purportedly owing to its favorable inclination and sand grain size, minimal driftwood and an absence of light pollution (Drake 1996, Govan 1998, Bedoya & Nahill 2000). Presently, the beaches at Carate, Pejeperro and Piro are monitored by Osa Conservation (Bernal Castro et al. 2013) (see map in section 9). All four sea turtle species found in the East Pacific are reported to nest in the region: principally Olive Ridley (*Lepidochelys olivacea*) and Pacific Green (*Chelonia mydas*) turtles, but also Leatherback (*Dermochelys coriacea*) and Hawksbill (*Eretmochelys imbricata*) turtles in much smaller numbers.

## Translation

Según estudios preliminares, las playas (de norte a sur) de Carate, Río Oro, Pejeperro y Piro reciben entre 3,000 y 4,000 tortugas anidadoras cada temporada, de las cuales la playa Río Oro recibe alrededor del 70%, supuestamente por su inclinación favorable y el tamaño del grano de arena, mínima madera flotante y ausencia de contaminación lumínica (Drake 1996, Govan 1998, Bedoya & Nahill 2000). En la actualidad, las playas de Carate, Pejeperro y Piro son monitoreadas por la Conservación Osa (Bernal Castro et al. 2013) (ver mapa en la sección 9). Se informa que las cuatro especies de tortugas marinas que se encuentran en el Pacífico Oriental anidan en la región: principalmente tortugas golfinas (*Lepidochelys olivacea*) y tortugas verdes marinas (*Chelonia mydas*), pero también tortugas laúd (*Dermochelys coriacea*) y carey (*Eretmochelys imbricata*) en mucho más pequeñas cantidades.

## Paragraph 9

The Olive Ridley turtle is by far the most abundant (peak nesting season: July – January), and between 1994 and 1998 an average of just 2% of nests laid were identified as belonging to the Pacific Green turtle (peak nesting season: November – March) (Drake 1996, Govan 1998). **However**, this proportion has risen considerably ever since. While contemporary data on Río Oro beach is lacking, on the adjacent beaches it is reported that 300 (22%) of the nests identified from July 2012 to June 2013 belonged to Pacific Greens (Bernal Castro et al. 2013). Given Río Oro beach's historical superiority in terms of nesting frequency, these data suggest that the RONWR may be the most important nesting habitat for the Pacific Green sea turtle in the South Pacific coast of Costa Rica.

## Translation

La tortuga golfina es, por mucho, la más abundante (temporada alta de anidación: julio - enero), y entre 1994 y 1998 un promedio de solo el 2% de los nidos depositados fueron identificados como pertenecientes a la tortuga verde marina (temporada alta de anidación: noviembre - Marzo) (Drake 1996, Govan 1998). Sin embargo, esta proporción ha aumentado considerablemente desde entonces. Si bien faltan datos contemporáneos sobre la playa de Río Oro, en las playas adyacentes se informa que 300 (22%) de los nidos identificados desde julio de 2012 hasta junio de 2013 pertenecían a Pacific Greens (Bernal Castro et al. 2013). Dada la superioridad histórica de la playa Río Oro en términos de frecuencia de anidación, estos datos sugieren que el Refugio de Vida Silvestre Río Oro puede ser el hábitat de anidación más importante para la tortuga verde marina en la costa del Pacífico Sur de Costa Rica.

## Paragraph 10

Without knowledge of the reproductive output of Pacific Green turtles nesting in the RONWR and their mortality drivers, it is difficult to understand the overall importance of this region to the East Pacific Green turtle stock and to effectively target management efforts. To tackle this knowledge gap, the proposed project will describe the temporal and spatial nesting environment, quantify the hatching and emergence success of nests, identify the factors that affect hatching and emergence rates (both current and future), and propose management strategies that might mitigate mortality and increase hatching success in the region. Although the RONWR is listed as one of ACOSA's protected areas, a lack of government funding has limited its capacity to respond to the numerous environmental threats posed by illegal human activities that affect the 4.305 km<sup>2</sup> (1,662 mi<sup>2</sup>) within its jurisdiction, and the agency has had to prioritize the tackling of hunting, gold mining and illegal logging.

## Translation

Sin el conocimiento de la producción reproductiva de las tortugas verdes marinas que anidan en el Refugio de Vida Silvestre Río Oro y sus impulsores de mortalidad, es difícil comprender la importancia general de esta región para la población de tortugas verdes marinas y orientar eficazmente los esfuerzos de gestión. Para abordar esta brecha de conocimiento, el proyecto propuesto describirá el entorno de anidación temporal y espacial, cuantificará el éxito de eclosión y emergencia de los nidos, identificará los factores que afectan las tasas de eclosión y emergencia (tanto actuales como futuras) y propondrá estrategias de gestión que podrían mitigar la mortalidad y aumentar el éxito de la eclosión en la región. Aunque el Refugio de Vida Silvestre Río Oro está catalogado como una de las áreas protegidas de ACOSA, la falta de financiamiento gubernamental ha limitado su capacidad para responder a las numerosas

amenazas ambientales que plantean las actividades humanas ilegales que afectan los 4,305 km<sup>2</sup> (1,662 mi<sup>2</sup>) dentro de su jurisdicción, y la agencia tuvo que priorizar el abordaje de la caza, la extracción de oro y la tala ilegal.

### **Paragraph 12**

ACOSA has specifically invited the CF to establish a sea turtle conservation project in the RONWR to address the urgent need to protect the nesting population, but also to assist with the training of their personnel in sea turtle conservation methodology. In 2007, a strategic document entitled 'Ecological monitoring program of protected areas and biological corridors' (PROMECC 2007), was produced by MINAE in collaboration with the Nature Conservancy and the University de Costa Rica (UCR), setting out indicators and protocols for the conservation of sea turtles in Costa Rica. ACOSA has identified a need to assess the scope of these indicators and make recommendations for adjustments to the protocols in order to serve best the specific environment of ACOSA.

### **Translation**

ACOSA ha invitado específicamente Fundación Corcovado a establecer un proyecto de conservación de tortugas marinas en el Refugio de Vida Silvestre Río Oro para abordar la necesidad urgente de proteger a la población anidadora, pero también para ayudar con la capacitación de su personal en metodología de conservación de tortugas marinas. En 2007, un documento estratégico titulado 'Programa de monitoreo ecológico de áreas protegidas y corredores biológicos' (PROMECC 2007), fue elaborado por el MINAE en colaboración con The Nature Conservancy y la Universidad de Costa Rica (UCR), estableciendo indicadores y protocolos para la conservación de tortugas marinas en Costa Rica. ACOSA ha identificado la

necesidad de evaluar el alcance de estos indicadores y hacer recomendaciones de ajustes a los protocolos con el fin de servir mejor al entorno específico de ACOSA.

### Paragraph 13

The mission of the NGO and non-profit organization Corcovado Foundation Lon Willing Ramsey Junior (CF) is to protect wilderness areas and promote environmental education, tourism and community development compatible with the sustainable use of natural resources on the Osa Peninsula and southern Costa Rica. Founded by three local hotel owners and legally incorporated in 1992, the CF has worked with a wide range of environmental programs, including forest protection, recycling and sea turtle conservation. It has supported the Osa Conservation Area, an area that encompasses two national parks and numerous wildlife reserves, by funding more than 90 park rangers and ranger stations. A board of five directors oversees the CF's staff of six, based in offices in Drake Bay, Puerto Jiménez and San José.

### Translation

La misión de la organización no gubernamental y sin fines de lucro Fundación Corcovado Lon Willing Ramsey Junior es proteger las áreas silvestres y promover la educación ambiental, turismo y el desarrollo de comunidades compatibles con el uso de los recursos naturales en la Península de Osa y en el sur de Costa Rica. Fundada por tres dueños de hoteles locales y legalmente incorporados en 1992, Fundación Corcovado ha trabajado con una amplia gama de programas ambientales, incluyendo la protección de los bosques, reciclaje y la conservación de la tortuga marina. También, ha apoyado el Área de Conservación de Osa, un área que abarca dos parques nacionales y numerosas reservas de vida silvestre, mediante la financiación de más de 90 guardaparques y sus estaciones. La junta, conformada por cinco directores, supervisa el personal de seis personas de Fundación Corcovado, con sede en Bahía Drake, Puerto Jiménez y San José.

## Paragraph 14

Since 2006, the Program has protected 90% of sea turtle nests in Drake Bay. Through the establishment of a dedicated community association, ACOTPRO, and the implementation of environmental education in local schools, the Program has also succeeded in changing the attitudes of local people toward their natural resources (Le-Garec et al. 2010, James 2014). With support from the CF, ACOTPRO has now developed its own homestay network, volunteer program and several community-based tours, and the association is prepared to assume responsibility for the conservation effort in Drake Bay. It is anticipated that the 2015 nesting season will be the last directly supported by the CF, and the Program seeks financial support to assist with this crucial transition to local control.

## Translation

Desde el 2006 el programa ha protegido al 90% de las tortugas marinas que anidan en Bahía Drake. Mediante el establecimiento de una asociación comunitaria dedicada, Asociación Conservacionista de Tortugas Marinas (ACOTPRO) y la implementación de la educación ambiental en escuelas locales, el programa también ha logrado cambiar las actitudes de la población local hacia sus recursos naturales. (Le-Garec et al. 2010, James 2014). Con el apoyo de Fundación Corcovado, ACOTPRO ahora ha desarrollado su propia red de familias anfitrionas, un programa de voluntariado y varios recorridos basados en la comunidad, y la asociación está preparada para asumir la responsabilidad del esfuerzo de conservación en Bahía Drake. Se anticipa que para el 2015 la temporada de anidación sea la última financiada directamente por Fundación Corcovado y el programa busca apoyo financiero para ayudar con esta transición crucial hacia el control local.

### Paragraph 15

Having bourn witness to these achievements in Drake Bay, MINAET, Osa Conservation, and the Corcovado Sea Turtle Conservation Committee (COTORCO) have invited the CF to lead an effort to protect the turtle population in the Río Oro National Wildlife Refuge –the most important sea turtle nesting habitat in the Osa Peninsula (Drake 1996) – and emulate the successes of the program in Drake Bay in the community of Río Oro/Carate. The Program seeks financial support to assist with the establishment of a new conservation project at playa Río Oro, beginning with the 2015-16 nesting season. This will be the first time ever that comprehensive protection of sea turtle nests **will have been delivered** at this extremely vulnerable and globally important East Pacific Green turtle (*Chelonia mydas*) nesting site.

### Translation

**Al haber sido testigos de estos logros en Bahía Drake, MINAET, la Conservación de Osa y el Comité de Conservación de Tortugas Marinas de Corcovado han invitado a Fundación Corcovado a liderar el intento para proteger la población de tortugas en el Refugio de Vida Silvestre Río Oro, el hábitat de anidación más importante para la tortuga marina en la Península de Osa (Drake, 1996), e imitar los éxitos del programa Bahía Drake en la comunidad de Río Oro/Carate. El programa busca apoyo financiero para ayudar con el establecimiento de un nuevo proyecto de conservación en la playa Río Oro, comenzando con la temporada de anidación 2015-16. Esta será la primera vez que se brindará protección integral a los nidos de tortugas marinas en este sitio de anidación extremadamente vulnerable y de importancia mundial para la tortuga verde marina (Chelonia mydas).**

### 5.1.3 Glossary

Finally, the last instrument is the glossary. It is an essential instrument for a translator because it helps, in advance, to determine what the most repetitive or difficult words are. Moreover, it helps the translator to save up time and to have an idea of what the general topic of the document is. In this section, two glossaries of thirty words each have been created with the most repetitive and specific words from each document. It includes the source language word, its target language word, the grammatical category, and a short definition.

#### 5.1.3.1 Glossary form Spanish into English

Source Language	Grammatical Category	Target Language	Short Definition
Aliándose	Verb	Allying	Combine or unite a resource or commodity with (another) for mutual benefit.
Alojamiento	Noun	Accommodation	A convenient arrangement; a settlement or compromise.
Anidación	Noun	Nesting	(Of a bird or other animal) building or occupying a nest.

Camuflaje	Noun	Camouflage	Hide or disguise the presence of (a person, animal, or object) by means of camouflage.
Capacitación	Noun	Training	The action of teaching a person or animal a particular skill or type of behavior.
Censos	Noun	Censuses	An official count or survey of a population, typically recording various details of individuals.
Costero	Adjective	Coastal	Of or near a coast.
Depredación	Noun	Predation	The preying of one animal on others.
Deshidratación	Noun	Dehydration	A harmful reduction in the amount of water in the body.
Deslizamientos	Noun	Landslide	The sliding down of a mass of earth or rock

			from a mountain or cliff.
Desove	Noun	Spawning	Release or deposit eggs.
Emerger	Verb	Surface	Rise or come up to the surface of the water or the ground.
Engorrosa	Adjective	Cumbersome	Low or complicated and therefore inefficient.
Geológico	Adjective	Geological	Relating to the study of the earth's physical structure and substance.
Guardería	Noun	Nursery	A place where young children are cared for during the working day; a nursery school.
Inminente	Adjective	Impending	(Of an event regarded as threatening or significant) about to happen; forthcoming.

Insolación	Noun	Heat Stroke	A condition caused by your body overheating.
Laceraciones	Noun	Lacerations	A deep cut or tear in skin or flesh.
Optimización	Noun	Optimization	The action of making the best or most effective use of a situation or resource.
Patrulla	Noun	Patrol	An expedition to keep watch over an area, especially by guards or police walking or driving around at regular intervals.
Protocolos	Noun	Protocols	The official procedure or system of rules governing affairs of state or diplomatic occasions.

Reclutar	Verb	Recruit	To fill up the number of with new members.
Remoción	Noun	Removal	The action of taking away or abolishing something unwanted.
Sarán	Noun	Saran	A tough flexible thermoplastic resin.
Siembra	Noun	Planting	Place (a seed, bulb, or plant) in the ground so that it can grow.
Sismicidad	Noun	Seismicity	The occurrence or frequency of earthquakes in a region.
Vegetación	Noun	Vegetation	Plants considered collectively, especially those found in a particular area or habitat.
Vivero	Noun	Hatchery	A place where the hatching of fish or poultry eggs is

			artificially controlled for commercial purposes.
Voluminosas	Adjective	Voluminous	Having or marked by great volume or bulk : large; also : full.
Zarandeo	Noun	Shaking	Move (an object) up and down or from side to side with rapid, forceful, jerky movements.

*Glossary from Spanish into English. Source: Researcher's own creation*

### 5.1.3.2 Glossary form English into Spanish

Source Language	Grammatical Category	Target Language	Short Definition
Albinism	Noun	Albinismo	A congenital absence of pigment in the skin and hair (which are white) and the eyes (which are usually pink).
Anomalies	Noun	Anomalía	Something that deviates from what is standard, normal, or expected.
Behavior	Noun	Comportamiento	The way in which one acts or conducts oneself, especially toward others.
Biodiversity	Noun	Biodiversidad	The variety of life in the world or in a particular habitat or ecosystem.

Burgeoning	Adjective	Creciente	Beginning to grow or increase rapidly; flourishing.
Conservation	Noun	Conservación	Prevention of wasteful use of a resource.
Dataloggers	Noun	Registrador de datos	An electronic device that records data over time
Development	Noun	Desarrollo	The process of developing or being developed.
Ecology	Noun	Ecología	Branch of biology that deals with the relations of organisms to one another and to their physical surroundings.
Embryos	Noun	Embrión	An unborn or unhatched offspring in the process of development, in particular a human

			offspring during the period from approximately the second to the eighth week after fertilization.
Endangered	Noun	En peligro de extinción	Seriously at risk of extinction.
Environmental	Adjective	Ambiental	Relating to the natural world and the impact of human activity on its condition.
Habitat	Noun	Hábitat	The natural environment of an organism; place that is natural for the life and growth of an organism: a tropical habitat.
Hatchlings	Noun	Eclosión	A young animal that has recently emerged from its egg.

Heritage	Noun	Patrimonio	Property that is or may be inherited; an inheritance.
Keystone	Noun	Clave	The central principle or part of a policy, system, etc., on which all else depends.
Lucrative	Adjective	Lucrativo	Producing a great deal of profit.
Monitor	Verb	Monitorear	To watch, keep track of, or check usually for a special purpose
Morphometrics	Noun	Morfometría	A concept that encompasses size and shape.
Output	Noun	Producción	The act, process, or an instance of producing
Oviposition	Noun	Oviposición	Egg-laying. To oviposit means to lay eggs.
Plight	Noun	Situación difícil	A dangerous, difficult, or otherwise unfortunate situation.

Poaching	Noun	Caza furtiva	Illegal killing of wild animals for their meat, recreation or the rare products obtained from them.
Resources	Noun	Recursos	A stock or supply of money, materials, staff, and other assets that can be drawn on by a person or organization in order to function effectively.
Species	Noun	Especies	A group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding.
Stakeholders	Noun	Interesados	A person with an interest or concern in something, especially a business.

Sustainable	Adjective	Sostenible	Able to be maintained at a certain rate or level.
Tourism	Noun	Turismo	The commercial organization and operation of vacations and visits to places of interest.
Viable	Adjective	Viable	Capable of living
Wilderness	Noun	Naturaleza	A tract or region uncultivated and uninhabited by human beings.

*Glossary from English into Spanish. Source: Researcher's own creation*

## Chapter VI

### Conclusions and Recommendations

In this chapter, the translator's analysis of results obtained from the texts, the researcher's experience during the process, setbacks, and recommendations for future research will be stated. In addition, the results of the objectives stated in Chapter I will be discussed in this segment, as well.

#### 6.1 Purpose of the Conclusion

The purpose of the conclusion is to compare the objectives that were set in Chapter I with the results that were obtained from the translation and analysis process of both the source and target texts. Therefore, the reader and the translator will be able to determine which of the objectives were accomplished.

#### 6.2 Conclusions

Part of the dissertation process is to make sure that the objectives fulfilled their purpose; therefore, an explanation of the entire investigation will be made in each objective.

##### **6.2.1 To translate the documents Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake from Spanish into English and Para traducir Project Summary from English to Spanish for Fundación Corcovado.**

For this specific objective, the first step was reading both documents in a very general manner in order to have an idea of or to be familiarized the document which Fundación Corcovado needed to be translated. Moreover, during this first process, a general reading was made, as well as a second and more in-depth reading. In addition, during this close reading the translator was able to take the opportunity to create a glossary with the most repetitive, unknown,

and important words found in both texts. This definitely made the close reading process easy, as the researcher was able to grasp the whole idea of what it needed to be worked on. Likewise, during this process, it was determined that both texts were going to be translated using a semantic translation method, as both documents are research papers made to inform people about Corcovado's Foundation projects and to help the conservation of sea turtles. The documents would be translated as faithful to the originals as possible without losing their meaning and through the usage of the literal translation procedure.

Both documents, *Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake* and *Para traducir Project Summary*, were written to inform. The source document in Spanish is a risk management plan that was written to inform the audience about the sea turtle conservation program, the protocols that are in place for taking care of the nesting turtles, and how each organization is part of the project. The source document in English is a summary of the organizations that are part of the project, and how they are involved in the conservation program. Therefore, after the general and close reading were carried out, the translator was also able to determine the type of text style, which for both cases was narrative. These documents were meant to inform and prove their particular objectives by showing factual evidence on how the program has benefited the turtles, the local people, and tourism. Furthermore, in terms of the scale of generality, formality, emotional tone, and text function both documents are formal, educated, understandable, and informative, respectively. The previous factors helped the translator to decide what type of language, vocabulary, and tone she needed to render in the translation of target text in order to stay true to the message of each document, and also make it understandable to for any person that wants to read it.

Moreover, the translator was assisted by online dictionaries and synonym and antonym

dictionaries, which helped her to be more organized and to decide which word fitted in the most appropriate way. In addition, the glossary created was of great use during the translation process because it favored the translator to save time and feel more prepared before starting the process. It is important to mention that during this process, the translator also found a few setbacks because of grammatical and format errors encountered in the source texts, with multiple tables filled with information. This represented more work for the researcher, since the editing took a lot of time, the changes had to be made not only in the translated version, but in the original, as well.

### **6.2.2 To apply various translation techniques when translating the documents in order to achieve accurate, cohesive, and natural target texts**

The translation techniques that were used in the process of translating and analyzing the documents were transposition, modulation, omission, amplification, explicitation, literal translation, punctuation changes, compensation, equivalence, adaptation, borrowing, calque, and sentence inversion. After having analyzed the paragraphs taken from both translations, it was evident that literal translation was the most used technique. As it has been stated multiple times throughout this research, the main purpose of the current translation is to enable effective communication between people around the world. That is why these translation procedures are important, as they are evidence of need of making some language changes during the process of translating from one language to another in order to communicate what the organizations intends to. These procedures not only helped the translation to fulfill its purpose, but they also made it possible to render the texts in an accurate, natural, and cohesive manner. Moreover, they also demonstrated the modifications that had to be made in order to transmit the same exact message, and proved all of the information the translator must be acquainted with to deliver a faithful and

natural translation.

Procedures such as literal translation, transposition, and modulation were used more often due to the nature of the texts. Both of them were briefing the reader about the plans taken in order to make the conservation of sea turtles program work, and benefit not only the turtles themselves, but also the community and the tourism at Drake Bay. Furthermore, literal translation helped the text when maintaining its structure in order to achieve the same meaning of the source text and to render a more accurate target text. Whereas transposition and modulation helped to achieve the faithfulness and naturalness aspect the translator is looking for in the target text, so the reader is not put off by the choices made.

### **6.2.3 To create a glossary with the most relevant terminology found in both texts**

The creation of the glossary was one of the first steps in this research. It is made unconsciously by the translator whilst reading for the first time both documents. If any unknown word stood out to the translator, this would be highlighted in order to look for its meaning later. The translator first attempted to convey the meaning of the word through the context of the sentence, but if she was not able to do so, an investigation of its meaning was made. For this, multiple sources can be used nowadays, such as the dictionary, articles, books related to the topic that is being translated, and the most instant, the web browser.

After this quick research, the translator proceed to gather a list of 30 words per document. These words formed part of the glossaries made by the translator to have a quick database to come to, and acknowledge their importance in the translation. These glossaries were not only made to help the translator with words that were not as common or unknown for her, but it also helped the translator to be educated and to get acquainted with new vocabulary. Moreover, it can be used as a refresher in case the translator forgets the meaning of a specific word and it also

helped, at first instance, to have a general idea of what the texts were about. This information will help the translator to save time, since the meaning and spelling of each word will already be known. Furthermore, the glossaries will help the reader to have an idea of what the text will be, and to expand their knowledge. This helpful tool keeps the translator informed, educated, and prepared before attempting to translate the documents, and it shows why it is such an important part for the translation itself. It demonstrates how committed the translator is to achieve a well-translated source text.

#### **6.2.4 To evaluate the effect of the translation techniques applied on the documents**

Even though, most of the techniques were used, the most prominent was literal translation. In order to provide an accurate translation, the translator had to stick to the structure of the text; therefore, since it was an informative translation of a highly technical text, this procedure helped the translator to render the texts with accuracy and naturalness. Consequently, as the translator was able to achieve accuracy and to transmit the message the author was trying to convey.

The most abundant translation techniques aside from literal translation were transpositions and modulations. For example, transpositions were often necessary due to the grammatical structures were different in both languages. In order to successfully transpose the text, the translator was able to replace a word category and understand how changes to the order of a sentence would actually preserve the meaning of the text rather than change it. Many adjective-noun formations were present in both the source and target text. Furthermore, the translator had to make decisions while having in mind the faithfulness and naturalness of the target text, just as it was explained, as well as the correct use of such structures in the target language. Moreover, the translator used modulations to convey the same meaning in the target

language. As explained in Chapter II, modulations meant a variation through the change of viewpoint, of perspective, and very often of category of thought (Newmark, 1998). The goal is to change the point of view in order to preserve the meaning, while simultaneously adjusting what has been written. In this translation, the most frequent types of modulations found were from specific to general, from direct to figurative speech, or inversion of terms.

Although other techniques such as adaptation, amplification, borrowing, calque, compensation, equivalence, explicitation, sentence inversion, omission, and punctuation changes, there were not enough examples to take advantage of them. Procedures such as amplification and omission appeared when the translator decided to make a few corrections in the source and target text. The omission was often reflected in the use of less words in the target text, and amplification to add additional information that did not alter the source text. Furthermore, procedures such as adaptation, borrowing, calque, equivalence, explicitation and sentence inversion were not as easily found as the others. Therefore, it must be reminded to the reader that the main procedure used was literal translation; hence, there was not an opportunity to use them, based on the structure and technicality of the documents that were considered, as not many words or sentences needed any further information, nor a change in a grammatical structure.

### **6.3 Restatement of the Research Question**

The research question was: *What is the effect of procedures and methods used to translate the documents Plan de Gestión de Riesgos del Programa de Tortugas Marinas de Playa Rincón de Drake from Spanish into English and Para traducir Project Summary from English into Spanish for Fundación Corcovado?* As mentioned previously, many of the techniques were used in the translation, but literal translation ~~one~~ in particular was the most prominent. How did this affect the translated document? Fortunately, the translator was able to infer quickly that due to

this factor the translation was being faithful to the source text, due to the nature of the latter. Moreover, many transpositions played a role in that as well, since many adjective plus noun were prominent in the texts, the paragraphs analyzed are mostly literal translation and transpositions. It does not necessarily mean a bad thing, it only shows that sometimes-simpler decisions do keep the text faithful and fulfil the purpose of a translation, being able to communicate the intention of the organization.

#### **6.4 Recommendations**

The following are some recommendations for students that are currently starting or in the process of their dissertation.

First and most important, make sure to have your documents translated before the process starts. This would help you not only to have a chapter of your dissertation ready, but it also means something less to worry about. Time is important, so start there.

Secondly, while translating the documents be sure to mark the words that are unknown to you. This will allow you to be familiarized with the text, and a step forward with the glossaries that eventually must be made. Besides, this step will allow you to save time and render a consistent target document.

In addition, keep practicing each day the techniques that are going to be used in the analysis. This will help you to be more prepared and sure of your decisions when making the color-coding. In case you are not familiarized or quite remember them, it is better to go over such techniques, since as stated in this dissertation they are a big part of the translation process.

Furthermore, a very important recommendation is to enjoy the process. This will be the first of many documents to be translated; therefore, keep learning and use this dissertation to prepare for the future.

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