Please note that this template is provided to facilitate information submission on a voluntary basis, only when the information provider finds this template appropriate. If the available information does not fit the format of this template, information can be submitted in another format, in consultation with the Secretariat.

Appendix

Template for Submission of Scientific Information

to Describe Ecologically or Biologically Significant Marine Areas

*Note: Please **DO NOT** embed tables, graphs, figures, photos, or other artwork within the text manuscript, but please send these as separate files. Captions for figures should be included at the end of the text file, however.*

Title/Name of the area: Sipacate-El Nance-El Paredón Buena Vista

Presented by (*names, affiliations, title, contact details)*

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Abstract (*in less than 150 words).*

The **Sipacate - El Nance – El Paredón Buena Vista** complex is located in the heart of Guatemala's South Coast. It comprises 279 square km of estuaries, mangroves and sandy and muddy beach ecosystems where important socioeconomic activities and ecologic processes are developed. These special ecosystems provide habitat for aquatic bird species, marine turtles, Cetaceans and fish species, among others. Many of the area's natural resources are exploited by local communities. Because of its natural complexity, the Complex has been identified as one of the eleven prioritized Marine-Coastal Areas by the National Implementation Support Partnership (NISP) for the Programme of Work on Protected Areas (PoWPA) of the Convention on Biological Diversity (CDB), recommending that it be included as one of the ecologically and biologically significant areas (EBSA) in the Guatemalan Protected Areas System (SIGAP).

Introduction

(To include: feature type(s) presented, geographic description, depth range, oceanography, general information data reported, availability of models)

The **Sipacate – El Nance – El Paredón Buena Vista** Complex is located in Guatemala's Central Pacific area. Its comprises 86,121.57km^2, part of the Sipacate-Naranjo National Park in the Coastal Area (CONAP 2002; CONAP & MARN 2009). The Pacific Coastal Plains geologic formation originated by Quaternary alluviums covering the strata of the continental platform. The alluviums were produced by different erosion processes of the volcanic highlands during the Quaternary period (ASIES 1992). Guatemala is part of the Central American Isthmus that was formed 3.5 million years ago. Being the geologic bridge between North and South America allowed the passing of many Nearctic species of fauna. Nevertheless, what was a connection for land species became a barrier for marine species. For example, the Centropomidae family comprises a series of species that appeared after the separation of Caribbean and the Pacific by Central America (Rivas 1980).

The Eastern Tropical Pacific Ocean is one of the most productive oceans in the world, it's important in climatic variation and fish production (Cabrera & Ortiz 2010), influenced by the Intertropical Convergence Zone (ITCZ). The proposed EBSA is part of a marine – coastal habitat that includes mangroves and lagoon – estuarine systems that conform the Chiquimulilla watercourse, and where the Posa del Nance is found, a unique habitat used by marine turtles (*Lepidochelys olivácea y Chelonia spp.*) all year round. The area also has sandy beaches and swamps. The ecosystem is home to many marine – coastal species, especially birds, marine turtles and fish species and other mollusks and crustaceans. Its rich fauna has made it one of the most abundant and diverse Mollusk and Cetacean species of the country's Southern Coast. The area's fauna also includes two endemic dolphin species of the Eastern Tropical Pacific Ocean: *Stenella longirostris centroamericana y Stenella attenuata graffmani* (Quintana & Gerrodete 2009; Cabrera, Ortíz & Romero 2012).

Sipacate means "where there are big fish"; nevertheless the strong fishing activity in the area, as well as the use of mangrove, and the consumption marine turtle eggs and other species, must be regulated. The estuary's contamination and its influence on the marine zone are threats that have a high impact on the natural ecosystem and on the health of local communities. The change in land use and the reduction of mangrove forests is threat that has a high impact on the natural dynamics of the wetland. The National Council for Protected Areas monitors the use of natural resources; among conservation efforts highlights the recollection of turtle egg quotas for turtle hatcheries and mangrove reforestation, among others.

The proposed EBSA complex includes an area designated as National Park. Its importance as conservation site integrated to the marine zone presents integrated management opportunities for the area, including benefits for natural resources users in the communities and in the private sector as specified in the guidelines from the National Biodiversity Policy (Governmental Agreement 220-2011) and National Biodiversity Strategy and Action Plan (CONAP 2012).

Location

(Indicate the geographic location of the area/feature. This should include a location map. It should state if the area is within or outside national jurisdiction, or straddling both. It should also state if the area is wholly or partly in an area that is subject to a submission to the Commission on the Limits of the Continental Shelf)

The marine coastal area denominated **Sipacate – El Nance – El Paredón Buena Vista**, is located in the Central Pacific Ocean, as part of the territorial sea limit of Guatemala (Annex 1).

Feature description of the proposed area

(This should include information about the characteristics of the feature to be proposed, e.g. in terms of physical description (water column feature, benthic feature, or both), biological communities, role in ecosystem function, and then refer to the data/information that is available to support the proposal and whether models are available in the absence of data. This needs to be supported where possible with maps, models, reference to analysis, or the level of research in the area)

The **Sipacate-El Nance-El Paredón Buena Vista Complex** comprises 27,960 hectares of marine – coastal ecosystems in Guatemala's Central Pacific Ocean. The soil of the Coastal area are formed by sediment deposition from the last 6,500 years (Neff *et al.* 2006) have a dark color and sandy texture, sand with volcanic rock gravel fragments (20%), and clay material in the channels producing different delta, lagoon, sandbar and estuary systems. The terrestrial zone provides sediments that constantly modify the canal and coastal areas, especially during the rainy season (Jiménez 1994; Boix 2011).

The area shows relevant features such as mangroves, estuaries, sand and rock beaches, muddy beaches and sediments. The estuary zone has a deep and wide area called Poza del Nance that represents an important refuge for marine turtles all year round (Dix & Hernández 2001; CONAP 2002). The mangrove forest is comprised by three species of mangrove, of which *Rizophora mangle* has a higher abundance. The area is refuge for more than 65 species of coastal-marine fish, where the estuary is vital for some stage of their life cycle; many of these species are not commercial. There are at least 15 species of mollusks that are used in the South Coast (CONAP 2008).

A large number of marine fish are distributed in the area, among these there are species of ecologic and commercial importance such as the Spotted Rose Snapper (*Lutjanus guttatus*), the Common Dolphinfish (*Coryphaena hippurus*), Striped Weakfish (*Cynoscion reticulatus*), jacks (Carangidae), and tuna (*Thunnus* sp.), among others. The area also has important sport fishing species such as the Marlin and the Sailfish (Ehrhardt & Fitchett 2006) distributed in Guatemala due to the coastal warm waters. Ixquiac (2010) reports 7 species of rays in the area (50% of registered species), becoming the second most diverse Batoidea area in the South Coast. These species include the Giant Electric Ray (*Narcine entemedor*), Spiny-tail Round Ray (*Urotrygons aspidura*), Logtail Stingray (*Dasyatis longa*), Equatorial skate (*Raja equatorialis*), and the Whiptail Stingray (*Dasyatis brevis*).

The Complex also is of high importance for sharks. Some 15 shark species have been observed in fish disembarkations. Among fished sharks, juvenile and neonates individuals of the Scalloped Hammerhead (*Sphyrna lewini*) have been observed, that along with the Smooth Hammerhead (*Sphyrna sygaena*) are endangered species according to IUCN (2012).

Reported marine turtles include *Dermochelys coriácea* and *Eretmochelys imbricata*, as well as the most frequent species *Lepidochelys olivácea* (Del Cid & López 2011). A special phenomenon to point out is that the green or black turtles (*Chelonia* spp.) use the Poza del Nance, although no spawning has been reported in near beaches. These marine turtles are part of CITES Appendix I and LEA (CONAP 2009). Some 92 resident and migratory bird species make intensive use of these wetland; Eisserman & Avendaño (2007) have proposed the site as an Important Bird Area (IBA) for conservation, because of its importance for marine bird foraging activities, reporting 34 species according to Del Cid & López (2011). In the coastal area two important nesting colonies have been identified, as a confirmed reproduction site for six species of Herons including *Bubulcus ibis, Egretta thula, E. tricolor, Nycticorax violaceus, Cochlearius cochlearius* and *Ardea alba* (CONAP 2002; López 2011). In the marine zone, 7 species of marine birds have been detected, mainly associated to food availability, becoming an abundant area for Seagulls and Swallows (Lariidae): *Oceanodroma malania, Chidonias niger, Fregatta magnifiscens, Puffinus lherminie, Stercorarius pomarinus, Sula leucogaster, Sula sula.*

Recent studies report 11 species of Cetaceans including the Balaenopteridae, Delphinidae and Ziphiidae, where the Delphinidae family is the most common (93% of all sightings). Among these species, the sighting of endemic subspecies of the Eastern Tropical Pacific *Stenella longirostris centroamericana*

and *Stenella attenuata graffmani* is highlighted (Cabrera, Ortiz & Romero 2012), observing calf on ocations. Furthermore, Bryde's Whale (*Balaenoptera edeni*) is also reported in the area.

Feature condition and future outlook of the proposed area

(Description of the current condition of the area – is this static, declining, improving, what are the particular vulnerabilities? Any planned research/programmes/investigations?)

The gap analysis developed by the National Implementation Support Partnership for the Programme of Work on Protected Areas (PoWPA) of the Convention on Biological Diversity (CDB) identified the contamination by villages, erosion, trawling, shrimp farms and salt mines as the main threats to the Sipacate-El Nance-El Paredón Buena Vista Complex (CONAP 2011).

Currently, the area has some 11 human settlements that make use of the natural resources, especially fishing and extracting crabs, collecting turtle eggs, reptile hunting and mangrove use, complementing other economic activities (CONAP 2002). The mangrove forest in the South Coast has lost 50% of its forest cover in the last 50 years; nevertheless, conservation efforts have achieved the recovery of 11% of its area (CONAP & MARN 2009).
Brackish water aquaculture activities in the South Coast generate US $119M, US $49M are generated by fisheries, with yearly losses between US $5M – 66M in bycatch during the shrimp trawling season (data reported for the 2002-2005 season) (CONAP & MARN 2009). This activity has become more intensive (CONAP 2008), affecting many fish species of commercial and sport fishing importance, endangering their permanence through time (i.e. Sailfish and Snapper): reductions of the commercial size and an 80% reduction in Sailfish populations in the last 35 years (Andrade 2003; Ehrhard & Fitchett 2006).

The area is the second most diverse site for rays and sharks, of which many species are in some endangered category (IUCN 2012). Among these endangered shark species (IUCN 2012) we find the Scalloped hammerhead (*Sphyrna lewini*) and Smooth Hammerhead (*Sphyrna zygaena*). The area also has vulnerable species (IUCN 2012) such as the Pelagic Thresher (*Alopias pelagicus*), Smooth Hammerhead (*Sphyrna mokarran*) and Whitetip Oceanic Shark (*Carcharhinus longimanus*). There are other Near-threatened or Data Deficient species including the Silky shark (*Carcharhinus falciformis*), Blacktip shark (*Carcharhinus limbatus*), Whitenose shark (*Nasolamia velox*), Mexican hornsharrk (*Heterodontus mexicanus*), Nurse shark (*Ginglymostoma cirratum*), Blue shark (*Prionace glauca*), tiger shark (*Galeocerdo cuvier*) and Bull Shark (*Carcharhinus leucas*). Among the existing Batoidea species we find the Giant Electric Ray (*Narcine entemedor*), Spiny-tail Round Ray (*Urotrygons aspidura*), Longtail Stingray (*Dasyatis longa*), Equatorial skate (*Raja equatorialis*), and the Whiptail Stingray (*Dasyatis brevis*).

Rural communities commercialize marine turtle eggs, an activity that generates some US $126,000 for South Coast communities (CONAP & MARN 2009). This activity puts at risk the permanence of these species whose populations have been reduced in the last 50 years; on the other hand, the demand for eggs has increased, reporting new nesting sites (Higginson 1989). The area has a turtle hatchery that has been managed by CONAP staff, and it poses an opportunity to strengthen species conservation that should be paired with other research strategies.

Another risk to the area includes the proposal of developing mining activities in the area, activity that will put at risk the natural dynamics of the habitat and its species (USAC 2011).

Some management activities such as the creation of turtle hatcheries, mangrove reforestation, closed-season and fishing method compliment, and low impact tourism strengthen the integrated management of the area. The purpose of developing this Complex as an EBSA is to guarantee the integrated and sustainable management of resources of high biological and socioeconomic value in this important marine-

coastal zone for the country. This will also help engage users and beneficiaries of the rural and private sectors in activities compatible to the National Biodiversity Policy.

Assessment of the area against CBD EBSA Criteria

(Discuss the area in relation to each of the CBD criteria and relate the best available science. Note that a candidate EBSA may qualify on the basis of one or more of the criteria, and that the boundaries of the EBSA need not be defined with exact precision. And modeling may be used to estimate the presence of EBSA attributes. Please note where there are significant information gaps)

<table>
<tr><td rowspan="2">CBD EBSA Criteria
(Annex I to decision IX/20)</td><td rowspan="2">Description
(Annex I to decision IX/20)</td><td colspan="4">Ranking of criterion relevance
(please mark one column with an X)</td></tr>
<tr><td>Don't Know</td><td>Low</td><td>Some</td><td>High</td></tr>
<tr><td>Uniqueness or rarity</td><td>Area contains either (i) unique ("the only one of its kind"), rare (occurs only in few locations) or endemic species, populations or communities, and/or (ii) unique, rare or distinct, habitats or ecosystems; and/or (iii) unique or unusual geomorphological or oceanographic features.</td><td></td><td></td><td>X</td><td></td></tr>
<tr><td colspan="6">Explanation for ranking
The Poza del Nance is a unique habitat of the Coastal Zone used all year round by populations of Chelonia spp. The Marine Zone is used by many Cetaceous species including two subspecies endemic to Central America: Stenella attenuata graffmani and Stenella atenuada attenuata. Rare species reported in the area include Ziphus cavirostris, Mesoplodon sp., Feresa attenuata, and Orcinus orca. The area is an important site for shark breeding and is the highest diversity site for Batoidea species. It is also an important habitat for whale mating and breeding during the winter season in the North.</td></tr>
<tr><td>Special importance for life-history stages of species</td><td>Areas that are required for a population to survive and thrive.</td><td></td><td></td><td></td><td>X</td></tr>
<tr><td colspan="6">Explanation for ranking
• Many fish and crustaceous species flow among the marine-coastal zone, many of which spend some of their life cycle in the estuary zone.
• The characteristic warm waters and food availability are suitable for many marine fish species including sharks and Sailfish (Istiophorus platypterus) that uses this habitat during its migratory route.
• The area is an important habitat for migratory aquatic bird species in their pelagic and coastal migratory routes, especially because of food availability.
• The Dermochelys coriacea, Eretmochelys imbricata and Lepidochelys olivacea marine turtles use the beaches for nesting
• A high concentration of Chelonia sp. Use the Poza del Nance during migration, even though no reproduction of these species has been reported in the area.
• The area is an important site for some 15 species of sharks, among which individuals of all sizes are found, including neonates and threatened species
• Because of its characteristics, it is considered an important habitat for Batoidea in the South Coast
• The marine zone is used by five Cetaceous species to move, feed, socialize and rest, including</td></tr>
</table>

Megaptera novaeangliae, Turiopsis truncatus, Stenella atenuata, and *Turiopsis truncatus.*					
Importance for threatened, endangered or declining species and/or habitats	Area containing habitat for the survival and recovery of endangered, threatened, declining species or area with significant assemblages of such species.				**X**

Explanation for ranking

Many marine species in the zone are listed as threatened by international organizations. Most species are at least considered vulnerable because of threats such as overfishing, habitat loss and food availability, however, no precise data is available for many species.

The proposed Complex is refuge for shark species included in IUCN threatened categories (2012), reporting individuals of all sizes. The area is breeding grounds for many species that are subject to direct fishing and bycatch, even in neonatal stages. Endangered species include the Scalloped Hammerhead (*Sphyrna lewini*) and the Smooth Hammerhead (*Sphyrna zygaena*). Vulnerable and endangered species include the Pelagic Thresher (*Alopias pelagicus*), the Smooth Hammerhead (*Sphyrna mokarran*) and the Whitetip Oceanic Shark (*Carcharhinus longimanus*). Near-threatened or Data Deficient species found in the area include the Silky Shark (*Carcharhinus falciformis*), Blacktip Shark (*Carcharhinus limbatus*), Whitenose Shark (*Nasolamia velox*), Mexican Hornsharrk (*Heterodontus mexicanus*), Nurse Shark (*Ginglymostoma cirratum*), Blue Shark (*Prionace glauca*), Tiger Shark (*Galeocerdo cuvier*), as well as the Bull Shark (*Carcharhinus leucas*).

The proposed EBSA Complex is the second most diverse site for Batoidea, some of the reported species appear in the Near-threatened and Data Deficient category and are affected by bycatch.

The site is grounds for feeding and nesting marine turtle species such as *Dermochelys coriacea, Eretmochelys imbricata, Lepidochelys olivacea* and *Chelonia spp.*, that are considered to some extent threatened by IUCN, CITES or the Guatemala Endangered Species List.

Although cetaceans and marine birds present in the area are not threatened species, they are indirectly affected by overfishing, bycatch and trawling. These species include: *Megaptera novaeangliae, Turiopsis truncatus, Stenella atenuata, Turiopsis truncatus.*

Vulnerability, fragility, sensitivity, or slow recovery	Areas that contain a relatively high proportion of sensitive habitats, biotopes or species that are functionally fragile (highly susceptible to degradation or depletion by human activity or by natural events) or with slow recovery.			**X**	

Explanation for ranking

- The Complex is subject to degradation mainly by mangrove forest cover loss and contamination of coastal lagoons. In the long term, this accelerates the degradation of the marine habitat. The areas strongly impacted by contamination from terrestrial activities.
- Overfishing and the lack of proper regulations put fish species at risk, many that are of commercial importance. Ecologicaly this impacts directly on megafauna that depend on food availability, which in turn is reflected in its distribution.
- Fishing influences marine megafauna: many species of turtles, sharks, rays, cetaceans and pelagic birds are bycatch, captured mainly through trawling. Needless to say these species recover slowly.
- Shark populations, such as the Smooth Hammerhead (*Sphyrna sygaena*) are captured from the neonatal stage, putting at risk the species survival.

Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.				**X**
Explanation for ranking A nationwide study found that the site is important for many mollusk species' abundance and diversity. The presence and distribution of megafauna in the coasts and the high fishing activities developed in the area prove that it is a highly productive zone. It is also the second most diverse area for rays in Guatemala's Pacific Coast, and home to 15 species of sharks. The marine zone is rich in fish, populations of cetaceans, marine turtles, and coastal birds that use the habitat and show the area's food availability. The coastal zone is important for marine turtle nesting, mainly of *Lepidochelis olivácea*.					
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.			**X**	
Explanation for ranking The mangrove is comprised by three species of mangrove , and its marine-coastal system is refuge to 65 species of fish, including many marine species such as the Spotted Rose Snapper (*Lutjanus guttatus*), Common Dolphinfish (*Coryphaena hippurus*), Sailfish (*Istiophorus platypterus*), Striped Weakfish (*Cynoscion reticulatus*), species of Carangidae, and Tuna (*Thunnus sp.*), among others. The coastal zone is visited by 4 species of marine turtles: *Lepidochelys olivacea, Dermochelys coriácea, Eretmochelys imbricata*, and *Chelonia* spp. At least 92 species of resident and migratory birds make intensive use of the wetland. Heron species including *Bubulcus ibis, butorides virescens, Egretta thula, E. caerulea, E. tricolor, Nycticorax violaceus* and *Eudocimus albus* use the area as reproduction site. Some 7 species of marine birds are reported in the coastal zone. Recent studies report 11 species of cetaceans in the marine zone, two of which are endemic to Central America and five that are frequent to the coast.					
Naturalness	Area with a comparatively higher degree of naturalness as a result of the lack of or low level of human-induced disturbance or degradation.		**X**		
Explanation for ranking The area is very well conserved; however the surroundings are highly developed and include agribusiness industries like sugarcane production that discharge contaminants to the watershed, impacting the Complex negatively. Nearby villages use natural resources in a manner that has low impact on ecosystems and natural populations. The coastal zone is highly used for artisan fishing.					

Sharing experiences and information applying other criteria (Optional)

Other Criteria	**Description**	**Ranking of criterion relevance** (please mark one column with an X)			
		Don't Know	**Low**	**Some**	**High**
Equitable Access and Benefit Sharing (ABS) for all goods from nature (oceans).	It is important to find a right balance between the natural productivity of the sea for industry and local livelihoods especially in areas beyond national jurisdiction, in accordance with national and regional policies and the CBD objectives.		**X**		
Explanation for ranking Local communities use natural resources, especially mangrove and fish resources. Some gain economic					

benefits from low impact tourism in the area.

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(e.g. relevant documents and publications, including URL where available; relevant data sets, including where these are located; information pertaining to relevant audio/visual material, video, models, etc.)

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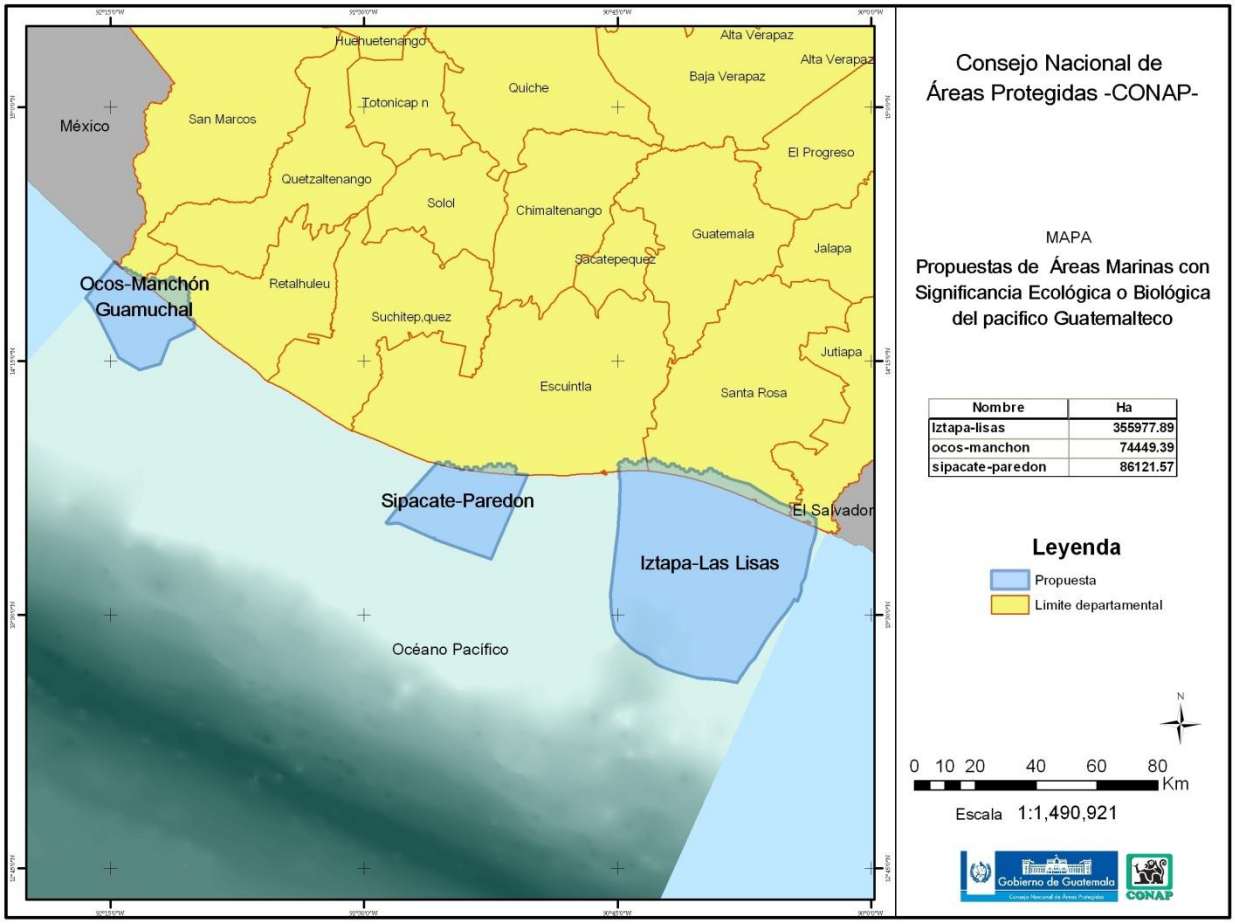
Maps and Figures

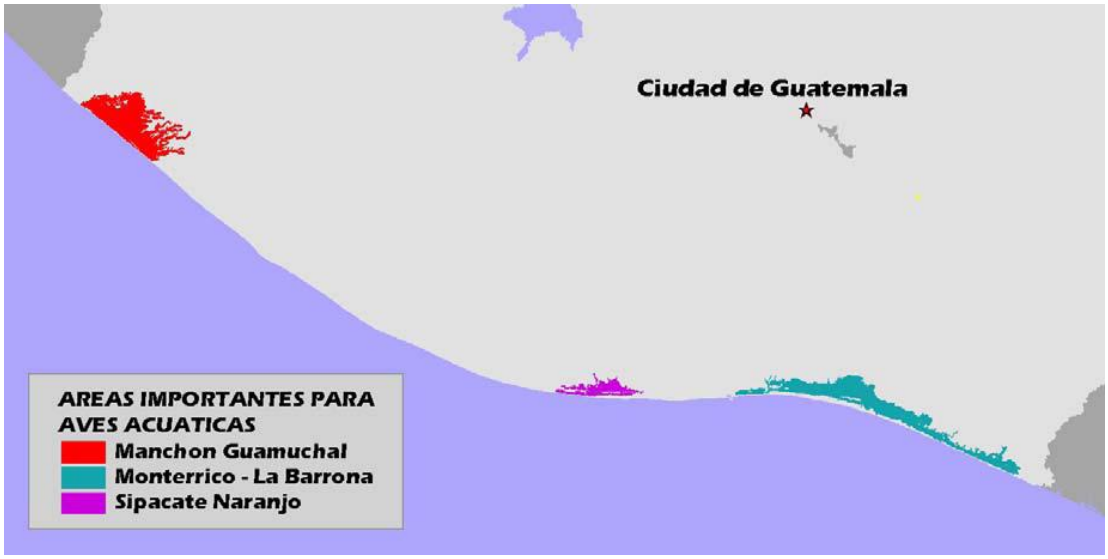
Annex 1. Sipacate Naranjo –El Paredon



Map of Mangrove cover in Guatemala's South Coast

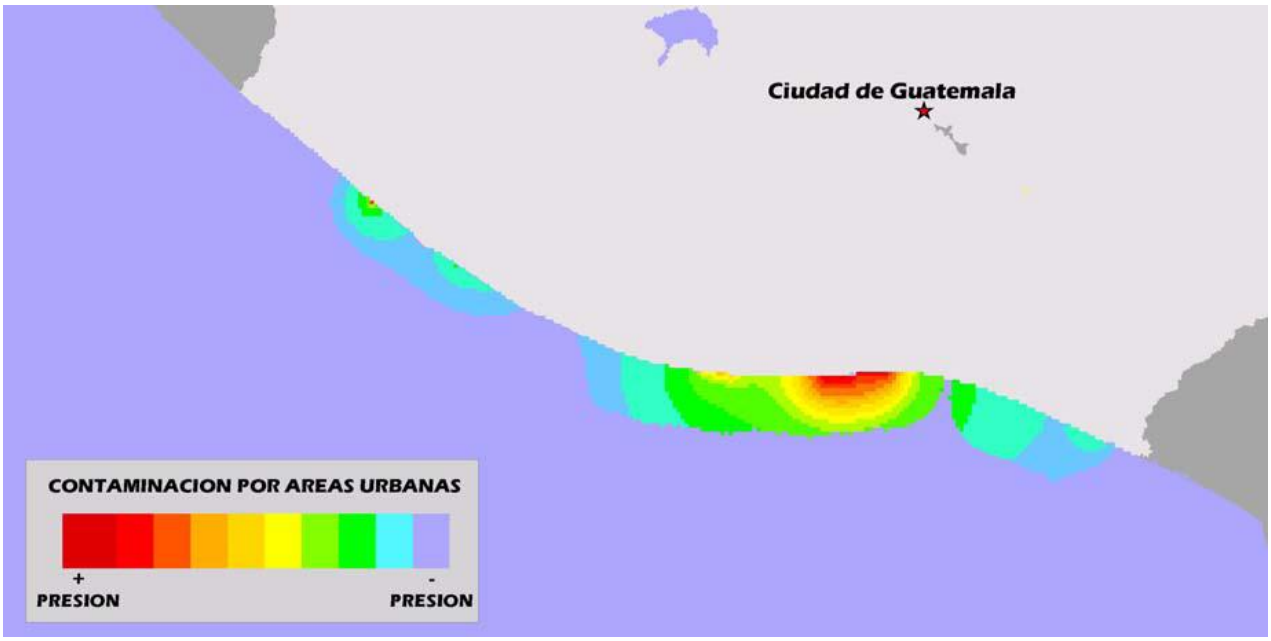
Source: CONAP & MARN 2009

Important Aquatic Bird Sites



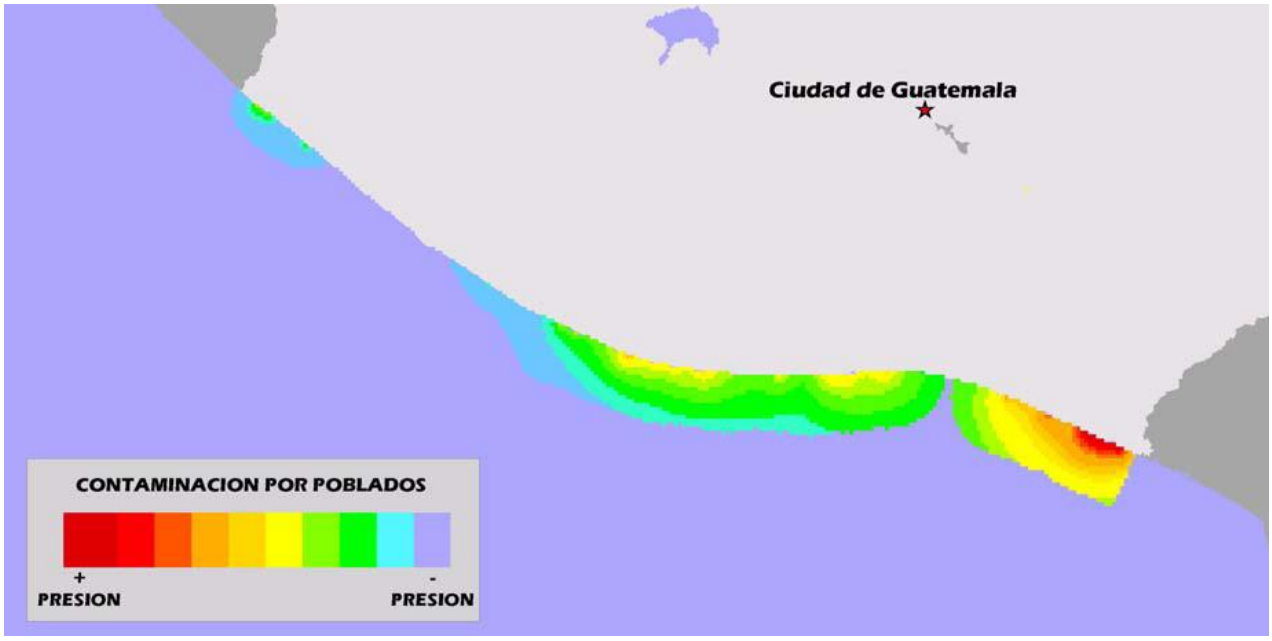
Source: CONAP & MARN 2009

Pressure from urban area contamination in Guatemala's Central Pacific Zone



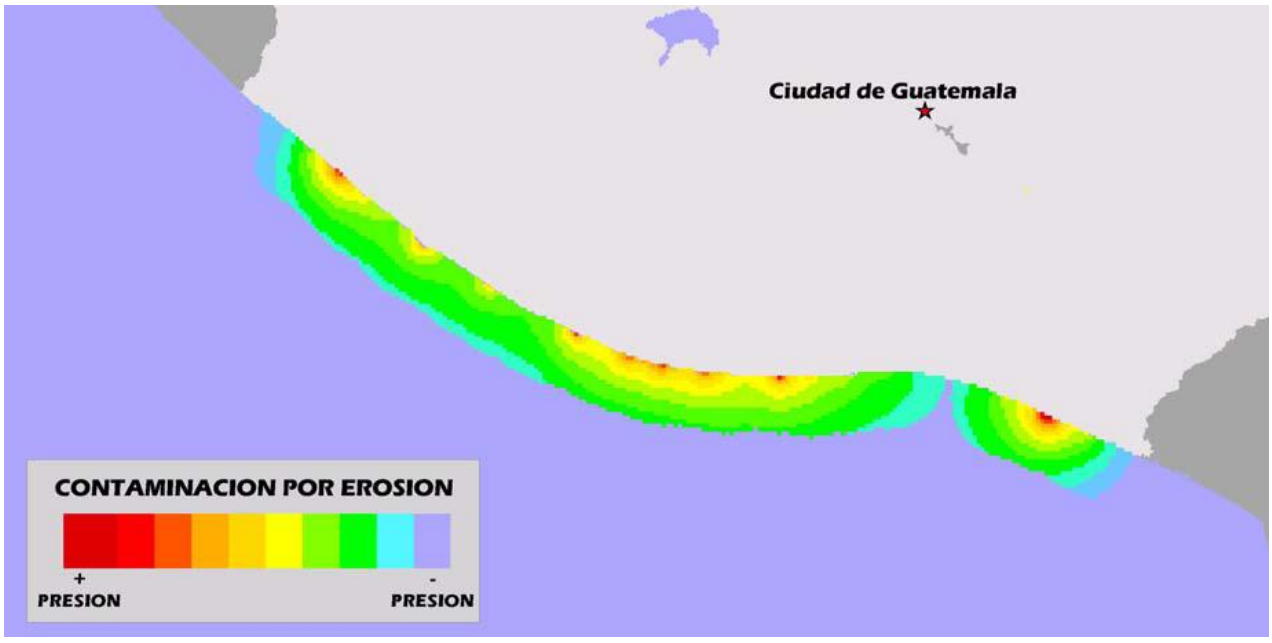
Source: CONAP & MARN 2009

Pressure from Village Contamination in Guatemala's Pacific



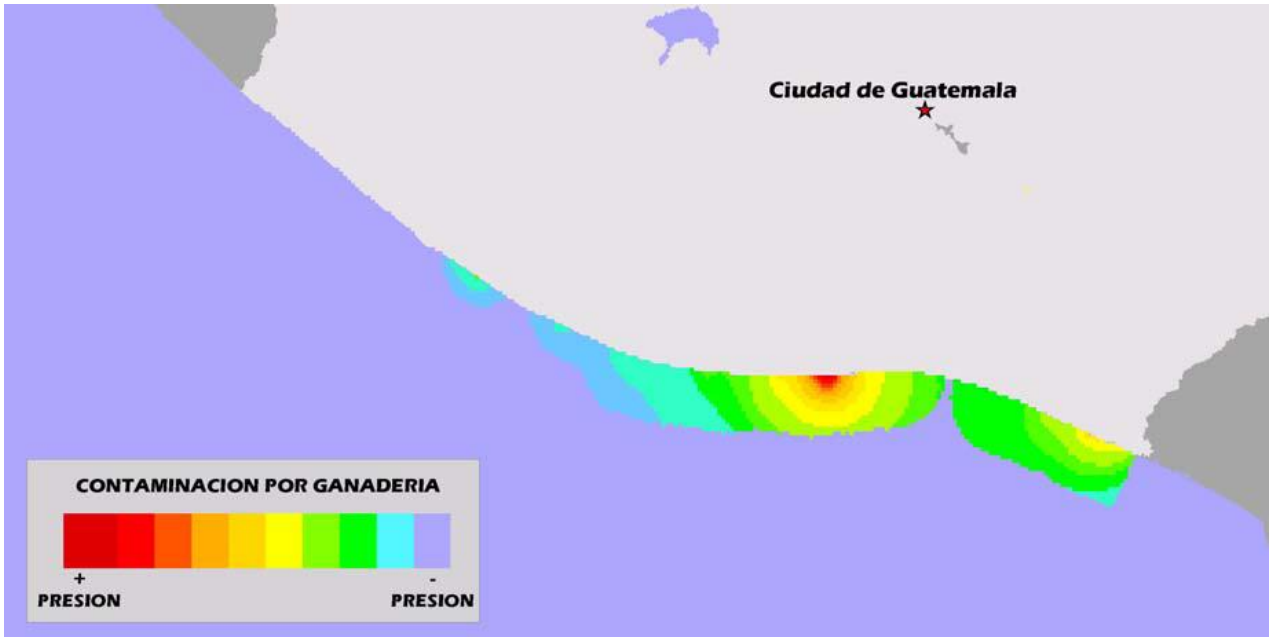
Source: CONAP & MARN 2009

Erosion Contamination in Guatemala's South Coast



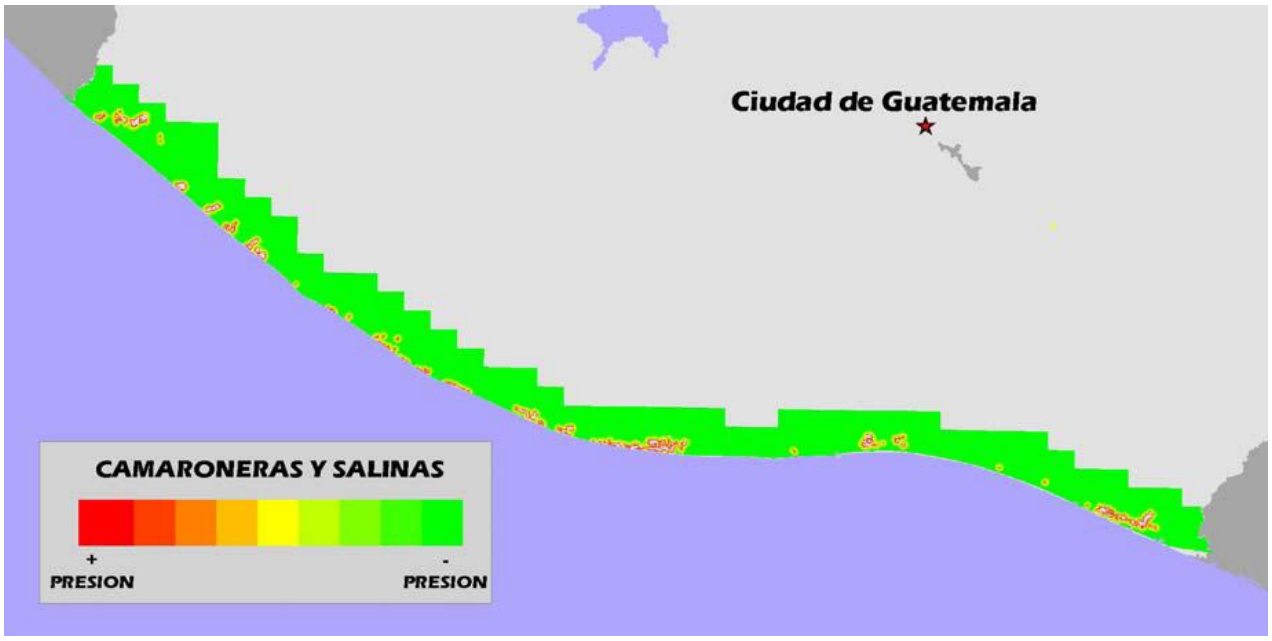
Source: CONAP & MARN 2009

Impact from livestock contamination in Guatemala's South Coast

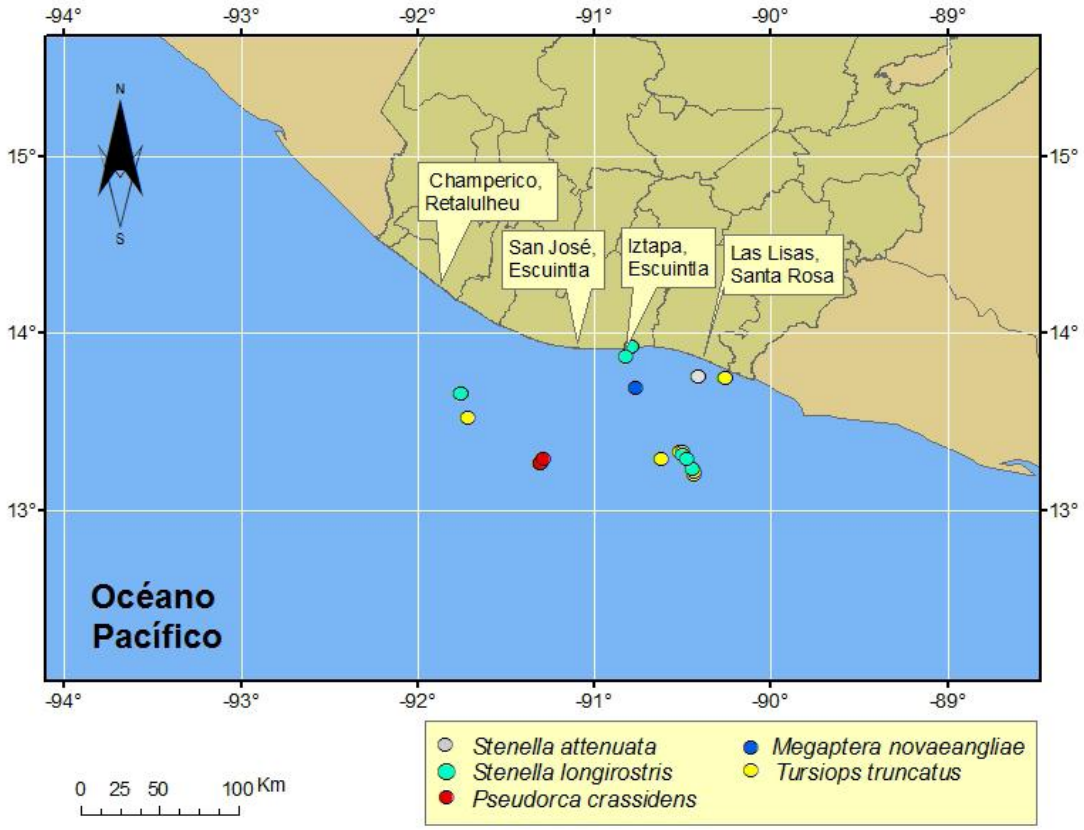


Source: CONAP & MARN 2009

Distribuition of shrimp farms and salt mines in Guatemala's Salt Mines



Source: CONAP & MARN 2009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S
Champerico, Retalulheu
San José, Escuintla
Iztapa, Escuintla
Las Lisas, Santa Rosa
Océano Pacífico
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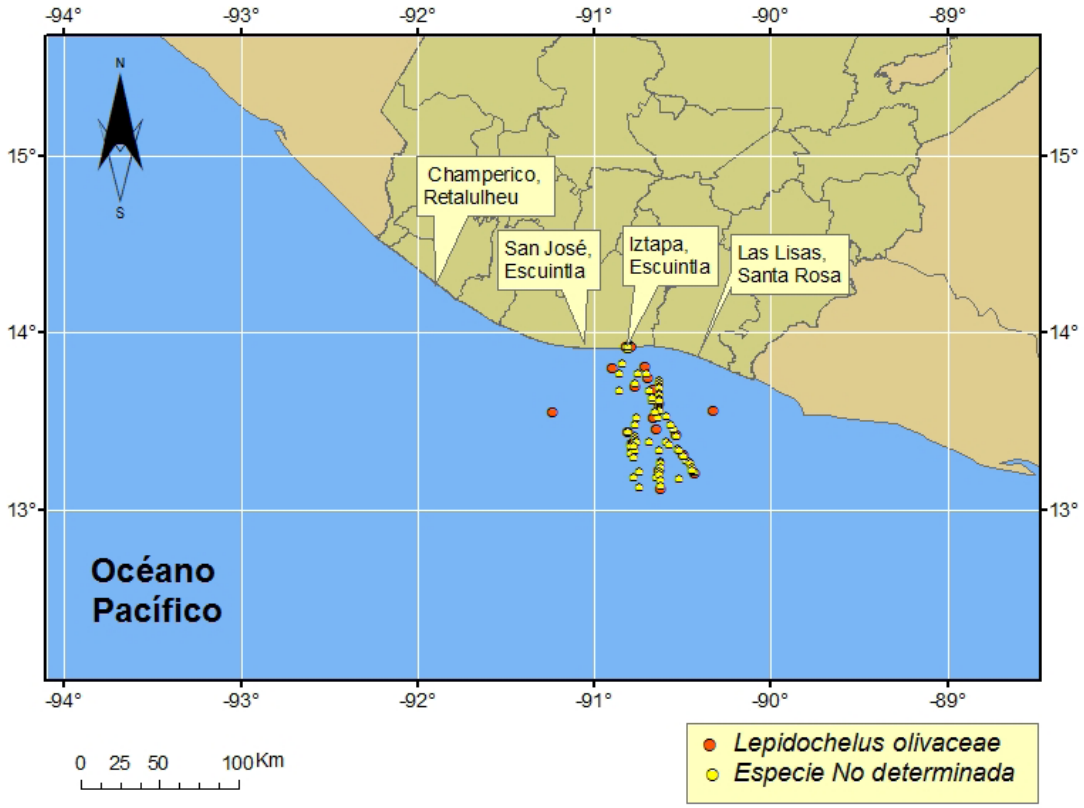
Stenella longirostris
Pseudorca crassidens
Megaptera novaeangliae
Tursiops truncatus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Champerico, Retalulheu
San José, Escuintla
Iztapa, Escuintla
Las Lisas, Santa Rosa
Océano Pacífico
0 25 50 100 Km
Lepidochelus olivaceae
Especie No determinada

Davila 2008

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