

**Project Name: “Implementation of Best Management  
Practices to Control Sedimentation in Cabo Rojo”.**

**Contract Number: 2015-000025  
NOAA AWARD: NA13NOS4820009  
Coral Reef Proposal Task # 5**

**Final Report  
Reporting Period:  
09/14/2014 - 07/31/2016**

**Submitted by:  
Eduardo A. Ventosa-Febles**

## **Executive Summary**

A project was undertaken to identify owners of parcels which might be contributing to the sediment load affecting coral reef communities in Cabo Rojo and to determine what best management practice would be more effective in relieving this load. To identify such parcels, parcels containing soils with high erosion potential, steep slopes and exposed soils, or visible signs of erosion were selected. NRCS soil data was utilized for soil condition identification, LiDAR data from US Army Corps of Engineers was utilized to construct terrain models and determine steep slopes and the latest available air photography for the area (2010) was utilized to identify surface conditions which could indicate a high probability of erosion. To identify areas that might have eluded GIS modeling, participatory cartography sessions were held with local stakeholders to identify them. After these areas were identified, cadastral maps were obtained from the local municipal tax advisor's office and by means of an overlay; areas of concern were classified by parcels.

A process of identifying owners was then undertaken. Local cadastral maps are not always up-to-date, so by means of interviews, information gaps that were not specified on the data were cleared. Owners were then contacted to establish their interest in participating in this project. Thirty-seven (37) parcels were identified. From these, nineteen (19) parcels were visited after receiving the acceptance of the owners. Six (6) parcels held between three different owners decided to participate. All of these properties are in the southeast of the municipality, and their sediment loads affect coral communities on Bahía Sucia, as well as the westernmost reefs from La Parguera (Cayo Margarita).

Seventeen (17) sites within these properties (6 parcels) were selected for best management practices application. These practices are Sedimentation traps, Check Dams, Grass lined channel (grassed swales), Reforestation and access control.

## **Background**

Cabo Rojo is located in the extreme southwest of Puerto Rico. It is one of the most important tourist destinations in Puerto Rico. The main source of fresh water in Cabo Rojo is the Guanajibo River (north), and in the south, it is divided into several dry basins within Corozo and Pitahaya. The coral reefs face both local pressure from fishing and land based sources of pollution and global impacts associated with ocean acidification and climate change (Sturm et al 2014).

Cabo Rojo is one of the top priorities for coral reef protection and coastal management in Puerto Rico (DRNA 2013, NOAA 2009). One of the primary pollutants identified in Cabo Rojo is sediment. The sources of sediment are soil erosion, unpaved roads, channel erosion, poor erosion and sediment control, among others. These sediments may impact coastal coral reef by deposition on reefs, effects on sediment intolerant reef organisms, sediment particles leading to water temperature warming, and pollutants attached to sediment particles (Sturm et al 2014). Principal sources of sediments identified in Cabo Rojo are in Boquerón (Los Pozos area) and in Guanajibo, where lot of sediment is generated.

This project will engage property owners in sediment control practices. Although the proposed task will not develop a plan to control sedimentation, it involves the private sector in activities intended to reduce it.

**Actions:****1. Coordination with partners (100% Completed):**

Implementation of BMP's requires effective coordination among a diverse group of stakeholders from government, non-government and private organizations, making a large tent under which all these stakeholders work together. Our first step was to identify those potential partners that will work with us. The following was the list of actors identified for this task:

| <b>Name</b>            | <b>Agency or Group</b>   |
|------------------------|--|
| Damaris Delgado        | DNER   |
| Nilda Jiménez          | DNER   |
| Idelfonso Ruiz         | DNER   |
| Juan Casanova          | DNER   |
| Emmanuel Irizarry Soto | DNER   |
| Ricardo López Ortiz    | DNER   |
| Katsí Ramos            | DNER   |
| Roseanne Medina        | DNER   |
| Iván Llerandi          | USFWS  |
| Marelisa Rivera        | USFWS  |
| Carlos Pacheco         | USFWS  |
| Gabriel Guzmán         | USDA-NRCS  |
| Zulma García           | USDA-NRCS  |
| Rob Ferguson           | NOAA   |
| Evelyn Cepeda          | Caborrojeños por la Salud y el Ambiente                        |
| José Silva             | Por La Naturaleza (Fideicomiso de Conservación de Puerto Rico) |
| José Rivera            | Cabo Rojo Bike & Hike  |
| Eric Blondet           | Municipality of Cabo Rojo                                      |
| Roberto Viqueira       | Protectores de Cuencas   |

|               |                        |
|---------------|------------------------|
| Jeiger Medina | Protectores de Cuencas |
|---------------|------------------------|

Stakeholders were contacted by phone and/or email. Formal invitations to join as partners were sent by email. Two meetings were conducted; partners were invited by a formal letter by email. The first meeting was held on 6 of May, 2015, at the USFWS office in Cabo Rojo. A total of 5 partners were at the meeting. In May 8, 2015, a summary of the main points discussed in the meeting was prepared and send to all of the partners. The following table show the participants of the first meeting:

| <b>Name/position</b>  | <b>Agency or Group</b> |
|---|------------------------|
| Dr. Nilda Jiménez/Biologist, Marine mammals coordinator program | DNER                   |
| Dr. Idelfonso Ruiz/Refuge Manager,                              | DNER                   |
| Emmanuel Irizarry/Refuge Biologist                              | DNER                   |
| Iván Llerandi/Endangered Species Program Coordinator            | USFWS                  |
| Ing. Gabriel Román/Soil Scientist                               | NRCS                   |

The second meeting was held the 29 of May, 2015, in the same office. For this second meeting, a total of 9 partners were present. In June 4, 2015, a summary of the main points discussed at the meeting was prepared and sent to all of the partners. The following table lists the participants of the second meeting.

| <b>Name/position</b>  | <b>Agency or Group</b> |
|---|------------------------|
| Ricardo López-Ortiz/Director, Fisheries Research Laboratory | DNER                   |
| Katsí Ramos/Biologist, Endangered Species Program           | DNER                   |
| Emmanuel Irizarry/Refuge Biologist                          | DNER                   |
| Iván Llerandi/Endangered Species Program Coordinator        | USFWS                  |
| Carlos Pacheco/Wildlife Biologist                           | USFWS                  |
| Ing. Gabriel Román/Soil Scientist                           | NRCS                   |
| Rob Ferguson/Scientist                                      | NOAA                   |
| Roberto Viqueira/Scientist                                  | Protectores de Cuencas |
| Jeiger Medina/Sientist                                      | Protectores de Cuencas |

2. **Meet with the Manager of Cabo Rojo Wildlife Refuge and gather the information related to the studies on sedimentation that have been conducted in the area. Evaluate properties that could be good candidates to enter in agreement with a**

**federal program based on previous evaluations conducted in the area and field visits (100% completed):**

As mentioned above, two meetings were conducted with the management of the Iris Alameda Wildlife Refuge in Cabo Rojo. The first was held on May 6, 2015. We met with Dr. Idelfonso Ruiz (Refuge Manager), and Mr. Emmanuel Irizarry (Biologist). During this first meeting, we discussed the project goals and the mechanism used to attain them. Both showed high interest in our project, and agreed to collaborate as partners. They mentioned that although there is anecdotal data concerning the sources of sedimentation in Cabo Rojo, there are no scientifically based results that show the source of sedimentation in Cabo Rojo. We met with the Biologist Emmanuel Irizarry for the second time in May 29, 2015. During that meeting, we showed our preliminary result of sources of sedimentation in Cabo Rojo, using our GIS modeling data. Mr. Irizarry agreed with our finding, and recommended other areas to be considered as potential erosion sites. We included those sites in our finding. Refuge Manager. Dr. Ruiz and Mr. Irizarry will receive a full copy of this report.

**3. Identify the owners of those areas where best management practices to control sediments should or could be implemented (100%):**

In order to model the potential for erosion, a simple GIS model was developed to simulate existing conditions. This model required the confection of an accurate digital elevation model for the study area. LiDAR data obtained from NOAA was utilized for this purpose. GIS surfaces for slope and aspect were derived from the data. Soil characteristics were obtained from the latest version of NRCS soil survey, available through NRCS' Soil Data Mart. Variables related to the soil erodibility potential were mapped. Geographically intersecting these surfaces composed the core of the model. Given the specific focus of this project, i.e. sediment control on private lands, a parcel map of the municipality of Cabo Rojo was developed from original CRIM parcel data. The most recent air photography of the area was from 2010 and was used to determine recent land uses within parcels identified as potential candidates for best management practices.

**Participatory Cartography:** One session with program participants was conducted. The purpose was to obtain information that might have eluded GIS analysis. This was conducted successfully in the USFWS conference office. Participating were Rob Ferguson (NOAA), Carlos Pacheco (USFWS), Iván Llerandi (USFWS), Emmanuel Irizarry (DNER), Ricardo López (DNER), Katsí Ramos (DNER), Ing. Gabriel Romón (NRCS), Roberto Viqueira (Protectores de Cuencas, by phone), and Jeiger Medina (Protectores de Cuencas, by phone).

## Results

A total of 37 parcels with a total area of 1,651 hectares (4,080 acres) were identified with the erosion model (Map: Erosion Model Identification of Parcels), and using the collaborative mapping exercise (Map: Collaborative Cartography Identification of Parcels). Please see tables below and attached maps. Results can also be accessed online at: <http://arcg.is/1ctCNjW>

| CASE No. | CATASTRO No.       | TOWN      | CONTACT NAME                                    | AGRICULTURAL PRACTICE |
|----------|--------------------|-----------|---|-----------------------|
| 1        | 403-000-008-02-000 | CABO ROJO | CARLO AYMAT MIGUEL                              | Grazing               |
| 2        | 425-000-005-08-901 | CABO ROJO | RIVERA MERCADO PABLO                            | Not visited           |
| 3        | 425-000-005-08-902 | CABO ROJO | FAS FACUNDO MARIA C                             | Pasture               |
| 4        | 283-000-007-66-000 | CABO ROJO | AHC CORP  | Not visited           |
| 5        | 404-000-006-08-000 | CABO ROJO | FIGUEROA PEREZ JORGE M                          | Not visited           |
| 6        | 355-000-005-02-000 | CABO ROJO | SUCN LUIS E DEL TORO SEDA                       | Not visited           |
| 7        | 425-000-004-02-000 | CABO ROJO | CARLO AYMAT MIGUEL                              | Grazing               |
| 8        | 283-064-395-28-000 | CABO ROJO | SUCN ANTONIA CABASSA                            | None                  |
| 9        | 379-000-010-03-000 | CABO ROJO | MERINO PEDROZO QUIRINO                          | None                  |
| 10       | 425-000-004-03-000 | CABO ROJO | CARLO AYMAT MIGUEL                              | Grazing               |
| 11       | 404-000-001-13-000 | CABO ROJO | RODRIGUEZ CABRERA VILMA                         | None                  |
| 12       | 355-000-010-40-000 | CABO ROJO | PORTAL DEV INC                                  | Not visited           |
| 13       | 403-000-008-01-000 | CABO ROJO | CARLO DE SANCHEZ ALICIA                         | Grazing and Pasture   |
| 14       | 283-000-007-31-901 | CABO ROJO | YABUCOA DEVELOPMENT CORP                        | Not visited           |
| 15       | 425-000-002-01-901 | CABO ROJO | CARLO DE SANCHEZ ALICIA                         | Grazing and Pasture   |
| 16       | 425-000-002-01-901 | CABO ROJO | CARLO DE SANCHEZ ALICIA                         | Grazing and Pasture   |
| 17       | 380-000-006-01-000 | CABO ROJO | DESARROLLADORES ISLEÑOS                         | Not visited           |
| 18       | 379-000-009-05-000 | CABO ROJO | MERINO PEDROZO QUIRINO                          | None                  |
| 19       | 425-000-003-02-901 | CABO ROJO | CARLO AYMAT MIGUEL                              | Grazing               |
| 20       | 283-000-007-65-000 | CABO ROJO | CENTRO RENAL DEL OESTE INC                      | None                  |
| 21       | 426-000-001-10-852 | CABO ROJO | FAS FAGUNDO CARMEN                              | Grazing and Pasture   |
| 22       | 259-000-006-06-001 | CABO ROJO | MOVIMIENTO CRISTIANO JESED INC                  | Not visited           |
| 23       | 425-000-002-01-901 | CABO ROJO | CARLO DE SANCHEZ ALICIA                         | Grazing and Pasture   |
| 24       | 404-000-001-04-998 | CABO ROJO | FAS FAGUNDO CARMEN                              | Grazing               |
| 25       | 283-000-002-43-001 | CABO ROJO | ECO TURISTICO VISTAS DEL SOL (Héctor Rodríguez) | Not visited           |
| 26       | 402-000-004-64-000 | CABO ROJO | MARTIN VELEZ RAMONITA                           | None                  |
| 27       | 308-023-150-84-000 | CABO ROJO | INSTITUTO SECULAR DE SCHUENSTATT                | None                  |
| 28       | 425-000-004-04-000 | CABO ROJO | CARLO AYMAT LUIS                                | Grazing               |
| 29       | 425-000-005-65-000 | CABO ROJO | IÑIGO FAS JESUS ANTONIO                         | Not visited           |
| 30       | 283-033-586-17-000 | CABO ROJO | MATOS BARRETO AUREO ARNALDO                     | Not visited           |
| 31       | 355-009-216-33-000 | CABO ROJO | JUAN ROSADO 253 COMP. (Juan M. Casellas)        | Not visited           |
| 32       | 355-009-216-30-000 | CABO ROJO | JUAN ROSADO 253 COMP. (Juan M. Casellas)        | Not visited           |
| 33       | 379-089-327-77-000 | CABO ROJO | MC ACQUISITION CORP                             | Not visited           |
| 34       | 379-089-327-76-000 | CABO ROJO | MC ACQUISITION CORP                             | Not visited           |
| 35       | 425-000-005-66-000 | CABO ROJO | INIGO FAS LAURA J                               | Not visited           |
| 36       | 425-000-005-64-000 | CABO ROJO | IÑIGO FAS JOSE F                                | Not visited           |
| 37       | 402-029-327-59-000 | CABO ROJO | MC ACQUISITION CORP                             | Not visited           |

**Table 1. Results from the GIS Analysis (Map: Erosion Model Identification of Parcels) and from Participatory Cartography (Map: Collaborative Cartography Identification of Parcels).**



**4. Identify and design the possible sediment control or best management practices to be implemented in the property of interested owners (100% completed):**

A total of 25 owners have been identified. From these, twenty-three (23) were contacted. From these 23, twelve (12) owners were interested and visited. This represent a total of 19 parcels belonging from those 12 land owners or administrators. After field inspection, a preliminary appropriate BMP were created for those 19 parcels. Please see accompanying map or in the web application found at <http://arcg.is/1ctCNjW>.

Best management practices were determined by the state of site and the size of the drainage area and selecting the best match from the Natural Resources Conservation Service's National Conservation Practice Standards found at: ([http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/technical/cp/ncps/?cid=nrcs143\\_026849](http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/technical/cp/ncps/?cid=nrcs143_026849) )

**5. Meet with the federal program manager to begin communication towards an agreement with the owner (100% completed):**

Two federal program manager were identified as partners for this project; they were Mr. Iván Llerandi, from the USFWS, and Ing. Gabriel Román, from the USDA, NRCS. We discussed with Mr. Llerandi and with Ing. Román, the available programs that can be available for land owners or administrators, in order to apply the best management practices to reduce sedimentation on their lands. NRCS offers voluntary programs to eligible landowners and agricultural producers to provide financial and technical assistance to help manage natural resources in a sustainable manner. Some of these programs offered by NRCS, are the following:

- The Conservation Stewardship Program (CSP) helps agricultural producers maintain and improve their existing conservation systems and adopt additional conservation activities to address priority resources concerns.
- The Environmental Quality Incentives Program (EQIP) provides financial and technical assistance to agricultural producers in order to address natural resource concerns and deliver environmental benefits such as improved water and air quality, conserved ground and surface water, reduced soil erosion and sedimentation or improved or created wildlife habitat.

Mr. Llerandi provided some information about the USFWS programs. One of them is The Partners for Fish and Wildlife Program (PFWP). The PFWP is a mechanism for delivering voluntary on-the-ground habitat improvement projects on private lands for the benefit of Federal trust species. They provide technical and financial assistance to landowners to help meet the habitat needs of Federal trust species on private lands. Program projects may include improving habitat for any or all of the following: migratory bird species: anadromous fish species of special concern to the Service;

endangered, threatened, or candidate species; species proposed for listing; and other declining or imperiled species.

Although both federal program managers were informed about site visits calendar, none were able to assist to any of the field visits as tight and complicated schedules from part of the owners allowed almost no flexibility. However, site visits were amply documented and media related to each visit (including current aerial imagery and video captured by UAV, as well as supporting geodata) has been posted at the following address:

[https://www.dropbox.com/sh/si5fxruunwbpxij/AADMDXDpr3q4TCMRxFrRrXr0\\_a?dl=0](https://www.dropbox.com/sh/si5fxruunwbpxij/AADMDXDpr3q4TCMRxFrRrXr0_a?dl=0)

**6. Provide guidance and support in the process with the federal program and work closely with the persons administering those programs. Provide a report with information of the identified land owners, BMPs identified, strategies to engage other private owners and needs to fulfill the BMPs in the area (100% completed):**

In addition to identifying owners with the best available information, namely, the municipal parcel maps (see included list), additional owner and/or stakeholder engagement was attempted by means of the participatory cartography session. Unfortunately, the local community did not participate. Contact information and log for identified and contacted owners, government entities and NGO's is included within the attachments. Coordination is ongoing with project partners NRCS and FWS project implementation with both agencies. The potential client list has been shared with both agencies to coordinate site visits and further project development.

**7. Contact the private owners to provide them information on sedimentation (the literature prepared by Coastal Zone Management, NRCS and the Environmental Quality Board will be used), the federal programs and conservation practices (100% completed).**

Task number 7 started in November, 2015, and ended in March, 2016. From a total of 37 parcels, we were successful in determine ownership in all of them (100%). From them, we were unable to establish any contact with land owners and/or administrator, in five (5) parcels. We were unsuccessful in establish a field inspection in 13 parcels, mainly because the owner doesn't have any interest in the different programs available for BMP's. The total of parcels not visited were 18 (5 not contacted and 13 not interested). This represent 11 owner/administrator (49% of the parcel were not visited). Attachment 2 show the parcels not visited. A total of 19 properties (51%) were visited (see Attachment 3). Table 2 summarized our findings in terms of parcels visited and owner's interactions. Only three parcels owners show some interest to applied possible BMP'S on their parcels. Differences on the parcel list from the first iteration and the subsequent ones are related to the exclusion of publicly owned parcels, the updated contact information, and the subdivision of larger parcels, the subdivided parcels selected were the ones where visible erosion was detected or where, due to drainage patterns, the BMP location would have a more efficient performance. Priorities were

assigned to parcels that were in close proximity to critical coral resources. Please visit <http://arcg.is/1ctCNjW> for more detail. All data is available for download from ArcGIS online by searching for the tags “Cabo Rojo”, “BMP” or “CRBMP”.

| Parcels   | Owners   |
|---|--|
| Total of Identified parcels = 37  | Total Identified Owners = 25                       |
| Total of parcels not visited (owners were not found) = 5 (14%)                              | Total of owners not contacted = 2 (8%)             |
| Total of parcels not visited (owners were not interested) = 13 (35%)                        | Total of owners not interested = 11 (44%)          |
| Total of parcels visited (owners agreed in obtain information and in site visit) = 19 (51%) | Total of owners interested and visited = 12 (48%). |

**Table 2. Summary of parcels and owners findings in our work.**

After visiting and interviewing the twelve parcel owners, nine (9) where not interested in the available programs related to erosion and sedimentation control. The reasons provided by them are the following Table 3:

| Reason  | Owners |
|---|--------|
| Property is on lease and/or sale  | 4      |
| Does not want to make any changes in their land or agricultural practices | 1      |
| Does not believe in any federal or state programs                         | 1      |
| Inheritance issues  | 2      |
| No erosion or sedimentation issues on their property                      | 1      |

**Table 3. Reasons for not participating.**

Owners visited but not interested, are included in Table 4. Contact information and recommended BMP'S are included in the following table.

| Administrator (Owner)                           | Phone No.  | Case No.        | BMP'S Recommended                                   |
|---|--|-----------------|---|
| Alejandro Santo (Succ. Antonia Cabassa)         | (787) 310-1771,<br>(787) 630-0009,<br>(787) 763-9444 | 8               | Reforestation                                       |
| Dr. Wiston Ojeda (Centro Renal del Oeste Inc.)  | (787) 615-1388                                       | 20              | No erosion found                                    |
| Dr. Ernesto Ponce De León (Fas Facundo Carmen). | (787) 616-0516.                                      | 21              | Check dam, sedimentation trap                       |
| Mr. José Camacho (Fas Facundo Carmen).          | (787) 244-4986                                       | 24              | Bank stabilization, Check dam                       |
| Georgie Fas (Fas Facundo Maria C.).             | (787) 632-1070,<br>(787) 508-7155.                   | 3               | Access control, reforestation                       |
| Ing. Javier Acosta (Martín Velez Ramonita).     | (787) 646-1998<br>(787) 834-3256                     | 26              | Ground cover, hydro seeding, sedimentation trap     |
| Ms. Marianita Carbó (Merino Pedrozo Quirino).   | (787) 485-2554                                       | 9, 18           | Revegetation, access control                        |
| Miguel Carlo (Carlo Aymat Miguel)               | (787) 560-6695.                                      | 1, 7,<br>10, 19 | Check dam, grass lined channels, sedimentation trap |

|   |                |    |            |
|---|----------------|----|------------|
| Sister Carmín (Instituto Secular Shoenstatt). | (787) 851-5368 | 27 | Grass Rows |
|---|----------------|----|------------|

**Table 4. Owners visited and not interested in the programs available.**

Only three (3) owners expressed interest for BMP's on their properties. The following table provided information about those 3 owners, and recommended program available:

| Owner and/or Administrator                          | Phone No.    | Case No.       | Program Recommended   |
|---|--------------|----------------|---|
| Aitza Carlo (Carlos Aymat Luis).                    | 787-318-9190 | 28             | Partners for Wildlife (USFWS) and Auxiliary Forest (DNER)                             |
| Adalberto Franky (Administrator). Hacienda Altamira | 787-851-0467 | 13, 15, 16, 23 | Auxiliary Forest (DNER), Forest Stewardship (USDA and DNER) and NRCS programs (USDA). |
| Dr. Miguel Busigó                                   | 787-379-0503 | 11             | Partners for Wildlife (USFWS)   |

**Table 5. Available conservation programs for land owners and BMP locations.**

The table below show the recommended BMP's for the three owners/administrators that demonstrate some interest in the available programs of sediment control. Locations can also be found mapped on the Attachments section and by accessing the map data page.

**Table 6. Precise location of BMP's**

| Case No. | Practice                      | Administrator      | X coordinate | Y coordinate |
|----------|-------------------------------|--------------------|--------------|--------------|
| 16       | Grass Lined Channel/Check Dam | FRANQUI, ADALBERTO | 122996.53    | 214811.80    |
| 15       | Reforestation/Grass Rows      | FRANQUI, ADALBERTO | 122261.72    | 214751.90    |
| 13       | Check Dam                     | FRANQUI, ADALBERTO | 122675.47    | 214585.43    |
| 16       | Grass Lined Channel/Check Dam | FRANQUI, ADALBERTO | 123117.64    | 214116.10    |
| 28       | Reforestarion/Traffic Control | CARLO, AITZA       | 123341.39    | 213755.16    |
| 28       | Sedimentation Trap            | CARLO, AITZA       | 124096.55    | 213695.92    |
| 28       | Check Dam                     | CARLO, AITZA       | 124041.03    | 213713.20    |
| 23       | Check Dam                     | FRANQUI, ADALBERTO | 123110.19    | 216038.15    |
| 28       | Sedimentation Trap            | CARLO, AITZA       | 123967.45    | 215794.15    |
| 11       | Sedimentation Trap            | BUSIGO, MIGUEL     | 127478.79    | 216653.59    |
| 28       | Check Dam                     | CARLO, AITZA       | 123651.82    | 215281.13    |
| 16       | Sedimentation Trap            | FRANQUI, ADALBERTO | 123526.37    | 215091.20    |
| 28       | Check Dam                     | CARLO, AITZA       | 123807.26    | 215410.28    |
| 28       | Check Dam                     | CARLO, AITZA       | 124032.03    | 215572.08    |
| 16       | Sedimentation Trap            | FRANQUI, ADALBERTO | 123239.35    | 215260.21    |
| 28       | Check Dam                     | CARLO, AITZA       | 123368.43    | 215513.09    |
| 28       | Sedimentation Trap            | CARLO, AITZA       | 123322.77    | 215416.90    |



## Practices Recommended for participating properties

**Sedimentation Traps** (NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD SEDIMENT BASIN (No.) CODE 350): A basin constructed with an engineered outlet, formed by an embankment or excavation or a combination of the two. A sediment trap is a temporary settling pond formed by construction of an embankment and/or excavated basin with a simple outlet structure. The outlet structure is typically stabilized with geotextile and rip-rap. The purpose of a sediment trap is to detain sediment-laden storm water runoff, and allow the majority of the sediment to settle out. They are established using natural drainage patterns and favorable topography to minimize grading.





**Check Dam:** (*NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD STRUCTURE FOR WATER CONTROL (No.) CODE 587*) A structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface elevation or measures water. A check dam (also called gully plug) is a small, temporary or permanent dam constructed across a drainage ditch, swale, or channel to lower the speed of concentrated flows for a certain design range of storm events. A check dam can be built from wood logs, stone, pea gravel-filled sandbags or bricks and cement. Reduced runoff speed reduces erosion and gully erosion in the channel and allows sediments and other pollutants to settle out.



**Grass Lined Channel (grassed swales):** (NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD GRASSED WATERWAY (Ac.) CODE 412.) A shaped or graded channel that is established with suitable vegetation to convey surface water at a non-erosive velocity using a broad and shallow cross section to a stable outlet. *A grassed swale is a graded and engineered landscape feature appearing as a linear, shallow, open channel with trapezoidal or parabolic shape. The swale is vegetated with flood tolerant, erosion resistant plants. The design of grassed swales promotes the conveyance of storm water at a slower, controlled rate and acts as a filter medium removing pollutants and allowing storm water infiltration. When properly designed to accommodate a predetermined storm event volume, a grassed swale results in a significant improvement over the traditional drainage ditch in both slowing and cleaning of water.*





**Reforestation:** The replanting of trees where forested lands used to be.

Please refer to individual owner map for location and identification of practices, individual parcels are identified by case number.

The time frame was completed as scheduled

**Time Frame from September 2014, to July 2016.**

| <b>Task</b>  | <b>Nov.<br/>2015</b> | <b>Dec.<br/>2015</b> | <b>Jan.<br/>2016</b> | <b>Feb.<br/>2016</b> | <b>Mar.<br/>2016</b> | <b>April<br/>2016</b> | <b>May<br/>2016</b> | <b>Hrs.</b> |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|---------------------|-------------|
| 1) Coordination with partners ( <b>100% completed</b> ).   |                      |                      |                      |                      |                      |                       |                     | <b>35</b>   |
| 2) Meet with the Manager of Cabo Rojo Wildlife Refuge and gather the information related to the studies on sedimentation that have been conducted in the area. Evaluate properties that could be good candidates to enter in agreement with a federal program Based on previous evaluations conducted in the area and field visits ( <b>100% completed</b> ). We will coordinate with DNER personnel our field visits to the selected parcel, after establish contact with owners and/or administrators.   |                      | <b>X</b>             | <b>X</b>             |                      |                      |                       |                     | <b>100</b>  |
| 3) Identify the owners of those areas where best management practices to control sediments should or could be implemented ( <b>100% completed</b> ). We will review and update owners information (i.e., contact information, coordinates, ext.), and incorporate it on our metadata. For easy reference, the number of parcel will be incorporated on each parcel map.  | <b>X</b>             | <b>X</b>             | <b>X</b>             | <b>X</b>             |                      |                       |                     | <b>417</b>  |
| 4) Identify and design the possible sediment control or best management practices to be Implemented in the property ( <b>100% completed</b> ). After our on-site visits, we will develop the corresponding best management practices to control sedimentation on each site, after the approval of the owner and/or administrator. We will use the document title "Cabo Rojo Community Watershed Action Plan for Water Quality and Coral Reefs" as an auxiliary tool for the development of our Best Management Practices to control sedimentation. |                      |                      | <b>X</b>             | <b>X</b>             | <b>X</b>             | <b>X</b>              |                     | <b>100</b>  |

|  |   |   |   |   |   |   |   |            |
|--|---|---|---|---|---|---|---|------------|
| 5) Meet with the federal program manager to begin communication towards an agreement with the owner ( <b>100% completed</b> ). If the owner or administrator accept our on-site visit, we will coordinate with DNER and NRCS personnel in order to participate in our visits and interview with the owner or administrator.  |   | X | X | X | X |   |   | <b>100</b> |
| 6) Provide guidance and support in the process with the federal program and work closely with the persons administering those programs. Provide a report with information of the identified land owners, BMPs accomplished, strategies to engage other private owners and needs to fulfill the BMPs in the area ( <b>100% completed</b> ).   |   |   | X | X | X | X | X | <b>100</b> |
| 7) Contact the private owners to provide them information on sedimentation (the literature prepared by Coastal Zone Management, NRCS and the Environmental Quality Board will be used), the federal programs and conservation practices ( <b>100% completed</b> ). We will use all available methods (i.e., phone, emails, postal letter, neighbor interview) in order to establish contact with the owner and/or administrators of the selected private land. Available brochure related to Best Management Practices will be distributed among participants. A dairy will be filled out that show all of the attempts to contact each private land owner and/or administrator. | X | X | X | X | X | X | X | <b>350</b> |
| 8) Final Report ( <b>100% completed</b> ). A final report will be delivered at the end of the work. It would include all GIS files, with their corresponding metadata. Also we will provide a description of all of the task, with each achievement, conducted during our work. Figures, images, tables, ext., will be included. Images will include coral reefs distribution, using GIS tools that will benefits from BMP implementations.  |   |   |   |   |   | X | X | <b>58</b>  |

In conclusion, most identified landowners chose not to participate for a number of reasons, first and foremost, a distrust of local and federal government. In addition, the dynamic nature of the real estate market in Cabo Rojo further discourages land owners of unused parcels to enter in long term commitments for the implementation of best management practices, fearing a decrease in value, or consideration for the designs of potential future owners. The best course of action for the Department of Natural and Environmental Resources would be to complete project implementation of willing participants and utilize these efforts as showcase for other properties in the area, and demonstrate the benefits first hand. I am in continuing coordination with federal agencies for the posible implementation of these practices.



# References

DRNA, 2013. Local Action Strategies (LAS) for Coral Reef Conservation 2011-2015. Puerto Rico Department of Natural and Environmental Resources. San Juan, PR.

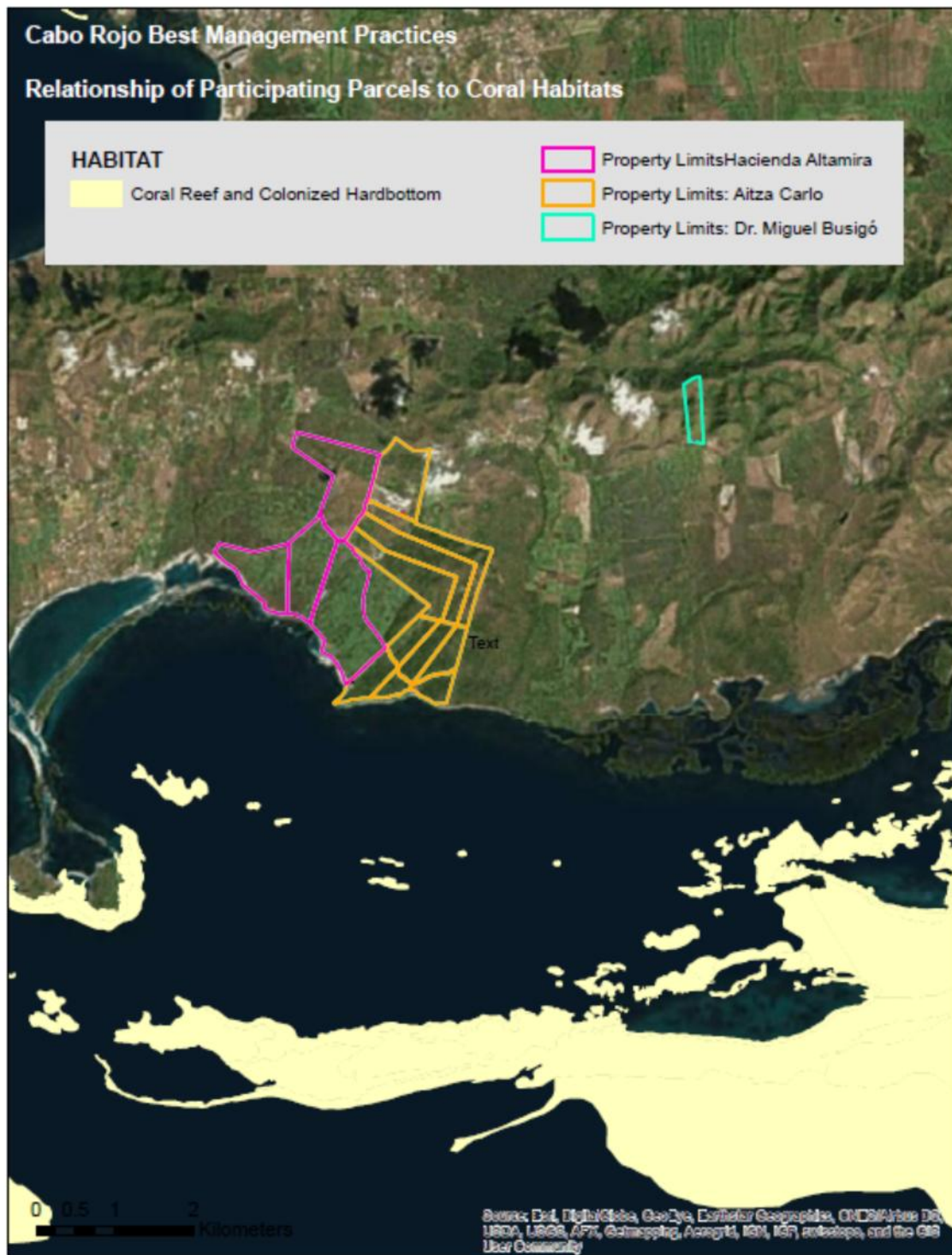
NOAA, 2019. NOAA Coral Reef Conservation Program Goals and Objectives 2010-2015. Silver Spring, MD.

Sturm P., Viqueira-Rios R., Medina J., Padilla G., Hernandez-Delgado E., Gonzalez-Ramos C., Montañez-Acuña A., Otaño-Cruz A., Cabrera-Beauchamp G. 2014. Cabo Rojo community watershed action plan for water quality and coral reefs. Prepared for National Fish and Wildlife Foundation, NOAA coral reef conservation program, Puerto Rico DRNA, and the Municipality of Cabo Rojo

USDA Natural Resources Conservation Service, National Conservation Practice Standards.  
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/cp/ncps/>. Accessed last June 30, 2016.

## ATTACHMENTS

## ATTACHMENT 1: Cabo Rojo Best Management Practices GIS Maps





# Cabo Rojo Best Management Practices Hacienda Altamira

Property LimitsHacienda Altamira

**Practice**  

Check Dam

Grass Lined Channel/Check Dam

Reforestarion/Traffic Control

Reforestation/Grass Rows

Sedimentation Trap



13

Text  
23

15

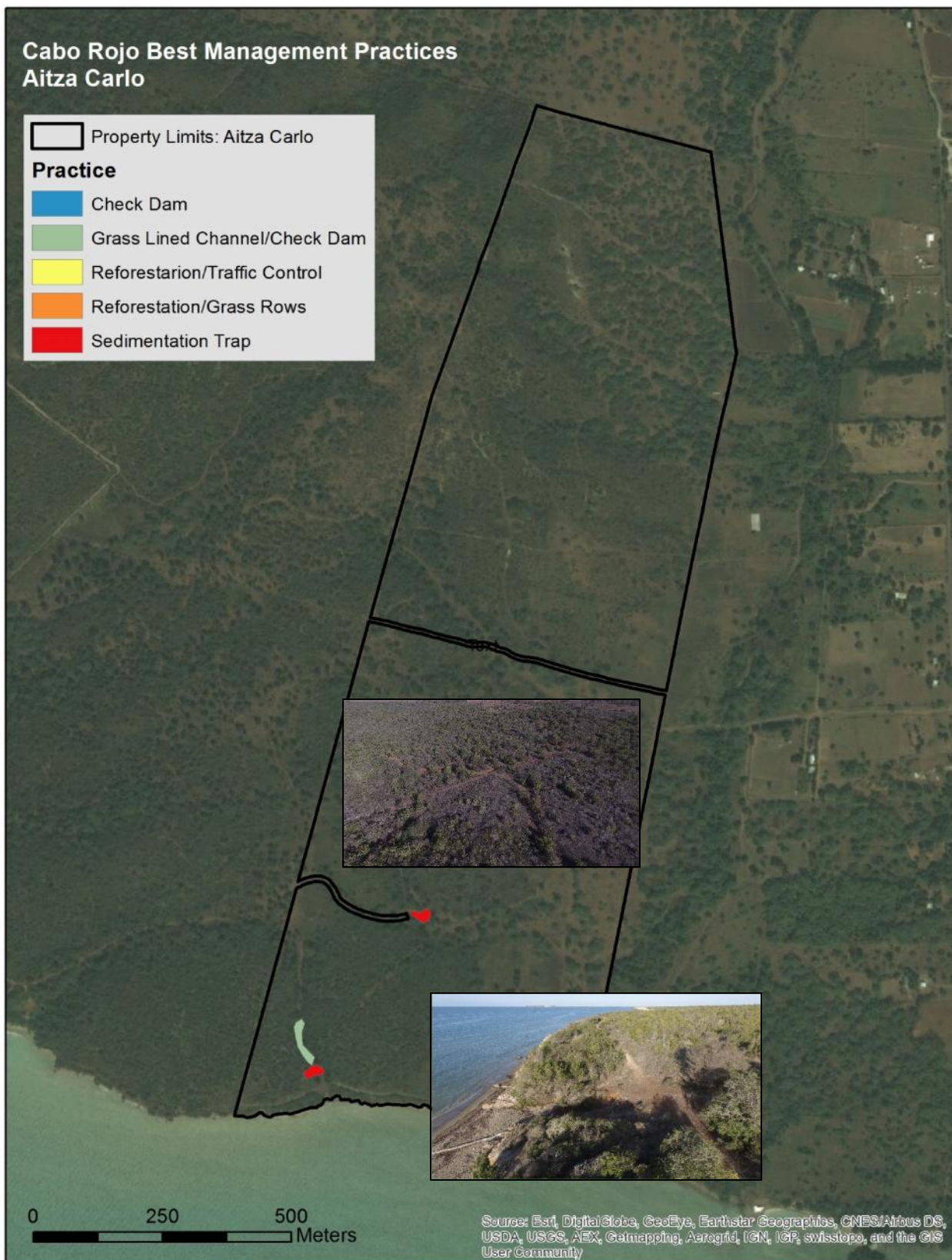
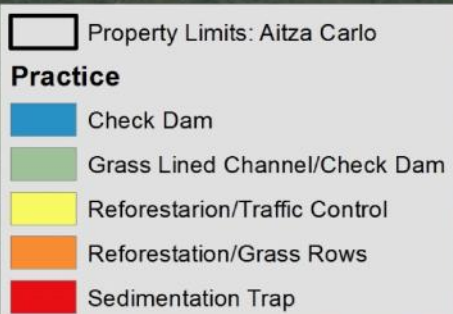
16



0 250 500  
Meters

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

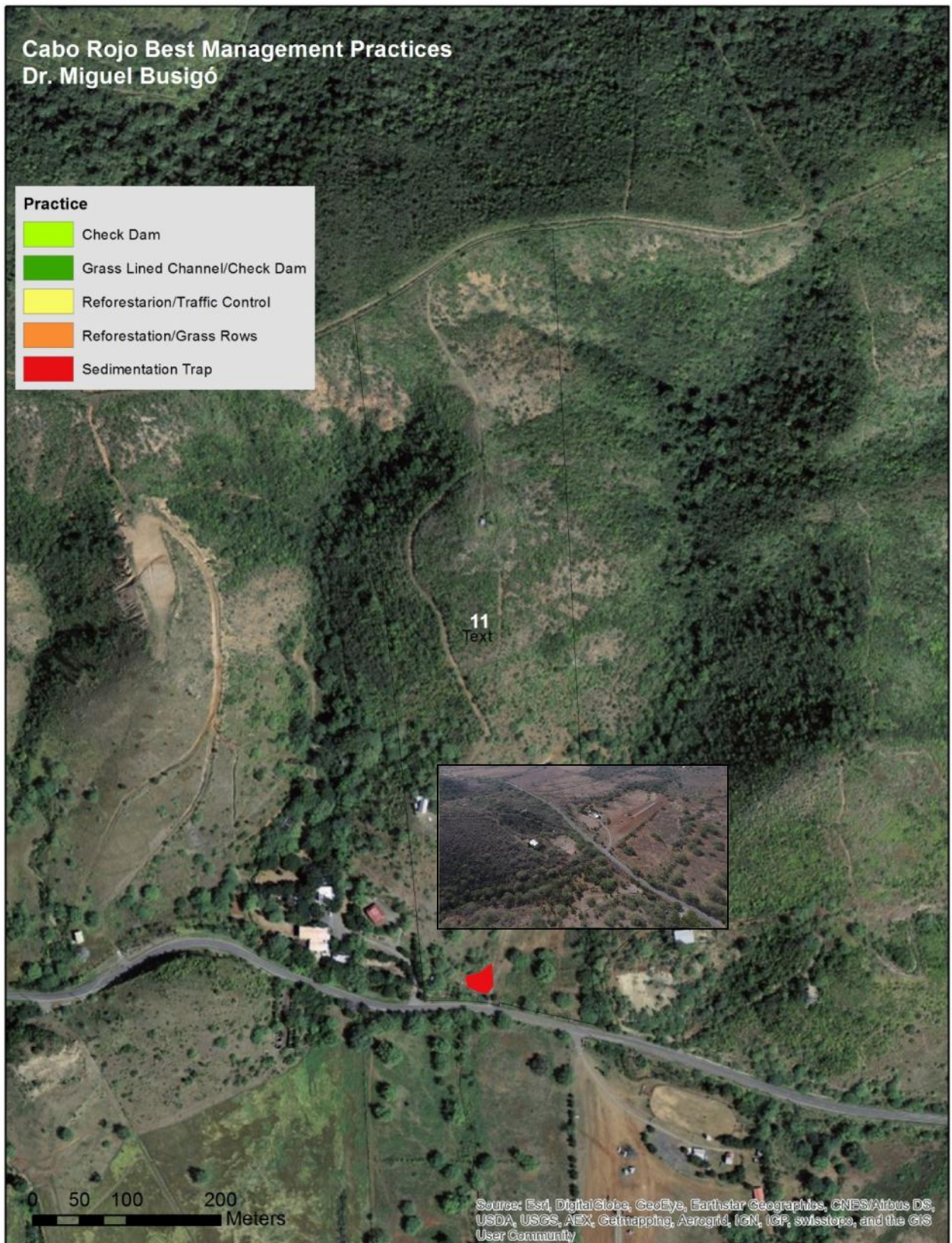
## Cabo Rojo Best Management Practices Aitza Carlo





# Cabo Rojo Best Management Practices Dr. Miguel Busigó

| Practice  |                               |
|---|-------------------------------|
|  | Check Dam                     |
|  | Grass Lined Channel/Check Dam |
|  | Reforestation/Traffic Control |
|  | Reforestation/Grass Rows      |
|  | Sedimentation Trap            |





## ATTACHMENT 2: Lands not visited

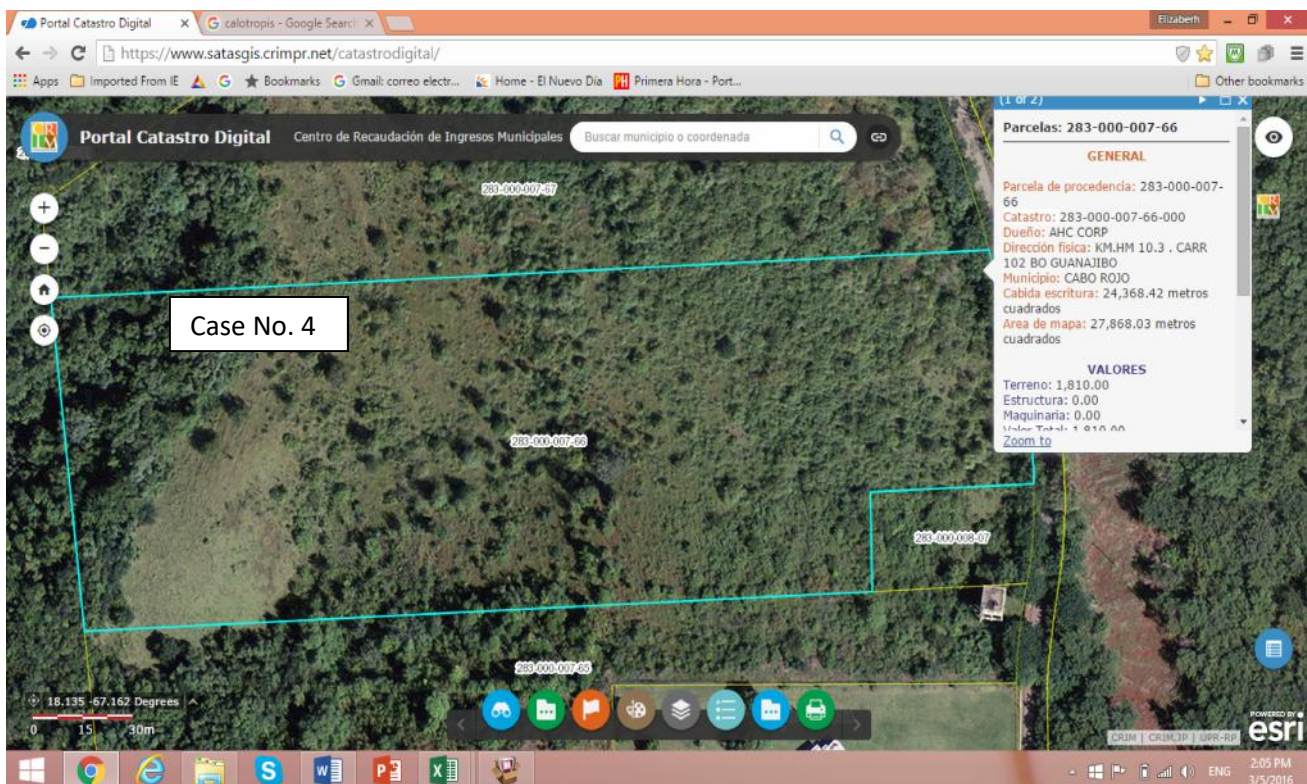
**Case No.:** 4

**Parcel Number:** 283-000-007-66-000

**Owner:** AHC Corp. **Contact:** Héctor Casanova (787) 367-5771, (787) 851-3513. Aida Delgado (wife) (787) 433-5907.

**Mailing Address:** PO BOX 3539 MARINA STATION MAYAGUEZ PR 00681-3539

**Coordinates:** 18.134 -67.162



**Adjacent parcels:** **East** – Sucn. Josefa Malavé Vélez **West** – Yabucoa Development Corp **North** - Plan Bonito Development **South** - Centro Renal Del Oeste (Dr. Wiston Ojeda)

### LOG:

**February 3, 2016** - voice message left (787) 367-5771. Tel. 851 "is damaged; busy all the time" I spoke with Mr. Casanova. He offered me an alternate telephone number (787) 433-5907 Aida Delgado-Wife

**February 23, 2016** - I spoke with Dona Aida. A visit for the March 16 was coordinated.

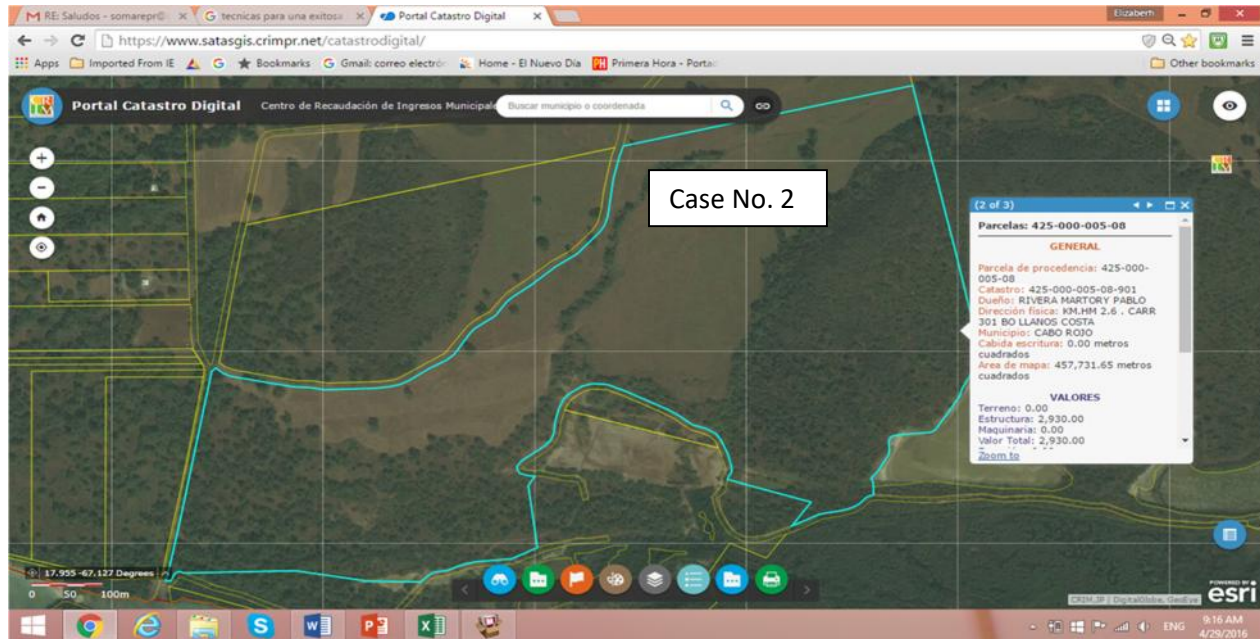
**March 14, 2016** -. Ms. Aida tells us that they must leave for the United States on an emergency and canceled our field visit. She plans to travel back on April 6 and will call us as soon as she arrives to coordinate new date.

**Case No.:** 2

**Parcel Number:** 425-000-005-08-901

**Owner:** Pablo Rivera Mercado

**Mailing Address:** HC 01 BOX 1770 BOQUERON PR 00622-9627



**February 9, 2016.** Windows Rivera Brothers Corp. Carr. 301 KM 2.6 Sector El Caño Cabo Rojo. HR  
Windows\_door@yahoo.com

<http://hrcorp12.wix.com/hr-windows-corp#!porque-nosotros?>

(787) 851-8163. OTHER (787) 399-0921- (787) 360-6463 Plot Pablo Rivera seems low Martory ... Previous Owner Paul W. Rivera Seda (both deceased).

**February 11, 2016.** Talked to Don Pablo Rivera (son). "There is only one house in the shore and not much land ...."

**February 19, 2016.** Message Ivette (Secretary)

**February 23, 2016.** I talked to Don Pablo. I confirmed the number of land and names (Grandfather and Father). Explain the "mismatch problem" that exists with the location of the land. He referred me to his sister Carmen Rivera (787) 366-3366 and she contacted me. We agreed to meet next week to clarify the situation.

**March 2, 2016.** Is confirmed that the land in question belong to Mary Fas Fagundo "Aunt Cesi". Land will be visited, and in the next Interim Report, it will appear as Case Number 3.



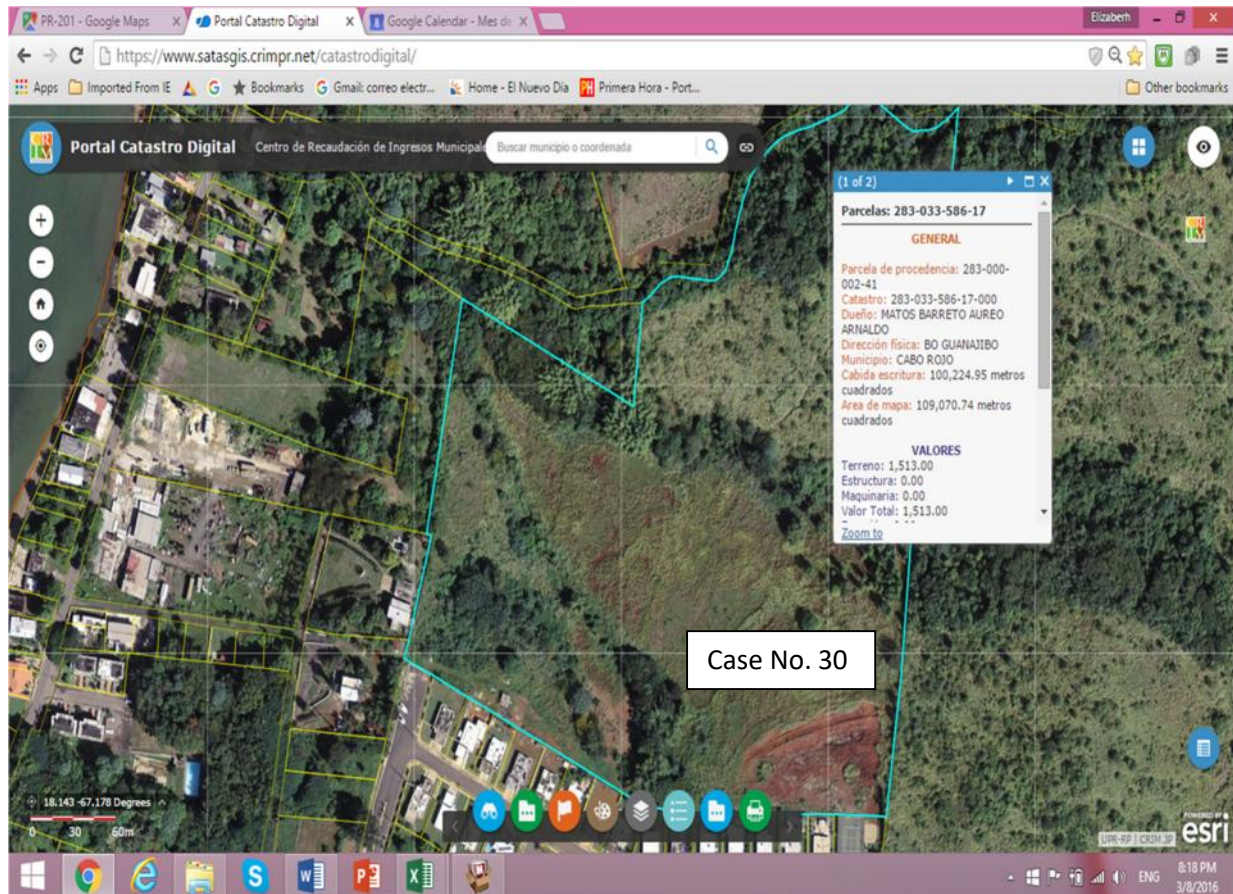
**Case No.:** 30

**Parcel Number:** 283-033-586-17-000

**Owner:** Aureo Matos, (787) 608-3939

**Mailing Address:** PO BOX 846 AGUADA PR 00602-0846

**Coordinates:** 18.143 -67.163



**Adjacent parcels:** East - Eco Turístico Vistas del Sol    **West** - Ángel Méndez Cruz,    **North** - Villa de la Pradera Inc., Elbin Zapata Acosta    **South** - Urb. Estancia de Miram

**LOG:**

**January 28, 2016** - I got the phone number via our contact at the Hacienda Altamira (787) 608-3939. He called and sent text message "at his request".

**February 19, 2016** - I spoke to Mr. Matos and confirmed that the land belongs to him. I indicated that I would be calling in the first week of March to coordinate. He said "I'm not interested in government funds to fix my farm."

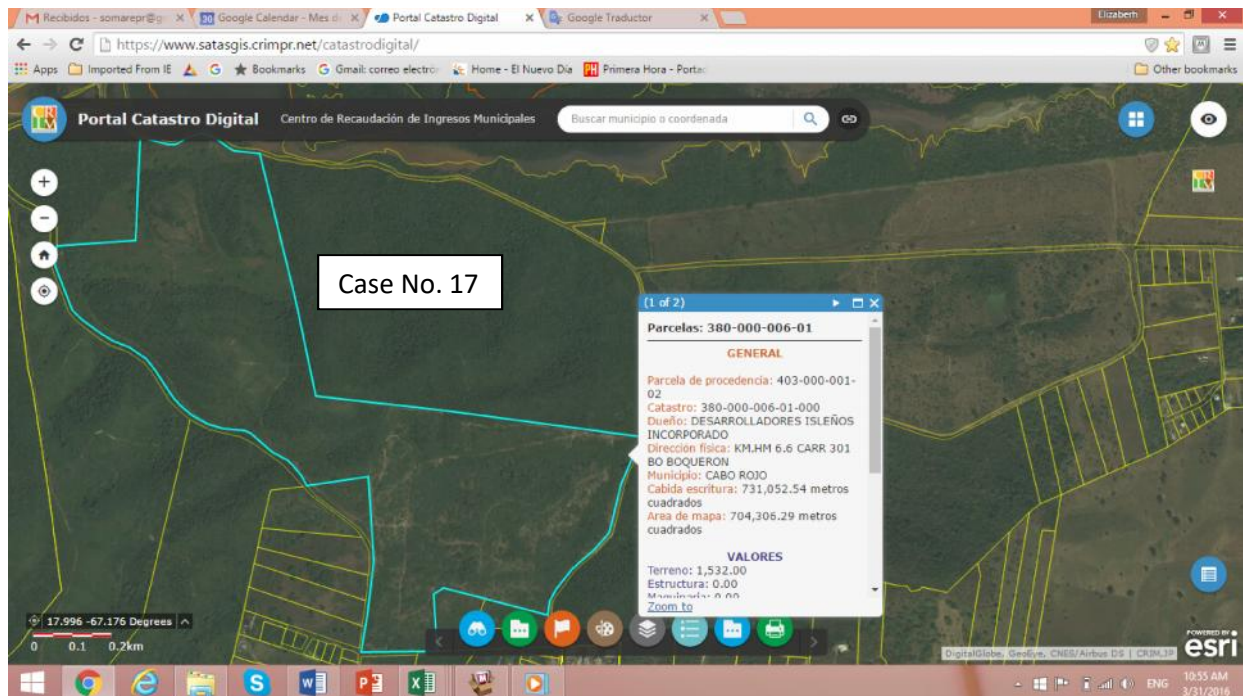
**March 2, 2016** - I spoke to Mr. Matos, and he indicated that he will contact us to coordinate any available date.

## Case No. 17

**Parcel Number:** 380-000-006-01-000

**Owner:** Desarrolladores Isleños, Mr. Carlos Rodríguez, (787) 608-7206, email: [desarrolladores.isla@gmail.com](mailto:desarrolladores.isla@gmail.com)

**Mailing Address:** PO BOX 1097, MANATI, PR 00674



## LOG:

**February 23, 2016** - I spoke with Mr. Rodriguez to coordinate date of the visit, but he was not very receptive ... He mentioned that he is already making some efforts to work with the run-off on his land. He indicated the need to first speak with the biologist above all to clarify some doubts. I sent a text message data and more detailed information by email.

**February 29, 2016** - The Biologist spoke with Mr. Rodriguez. Mr. Rodriguez reported on a development project for the land, which are supported by some studies conducted by renowned Gregor Morris. Mitigation study for upcoming projects. Starting from this premise, the biologist determined not visit the grounds.



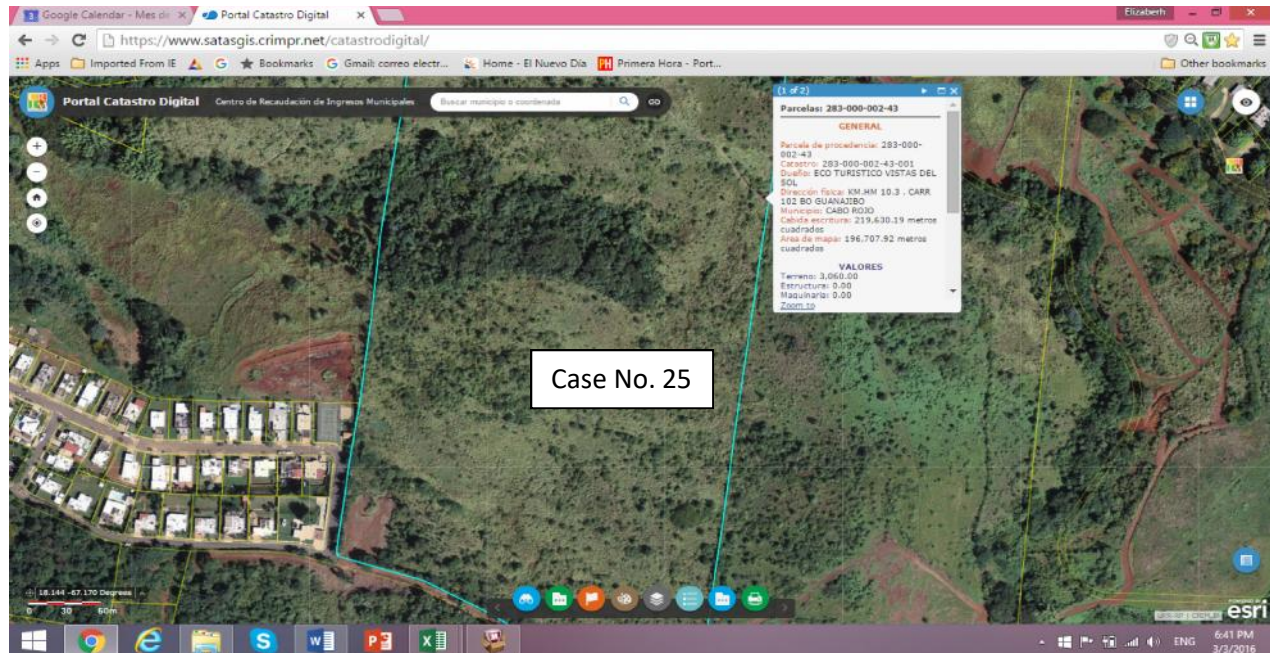
**Case No. 25**

**Parcel Number:** 283-000-002-43-001

**Owner:** Eco Turístico, Mr. Héctor Rodríguez, (787) 632-1070

**Mailing Address:** PO BOX 1239 HORMIGUEROS PR 00660

**Coordinates:** 18.141 -67.165



**Adjacent parcels:** **East** – Anervo SE y Urb. Estancia de Miramar **West** – Aureo A. Matos Barreto **North** – Bechara Bravo INC y Villa de la Pradera INC **South** – Desarrolladora Gadelpa y Rafols Morales Asencio

**LOG:**

**February 8, 2016** - I spoke with Mr. Hector Rodriguez (787) 632-1070 and confirmed that he is the owner.

**February 19, 2016** – I personally spoke with Mr. Rodriguez and coordinated a visit for March 14.

**March 12, 2016** - when we called to confirm the appointment, Mr. Rodriguez indicated that he would not be available that day. He asked us to call on Tuesday to arrange a new date.

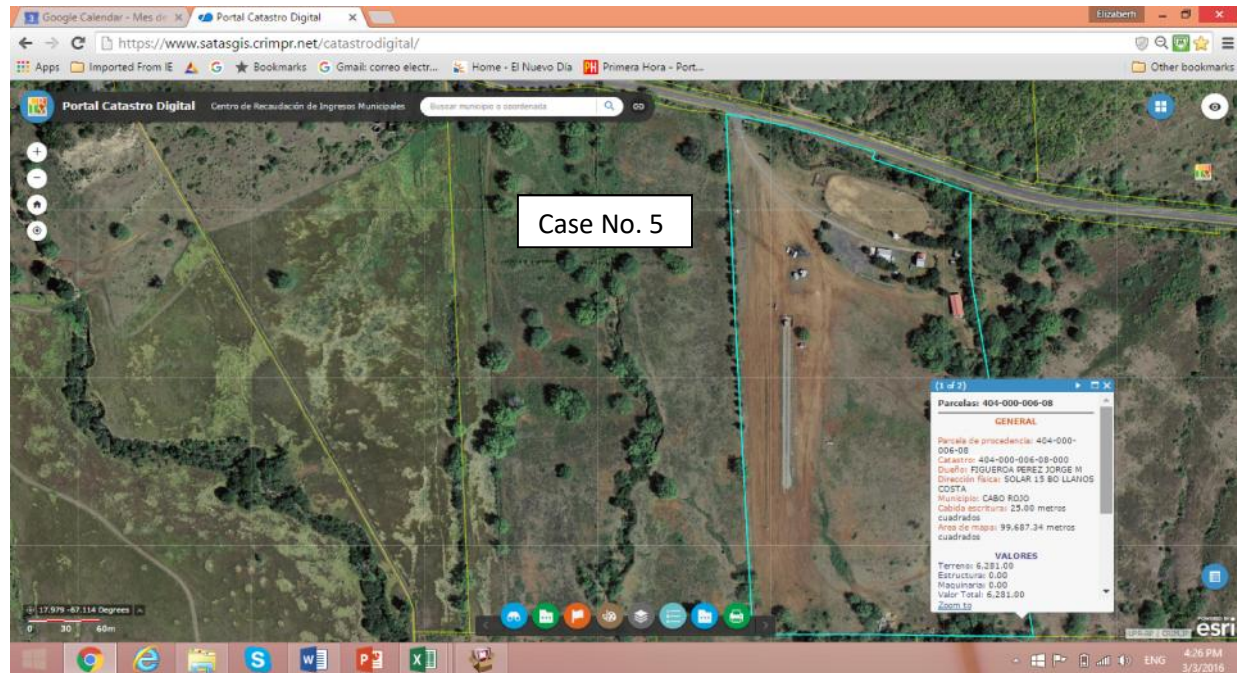
**March 15, 2016** - Mr. Rodriguez said that he is in negotiations to sell the land and for the moment, he is not interested. However, he said he will transmit to the potential buyers the information.

## Case No. 5

**Parcel Number:** 404-000-006-08-000

**Owner:** Hacienda Paraiso, Jorge Figueroa, Karisha Palermo (daughter) (787) 399-7039

**Mailing Address:** C/O RIVERA DIAZ MARIA HC 1 BOX 1956 BOQUERON PR 00622-9706



**West** - Osvaldo Figueroa Cordero, **East** - Daniel Bermúdez Colon, **North** - Jorge Chapman Rivera, **South** - Jorge Vicente Martínez González & USA.

## LOG:

**January 28, 2016** - Jorge Figueroa died. The wife's name is Milagros. I spoke personally with the daughter Karisha Palermo which took over as owner. On the ground they have a business Hacienda Paraiso, which opens Thursday through Sunday PM. (787) 399-7039 Tel. Business (787) 899-4099. They have a playground with horses.

**February 19, 2016** - Message in voice mail.

**February 23, 2016** - it was called and leaves voice message...

**February 24, 2016** - was called and leaves voice message...

**February 26, 2016** - I visited the property and spoke to her. Future visit was coordinated.

**March 4, 2016** – The field inspection was coordinated for the 7 of February.

**March 7, 2016** – During our visit, at the front gate, Karisha did not show up. We wait 45 minutes and call several times, but no contact was achieved.

**March 8, 2016** - Attempted to contact him by telephone and text message, but she did not respond.

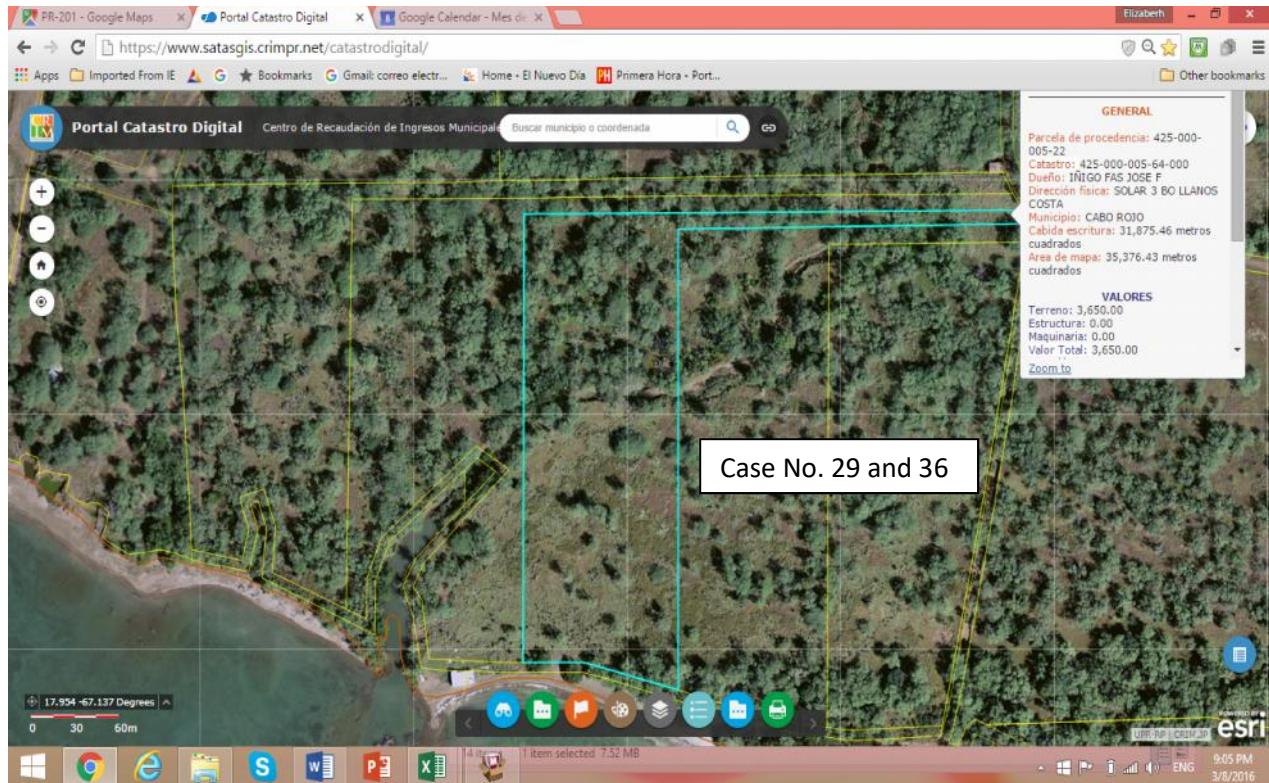


**Case No. 29, 36**

**Parcel Number:** 425-000-005-65-000, 425-000-005-64-000

**Owner:** José F. Iñigo Fas, [cheinigo52@gmail.com](mailto:cheinigo52@gmail.com) **Contact:** Marion Iñigo (sister) (787) 519-7328, [marion@marionrealtor.com](mailto:marion@marionrealtor.com)

**Mailing Address:** PO BOX 1386 MAYAGUEZ PR 00681



**Adjacent parcels:** East – María A. Iñigo Fas, **West** – Jesús A. Iñigo Fas, **North** - Jesús A. Iñigo Fas, South - Mar Caribe

**LOG:**

**February 4, 2016** - Marion Iñigo Fas Realtors (787) 519-7328. I left message on voice mail. I called back and explained. He offered me his email: [marion@marionrealtor.com](mailto:marion@marionrealtor.com) to provide a little more data and in turn to contact their brothers for them to contact me. There is one of the grounds (NOT INCLUDED) belonging to it. 425-000-005-63-000 Marie Antoinette Iñigo Fas

**February 5, 2016** - Email sent by Sister Marion. [cheinigo52@gmail.com](mailto:cheinigo52@gmail.com)

**February 19, 2016** - e-mail was sent.

**February 24, 2016** - Was re sent the email of 19 February

**February 26, 2016** - I spoke to Marion and she is "uncomfortable" with his brothers for their inaction in this regard. He asked me to apologize. He asked me to send him an email with alternatives to work the



Case No. 29, 36 (cont.)

situation. He also offered a # Tel. (Clínica Española) to leave messages to their brothers (787) 832-2094. (Call between 10:00 am to 12:00 pm). Email sent.

**February 29, 2016** - it was called reference number and message was left with the security staff.

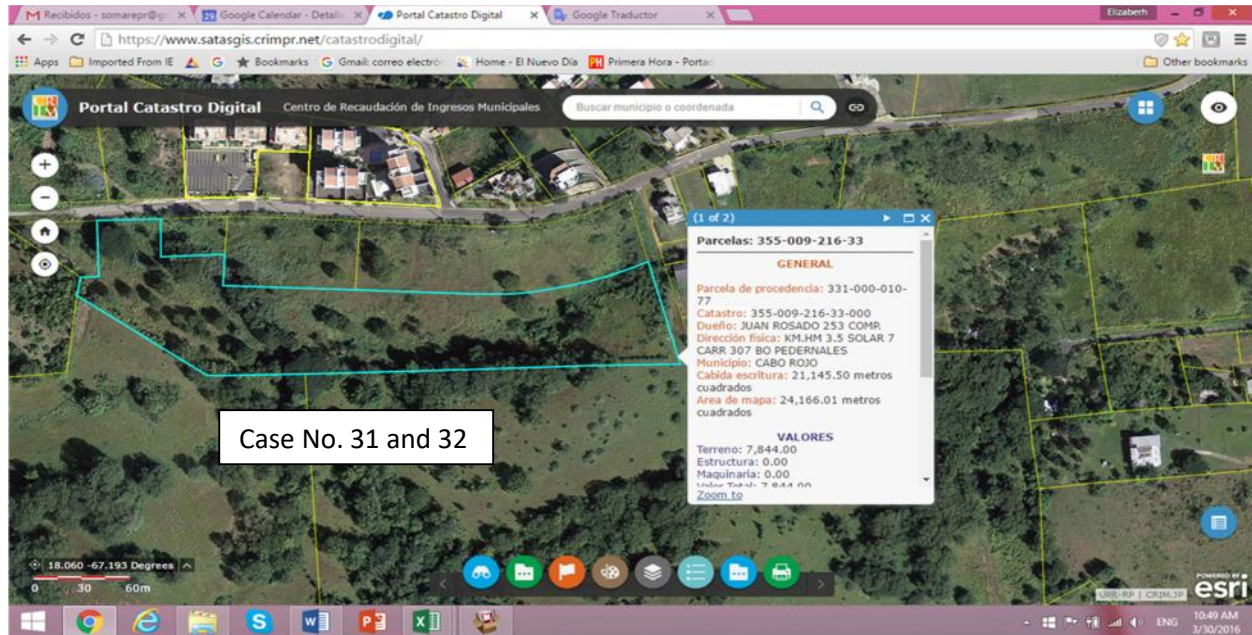
**March 2, 2016** - 12:28 pm No answer

**Case No. 31 and 32**

**Parcel Number:** 355-009-216-33-000, 355-009-216-30-000

**Owner:** Juan Rosado, (787) 759-5337

**Mailing Address:** PO BOX 594 ARECIBO PR 00612-0594



**LOG:**

**February 3, 2016** – Leave a message: *You can not process the call.*

**February 5, 2016** - Leave a message: *You can not process the call.* The other number (787) 759-5337 belongs to Santander Securities. CRIM offers Tel. (787) 255-1249 ... damaged phone, busy all the time.

**February 9, 2016** - (787) 851-0502. Tel does not correspond. (787) 645-2888 and (787) 622-0193. Tel. offline. I call to the Legislative Office of Senator Fas Alzamora (Mr. Fas have a property near the land) and message was left.

**February 10, 2016** - the area was visited, but no means of contact (sign or poster with data) was identified. There is a house near the ground, but no contact was achieved.

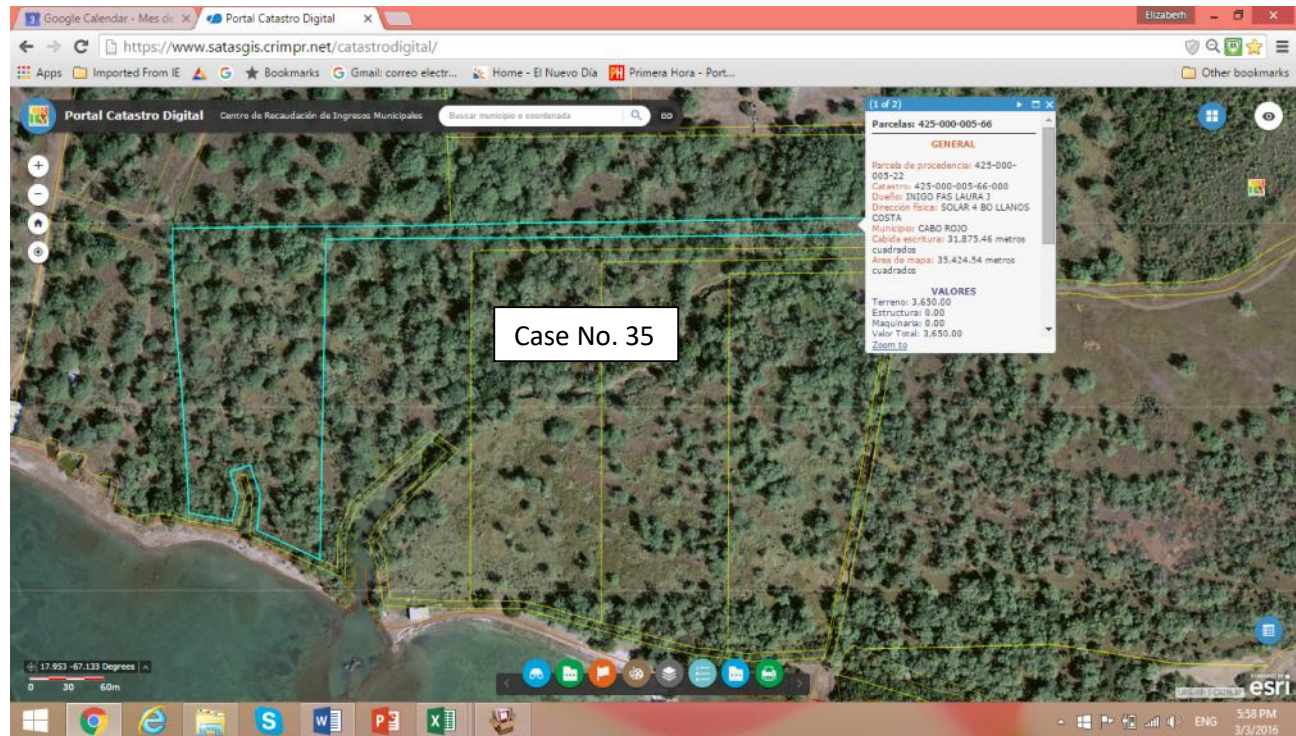
**February 11, 2016** - the area was visited again, contact with residents of the house near was attempted, but did not respond.

**Case No. 35**

**Parcel Number:** 425-000-005-66-000

**Owner:** Ms. Laura Iñigo Fas (787) 652-4048

**Mailing Address:** PO BOX 235 MAYAGUEZ PR 00681



**Adjacent parcels:** **East** –Jesús A. Iñigo Fas, **West** – Sun. Roberto Carlo Mendoza, **North** - Sucn Roberto Carlo, and **South** – Mar Caribe

#### **LOG:**

**February 4, 2016** - Marion Iñigo Fas Realtors (787) 519-7328. I left message on voice mail. I called back and explained. He offered me his email: [marion@marionrealtor.com](mailto:marion@marionrealtor.com) to provide a little more data and in turn to contact their brothers for them to contact me. There is one of the grounds (NOT INCLUDED) belonging to it. 425-000-005-63-000 Marie Antoinette Iñigo Fas

**February 5, 2016** - Email sent by Sister Marion. [bufete\\_legal\\_inigo\\_fas\\_pr@hotmail.com](mailto:bufete_legal_inigo_fas_pr@hotmail.com)

(787) 832-0400 bldg. Medical Emporium –Veterano, (787) 241-2776.

**February 19, 2016** - e-mail was sent. Cell "not available". Office phone is not in service

**February 24, 2016** – The email was re sent.

**February 25, 2016** - others # Tel (787) 834-3298 are identified, (787) 831-1474. They are not in service.

Case No. 35 (cont.)

**February 26, 2016** - I spoke to Marion and she is "uncomfortable" with his brothers for their inaction in this regard. He asked me to apologize. He asked me to send him an email with alternatives to work the situation. He also offered a # Tel. (Spanish Clinic) to that used to leave messages to their brothers (787) 832-2094. (Call between 10:00 am to 12:00 pm). Email was sent.

**February 29, 2016** - it was called reference number and message was left with the security staff.

**March 3, 2016** – Field visit was coordinate on Monday, March 7.

**March 7, 2016** – field visit was canceled due to health problems with her husband. Appointment for Thursday coordinated, March 10.

**March 9, 2016** - The biologist holding a telephone conversation with Laura Iñigo and identifies that she is receiving technical assistance from NRCS USA. Therefore, the biologist determines not visit the farm since the land is receiving technical service by NRCS.



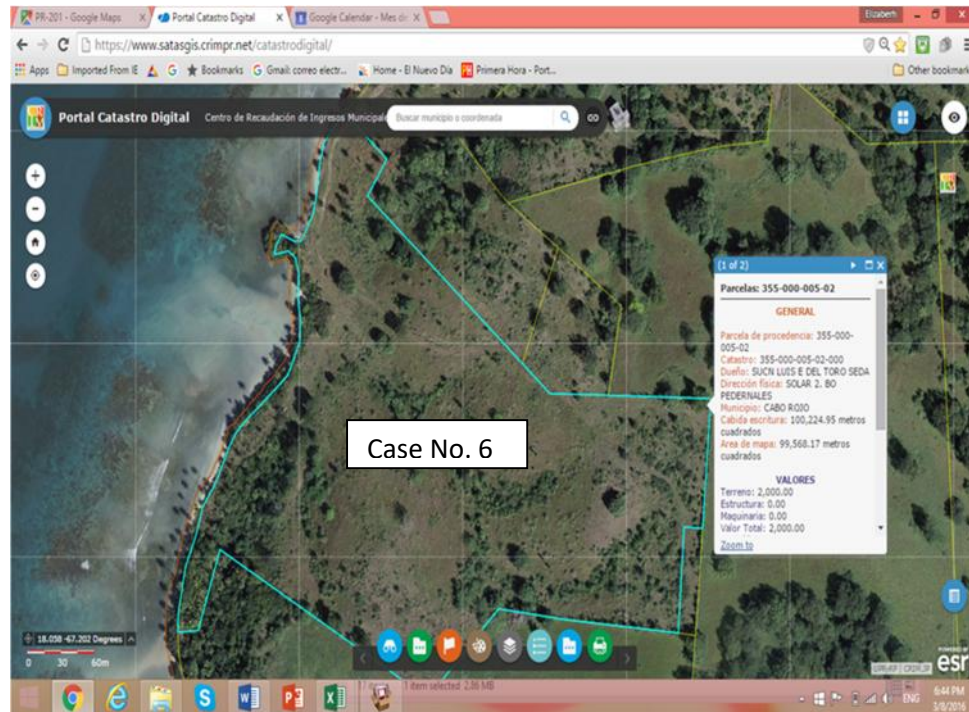
## Case No. 6

**Parcel Number:** 355-000-005-02-000

**Owner:** Succ. Luis E. Del Toro Seda    **Contacto:** Lic. Luis E. Del Toro Román    (787) 851-3535  
(787) 517-6712

**Mailing Address:** PO BOX 142 CABO ROJO PR 00623

**Coordinates:** 18.058 -67.200



**Adjacent**

**parcels:** **East-** Margarita de Lourdes Fas Alzamora, **West -** Mar Caribe, **North -** Luis F. Del Toro Camacho, **South -** Sebastián Carlo Ramírez.

## LOG:

**February 5, 2016** - I spoke with Mr. Luis E. Del Toro Roman (787) 517-6712, (787) 851-3535 current owner of the plot. He emphatically states that there's no erosion on their land.

**February 23, 2016** - I spoke with Mr. Del Toro. He was very reluctant and insists on the grounds that there is no problem of erosion. He claims that several years ago planted some trees along the shore. He requested that writing in detailing all information and the biologist communicate with him for a more detailed explanation. The land has 4 owners, although he also serves as a representative owner. The email Lic. Is [ldeltoro@ymail.com](mailto:ldeltoro@ymail.com).

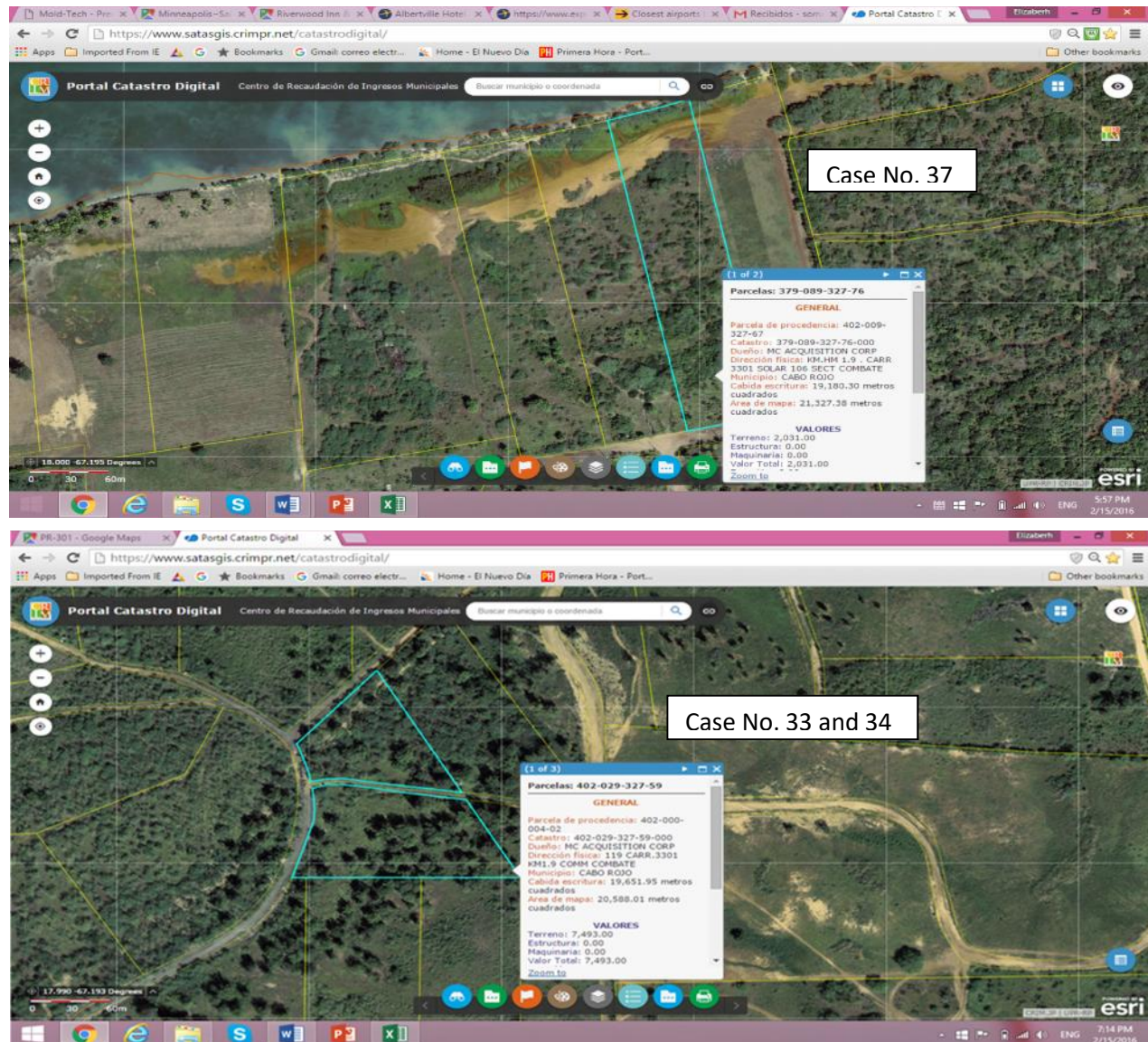
**February 29, 2016** - The Biologist held talks with Mr. Del Toro and agreed to meet to exchange documents on the study of erosion. Mr. Del Toro insist that there is no erosion problem on their land.

Case No. 33, 34, 37

Parcel Number: 379-089-327-76-000, 379-089-327-76-000, 402-029-327-59-000

Owner: MC ACQUISITION CORP

Mailing Address: 1357 AVE ASHFORD STE 414 CONDADO PR 00907-140057



LOG:

**February 4, 2016** - "Monte Carlo Resort, said its developer Federico L. Carlo". (2001).

<http://www.puertorico.com/forums/open-board/5267-cabo-rojo-albergara-proyecto-de-energia-solar-mas-grande-del-mundo.html>

Group Cacho (787-721-0505) purchase in 2004.

Case No. 33, 34, 37 (cont.)

Nec Subdividers and Developers (787) 231-3590

**February 7, 2016** - His relatives do not know or want to know about it. Apparently Mr. Carlo wishes to remain uncontacted. Data offered by Franky and Vanessa Sanchez (Hacienda Altamira).

**February 8, 2016** - the area was visited and the parcel was identified. Access to it requires a 4x4 vehicle. No neighbors or other possible contacts available.

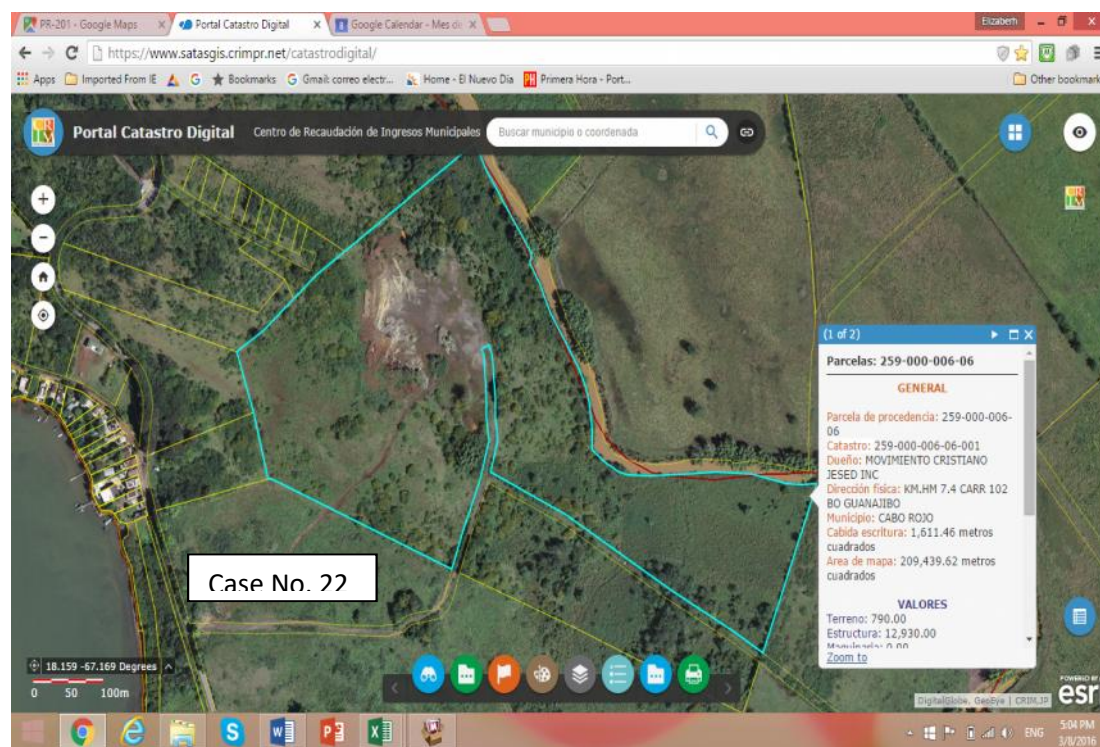


## Case No. 22

**Parcel Number:** 259-000-006-06-001

**Owner:** Movimiento Cristiano Jesed. Contact: Pastor Obed Santiago (787) 648-3231

**Mailing Address:** PMB 81 PO BOX 7997 MAYAGUEZ PR 00681-7997



**Coordinates:** 18.161 -67.

**Adjacent parcels:** **East** - Sucn. Waldemar Bravo Monagas. **West** - Francelis Sosa Fas, B and W Invest Corp. y Cornelia Development Corp. **North** - Río Guanajibo, Sucn. Oscar Bravo González. **South** – Mariano Pérez Moreu

### LOG:

**February 15, 2016** - I spoke personally with the Pastor Obed Santiago Castro and he confirmed that the lands belong to the Corporation. (787) 648-3231 [pastorjesed@hotmail.com](mailto:pastorjesed@hotmail.com) P.O. Box 5103 PMB 360 00623 PR Cabo Rojo.

**February 23, 2016** - I spoke with Pastor and he will return call (was leading) to check the agenda and coordinate date. We confirmed the date via text message

**March 22, 2016** - Biologist attended the coordinated appointment and Pastor said at the time that the parcel in question "did not belong to them". The day he was first contacted personally, he described the land identified with the problems of erosion and was shown the image of the parcel provided by CRIM page. On that occasion we confirmed that the church owned that land and even confirmed us who had "sold / donated" it (which one remains unclear).



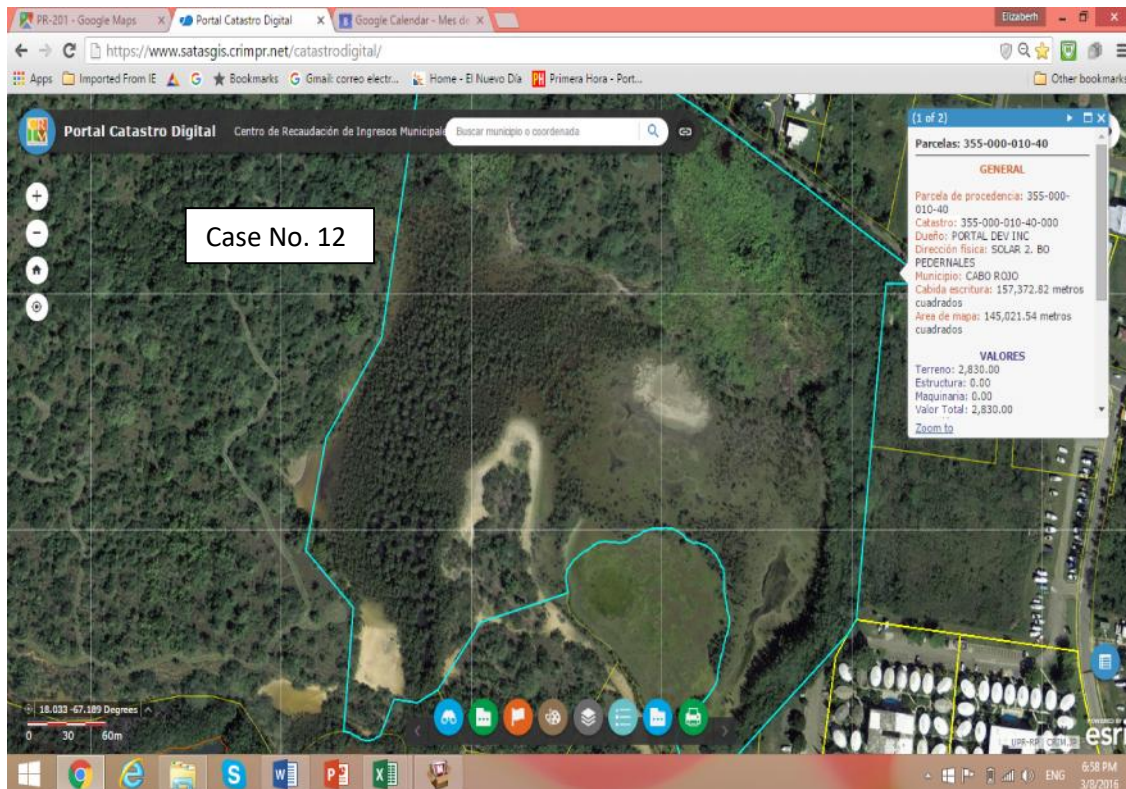
## Case No. 12

**Parcel Number:** 355-000-010-40-000

**Owner:** Portal Development. – Steven Blank. Contact: Lic. Luis F. Carlo (787) 402-9751

**Mailing Address:** PO BOX 352 PONCE PR 00733

**Coordinates:** 18.033 -67.185



**Adjacent parcels:** East – Villa del Cabo LLC. West - Fideicomiso de Conservación PR. North – Ernesto Acosta Matos, Sigfredo Montalvo Rodríguez, Aurelio Ramírez Segarra y Urb. Bello Horizonte. South – Miguel Carlo Aymat.

## LOG:

**February 18, 2016** - I spoke with Mr. Javier Santiago (Villa Taína Manager) and indicates that the land belongs to Steven Blank. Person contact Mr. Blank is Mr. Luis F. Carlo (787) 402-9751.

**February 24, 2016** - I spoke with the lawyer, had no contact with Mr. Blank. He said new efforts will be made during the week.

**February 29, 2016** – Mr. Carlo contacted the biologist to indicate that in the coming days he will provide a means of contact with Mr. Blank, owner of the parcel.

**March 15, 2016** - Mr. Blank contacted the Mr. Ventosa to indicate that he has no one in PR to whom he can delegate the management of field visits and did not have a scheduled visit to PR. It was agreed that

Case No. 12 (cont.)

when he traveled to PR, he would contact the biologist to coordinate a visit. The biologist said he would send information via email for several programs [spblank@earthlink.net](mailto:spblank@earthlink.net). Ventosa sent various brochures by email to Mr. Blank.

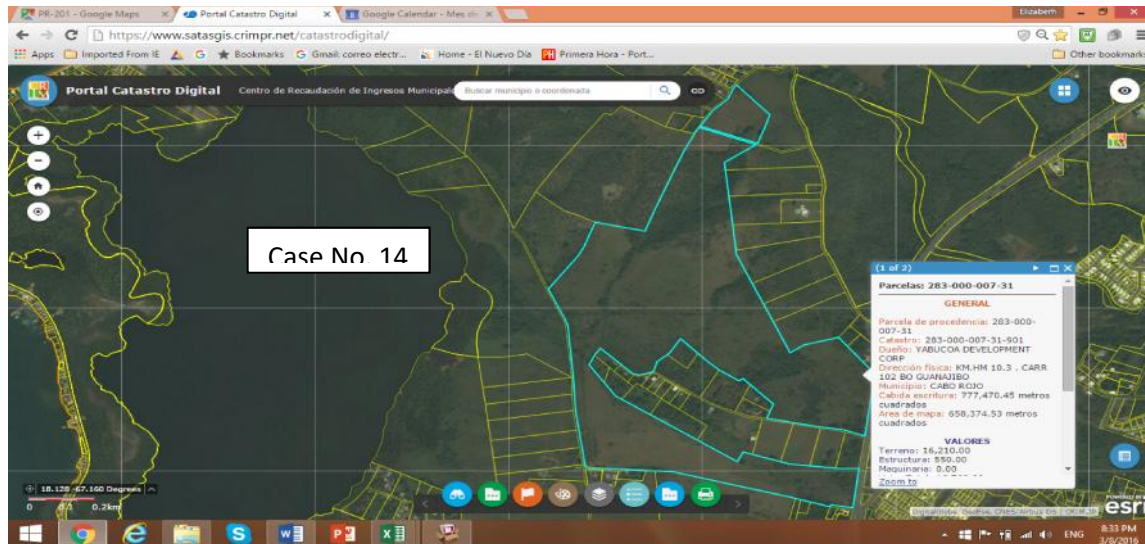
## Case No. 14

**Parcel Number:** 283-000-007-31-901

**Owner:** Yabucoa Development – Israel Kopel. Contact: Ms. Elizabeth Rodríguez (787) 641-8200, ext. 1003.

**Mailing Address:** PO BOX 195425 SAN JUAN PR 00919

**Coordinates:** 18.129 -67.167



**Adjacent parcels:** **East** - Road 100. **West** - Sucn. Antonia Cabassa, Adalberto González Pérez, Yabucoa Development. **North** - Sucn. Antonia Cabassa, Pablo Medina Negrón. **South** - Regency Park Associates (owner Sr. Kopel), Edwin Arroyo Troche.

### LOG:

**February 1, 2016** - confirm information of land with Evelyn Rosario Ext 1401. Mr. Kopel's Secretary, Ivette Colon and / or Elizabeth Rodriguez Ext 1003.

**February 24, 2016** - They spoke with Ms. Elizabeth Rodriguez and identified two alternatives "so far" for available dates: March, 17 or 18

**March 1, 2016** - I spoke with Elizabeth Rodriguez and she told us that Mr. Kopel is out of PR. We are waiting for a meeting with Mr. Kopel or any of his representative.

**March 7, 2016** - Contacted Elizabeth Rodriguez, and there is no new information about Mr. Kopel's availability.

### **ATTACHMENT 3: Visited parcels**

**Case No.:** 28

**Parcel Number:** 425-000-004-04-000.

**Owner:** Luis “Boddy” Carlo   Contact: Aitza Carlo (daughter) (787) 318-9190

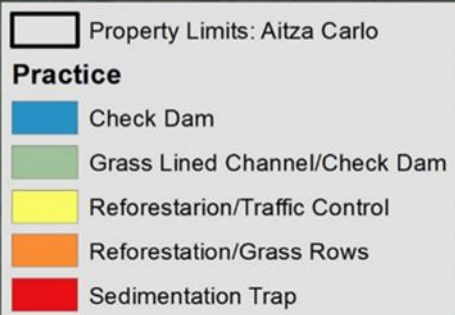
**Mailing Address:** PO BOX 3265 MAYAGUEZ PR 00681-3265

**Coordinates:** 17.954   -67.141

**Adjacent parcels:** **East** – Felix Ferrer Seda, Karen Martínez Pagán, Virginia Valentín Méndez, and Sucn. Roberto Carlo Mendoza. **West** – Miguel Carlo Aymat. **North** - Edgar Power Irizarry y Benito Irizarry Bulls. **South** - Caribbean Sea



## Cabo Rojo Best Management Practices Aitza Carlo



Case No. 28

0 250 500  
Meters

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Figure 1. South of the property. Image by Phantom 3.



Figure 2. Red circle showing the most impacted area.





Figure 3. Red circle showing the eroded area.

**LOG:**

**February 3, 2016** - Aixa Carlo was contacted (787) 318-9190 to coordinate field visit.

**February 19, 2016** - Message in voice mail. I spoke with Ms. Carlo and a visit for Tuesday March 29 was set.

**March 29, 2016** - Ms. Aixa Carlo delegated the management of the property to Mr. Miguel "Tito" Montalvo (787) 899-3148. We met with Mr. Montalvo on the property. Field inspection was made.

**March 30, 2016** – A visit was coordinated on April 1, in order to discuss our findings on their property.

**April 1, 2016** - an oral report of our findings was discussed with the property owners. Problems of erosion and sedimentation were discussed. An explanation of consequences on the coral reefs and coastal erosion were presented to the owners. Similarly, different programs that may be implemented according to the parameters identified in the grounds were presented. Those were Partners of Wildlife (USFWS) and Auxiliary Forest (DNER). Present in the meeting were Mrs. Aixa Carlo, Mr. Luis Carlo, Ms. Mary Semidey, Eduardo Ventosa and Elizabeth Ramos.

**Date:** 29 de marzo de 2016

**Participants:** Miguel "Tito" Montalvo (787) 899-3148, Eduardo Ventosa – Biologist y Elizabeth Ramos, Field assistant

**Findings Presentation:** Aixa Carlo, Lic. Luis Carlo, Mara Semidey, Eduardo Ventosa y Elizabeth Ramos

**Owner's Name:** Suchn. Luis Carlo Aymat

**Manager/Representative:** Aitza Carlo (daughter)

**Phone Number:** (787) 318-9190

**Physical Address:** Carr. 303 Km 2.6

**Postal Address:** P.O. Box 629

Sector Pitayaha, Bo. Llanos Costa

Cabo Rojo PR 00623

Cabo Rojo, PR

**Parcel Size:** 273 cuerdas

**Owner's interest:** Yes X; No \_\_\_\_

**If owner not interested, reasons why:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Adjacent parcels:**

**North:** Edgar Power y Benito Irizarry

**South:** Caribbean Sea

**East:** Félix Ferrer Seda, Karen Martínez Pagán

**West:** Miguel Carlo (Emerito Mateo)

**Registered in FSA:** YES X; NO \_\_\_\_

**Length of time under management/ownership:** 56 years

**Contract with conservation programs:** NO

**Type of agriculture:** Ningún cultivo. Ganado por periodos cortos (3 a 6 meses)

**Cultivated areas:** N/A

**Water Bodies:** None

**General habitat description** Sub-tropical Dry Forest y Llano Costero

**Concerns or identified impacts to natural resources or wildlife:** Extreme drought, invasive species

**Identified areas for restoration or conservation:** Three impacted areas adjacent to the coast

**Potential restoration or conservation practices:** Road stabilization, retention ponds, revegetation of exposed soils, perpendicular ditches in areas of high runoff.

**Potential program implementation:** Partners for Wildlife (USFWS) and Auxiliary Forest (DRNA)

**Observed wildlife:**

1. Turpial
2. Ruiseñores
3. Juí
4. Iguana
5. Mariquita
6. Reinita Mariposera
7. Mangle Negro
8. Mangle Botón
9. Úcar
10. Cactus
11. Carrasco
12. Tintillo
13. Mezquite
14. Rolita
15. Tórtola Aliblanca
16. Rabiche
17. Aura

**Comments:**

---

---

---

---

**Coordinates:** Lat. 17.954 Long. -67.141

**Case No.:** 8

**Parcel Number:** 283-064-395-28-000

**Owner:** Sucn. Antonia Cabassa    **Contact:** Alejandro Santo (787) 310-1771, (787) 630-0009,  
(787) 763-9444

**Mailing Address:** PMB 458 100 GRAN PASEO BLVD SUITE 112 SAN JUAN PR 00926-5955



**Coordinates:** 18.134 -67.167

**Adjacent parcels:** **East** – Yabucoa Development.    **West** - Rafols Morales Asencio.    **North** - Antonia Cabassa, Pablo R. Medina Negrón and Alexis Loyola González.    **South** – Alberto González Pérez and Yabucoa Development.


# Cabo Rojo Best Management Practice Project



## Parcels

-  Selected parcel
-  Other parcels

## HABITAT

-  Coral Reef and Colonized Hardbottom

Case Number: 8





Figure 4. Image of an old quarry located on the property. This is the only eroded area on the parcel.

**LOG:**

**February 9, 2016** - Mr. Alejandro Santos Vilella was contacted at (787) 310-1771 and we confirmed a field visit. His cousin, Lic. Armando Martinez Vilella (787) 630-0009, (787) 763-9444 is working the parcel with the heirs.

**February 24, 2016** - I spoke with Mr. Santos and coordinated the visit. Later, we requests change date (Monday Original 21) so that her cousin might be present. It was arranged for Monday March 14.

**March 14, 2016** - Parcel was visited in the company of Mr. Alejandro Santos and Mr. Armando Martinez. After visual inspection, some recommendations were discussed and an introduction to the different programs that can be applied according to the parameters identified on the grounds.

**Date:** 14 de marzo de 2016

**Participants:** Lic. Armando Martínez Vilella, Alejandro Santos Vilella and Eduardo Ventosa - Biólogo

**Owner's Name:** Sucn. Antonia Cabassa

**Manager/Representative:** Alejandro Santos Vilella

**Phone Number:** (787) 310-1771

**Physical Address:** Carr. # 100 Km 2.7 Int.

**Postal Address:** 1829 C/ Carlos Casanova

Sector Plan Bonito

Urb. Paseo Los Robles

Cabo Rojo PR

Mayagüez PR 00680

**Parcel Size:** 31 cuerdas

**Owner's interest:** Yes ; No X

**If owner not interested, reasons why:** The owners need to consult with the other heirs. Their priority on the lands are to develop for purpose of sale.

**Adjacent parcels:**

**North:** Antonia Cabassa, Pablo R. Medina Negrón...

**South:** Alberto González y Yabucoa Development

**East:** Yabucoa Development

**West:** Rafols Morales Asencio

**Registered in FSA:** YES \_\_\_\_ NO X

**Length of time under management/ownership:** 10 years

**Contract with conservation programs:** NO

**Type of agriculture:** NO

**Areas of:** Pastoreo

**Water Bodies:** NO

**General habitat description** Sub-tropical Dry Forest, Deciduous Forest on serpentine soils

**Concerns or identified impacts to natural resources or wildlife:** Arson

**Identified areas for restauration or conservation:** Abandoned quarry

**Potential restoration or conservation practices:** Reforestation with native species

**Potential program implementation:** Partners for Wildlife (FWS), NRCS and Forest Stewardship.

**Observed wildlife:**

1. Falcón Común
2. Pitirres
3. Auras
4. Rolón
5. Tintillo
6. Fideillo

**Comments:**

---

---

---

---

**Coordinates:**    **Lat.** 18.134    **Long.** -67.167

**Case No.:** 13, 15, 16, 23

**Parcel Number:** 403-000-008-01-000, 425-000-002-01-901, 425-000-002-01-901, 425-000-002-01-901

**Owner:** Alicia Carlo de Sanchez. Contact: Adalberto Franky Administrator. Hacienda Altamira (787) 851-0467, (787) 647-1774.

**Mailing Address:** PO BOX 8 MAYAGUEZ PR 00681-0008

**Coordinates:** 17.971 -67.143



# Cabo Rojo Best Management Practice Project



## Parcels

- Selected parcel
- Other parcels

## HABITAT

- Coral Reef and Colonized Hardbottom

Case Number: 13

Case Number: 23

Case Number: 15

Case Number: 16



Figure 1. North view of the property.



Figure 2. North view of the property.





Figure 3. South view of the property



Figure 4. South view of the property.

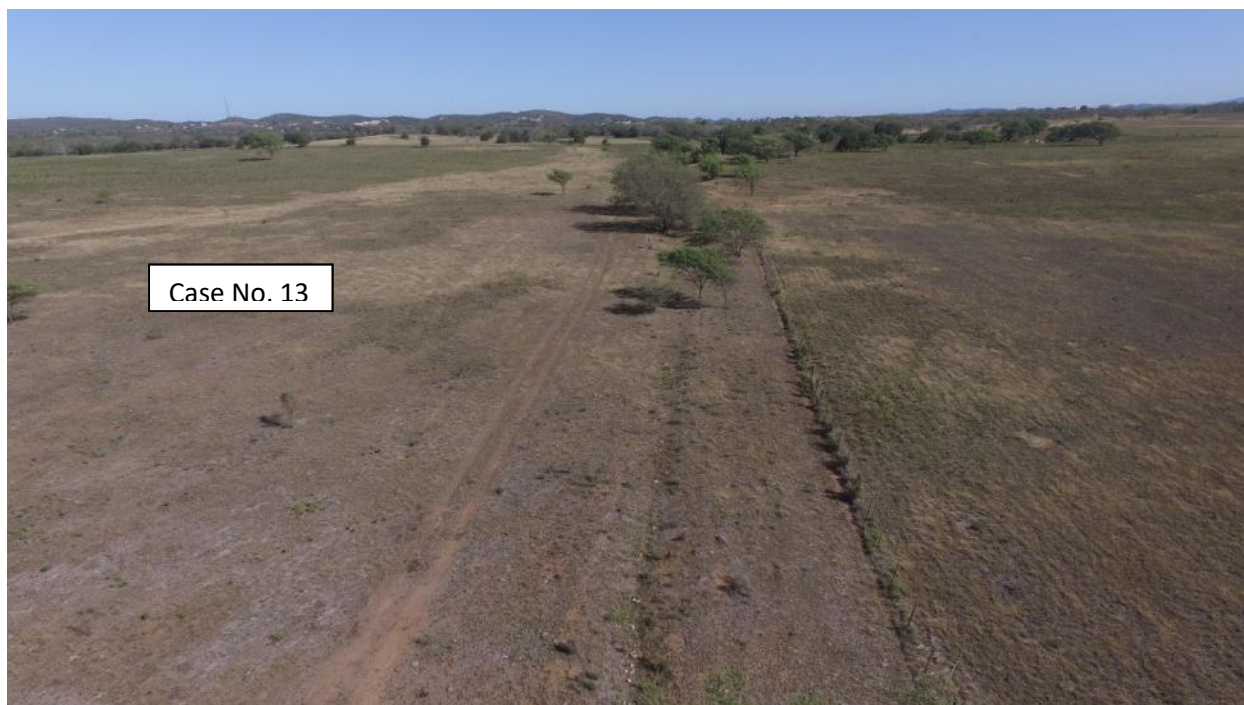


Figure 5. North view of the property.

**LOG:**

**February 19, 2016** - Mr. Franky was contacted and a visit was coordinated for Wednesday, March 2

**March 2, 2016** – Site Visit. After a visual inspection of the property, some recommendations were discussed and a brief introduction to the different programs available that could be applied according to the parameters identified on the grounds was presented.

**Date:** 2 de marzo de 2016      **Participants:** Adalberto Franky – Administrador, Eduardo Ventosa and Elizabeth Ramos

**Owner's Name:** Alicia Carlo De Sánchez

**Manager/Representative:** Adalberto Franky

**Phone Number:** (787) 851-0467 & (787) 647-1774

**Physical Address:** Carr. 301 Km. 4.8

**Postal Address:** P.O. Box 8

Hacienda Altamira, Bo. Llanos Costa

Mayagüez PR 00681

Cabo Rojo PR

**Parcel Size:** 1,276 cuerdas

**Owner's interest:** Yes ☒ No ☐



If owner not interested, reasons  
why: \_\_\_\_\_

**Adjacent parcels:**

**North:** Carr. 301 and Alicia Carlo de Sánchez

**South:** Caribbean Sea

**East:** Vertedero Municipal de Cabo Rojo y

**West:** FWS

Miguel Carlos Aymat

**Registered in FSA:** YES ☒ NO ☐

**Length of time under management/ownership:** More than 50 years

**Contract with conservation programs:** NO

**Type of agriculture:** Grazing and pasture

**Cultivated areas:** 70% pasture and 30% al grazing.

**Water Bodies:** Salinas y Quebradas Intermitentes

**General habitat description** Aluvión (colinda con los mangles, Costa, Sub-tropical Dry Forest Costero

**Concerns or identified impacts to natural resources or wildlife:** Sediment is deposited on the saltflast, close to the shore.

**Identified areas for restauration or conservation:** See included photos.

**Potential restoration or conservation practices:** Grass Lined Channel, Check Dam, Reforestation, Grass Rows.

**Potential program implementation:** Auxiliaries Forest – DNER, Forest Stuartship and NRCS programs.

**Observed wildlife:**

1. Guayacán
2. Paloma de Rayo
3. Aroma (Mezquite)
4. San Pedrito
5. Iguanas
6. Judío
7. Rabiche
8. Tamarindo

- 9. Nim
- 10. Sebucán
- 11. Falcón Común
- 12. Capá Blanco
- 13. Calotropis
- 14. Mariposa Monarca
- 15. Lengua de Mujer
- 16. Pepino Silvestre
- 17. Turpial
- 18. Caoba
- 19. Flamboyán
- 20. Úcar
- 21. Rolón
- 22. Acasia

**Comments:**

---

---

---

---

**Coordinates:**    **Lat.** 17.971    **Long.** -67.143

**Case No.:** 11

**Parcel Number:** 404-000-001-13-000

**Owner:** Vilma Rodriguez Cabrera (787) 899-6192, Tito (787) 787-7789. The actual owner is Dr. Miguel Busigó (787) 379-0503.

**Mailing Address:** PO BOX 516 NARANJITO PR 00719

**Coordinates:** 17.983 -67.118

**Adjacent parcels:** **East** – Jorge Rivera Chapman **West** – Larry Wayne Paul **North** – RR Farm Corp.  
**South** – Carr. 303, Osvaldo Figueroa Cordero and Jorge M. Figueroa Pérez (*Hacienda Paraíso*)

## Cabo Rojo Best Management Practice Project

0 0,25 0,5 Kilometers

—

### Parcels

Selected parcel

Other parcels

### HABITAT

Coral Reef and Colonized Hardbottom







Figure 1. South view of the property.



Figure 2. Erosion by runoff water.

**LOG:**

**February 9, 2016** - Converse with Rodobaldo Cruz "Tito Melao" (father). Tito lives after the entrance of the 2nd house to left hand (787) 899-6192 He is the caretaker of the estate. He pointed out that Ms. Vilma Rodriguez sold the parcel to her brother Mr. Miguel Busigó (787) 787-7789 (787) 379-0503.

**February 19, 2016** - He spoke with Ms. Carmen Rodriguez (wife). She will pass the information to Mr. Busigó.

**February 23, 2016** – No phone communication, leave voice message.

**February 24, 2016** – We contact Mr. Busigó and he confirmed an available date for field meeting on March 24.

**March 24, 2016** – We visit the parcel with of Dr. Miguel Busigó. After visual inspection, some recommendations were discussed and a brief introduction to the different programs that can be applied according to the parameters identified on the grounds was presented.

**Date:** 24 de marzo de 2016      **Participants:** Sra. Carmen M. Rodríguez Cabrera, Dr. Miguel Busigó Borrás and Eduardo Ventosa Febles - Biólogo

**Owner's Name:** Miguel Busigó Borrás

**Manager/Representative:** Dr. Miguel Busigó Borrás

**Phone Number:** (787) 787-7789, (787) 379-0503      daly3150@yahoo.com

**Physical Address:** Carr. 303 Km 9.4

**Postal Address:** Calle Playa # 38 MQ32

Bo. Llanos Costa

Urb. Monte Claro

Cabo Rojo PR

Bayamón PR 00961

**Parcel Size:** 37 cuerdas

**Owner's interest:** Yes ☒ No ☐

**If owner not interested, reasons**

**why:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Adjacent parcels:**

**North:** RR Farm Corp.

**South:** Carr. 303, Osvaldo Figueroa Cordero,

**East:** Jorge Rivera Chapman

**West:** Larry Wayne Paul

**Registered in FSA:** YES ☐; NO ☒

**Length of time under management/ownership:** 9 years

**Contract with conservation programs:** No

**Type of agriculture:** Yes

**Cultivated areas:** Aloe vera plantation, about 0.5 acre.

**Water Bodies:** None

**General habitat description** Thorn Dry Forest

**Concerns or identified impacts to natural resources or wildlife:** Sequía Extrema, Especie invasora (Iguana), Robo de Cactus, y Plaga de ácaros afectando cactus nativo

**Identified areas for restauration or conservation:** Run off areas

**Potential restoration or conservation practices:** Sedimentation Trap.

**Potential program implementation:** Partners for Fish and Wildlife Programs (USFWS).

**Observed wildlife:**

1. Auras
2. Mariquitas
3. Turpiales
4. Ruiseñor
5. Pitirre
6. Tórtola
7. Falcones
8. Iguanas
9. Sapo Común
10. Escorpiones
11. Anolis
12. Gekos
13. Walking sticks

**Comments:**

---

---

---

---

**Coordinates:**    **Lat.** 17.983    **Long.** -67.118





**Case No.:** 20

**Parcel Number:** 283-000-007-65-000

**Owner:** Centro Renal (Wolf Investment Corp). Contact: Dr. Wiston Ojeda (787) 615-1388

**Mailing Address:** 1050 AVE LOS CORAZONES STE 102 MAYAGUEZ PR 00680-7042



**Coordinates:** 18.133 -67.164

**Adjacent parcels:** **East** – Sucn Josefa Malavé Vélez. **West** - Yabucoa Development Corp. **North** – AHC Corp. **South** – Plan Bonito Development SE.


# Cabo Rojo Best Management Practice Project



## Parcels

-  Selected parcel
-  Other parcels

## HABITAT

-  Coral Reef and Colonized Hardbottom

Case  
Number: 4

Case  
Number: 20

Case  
Number: 14





Figure 1. Red polygon showing the property. The house in the north is from the parcel owner, Dr. Ojeda. No erosion was detected on the property.

**LOG:**

**February 3, 2016** - (787) 834-2185 (787) 265-5334 Mr. Reyes Administrator. I left phone message. I spoke with Mr. Reyes, he told me that the indicated person would be Mr. Ojeda. He did not give me any contact, but promised to contact us with more information.

**February 8, 2016** - I spoke with Mr. Reyes and he told me that he forwarded Dr. Winston Ojeda Laracuente our request.

Dr. Ojeda was contacted and he told us that the parcel was now under a new corporate entity (Wolf Investment Corp) but he is still the owner. Contact Tel: (787) 615-1388

**February 23, 2016** – Message was left at the office. NO answer phone.

**February 24, 2016** - Message was left on the voice mail. No answer (4:32 pm)

**February 25, 2016** - Message was left on voice mail

**February 26 2016** - No answer. No message left

**March 1, 2016** - Dr. Ojeda was contacted and a visit was coordinated to March 9.

**March 9, 2016** – Field visit. After visual inspection, some recommendations and presentation of the different programs that can be applied according to the parameters identified on the grounds were offered.

**Date:** 9 de marzo de 2016      **Participants:** Dr. Wiston Ojeda Laracuate – owner, Eduardo Ventosa Febles – Biólogo EER, Elizabeth Ramos - Assistant

**Owner's Name:** Centro Renal del Oeste

**Manager/Representative:** Dr. Wiston Ojeda Laracuate

**Phone Number:** (787) 615-1388

**Physical Address:** Camino Plan Bonito

**Postal Address:** P.O. Box 885

Bo. Guanajibo

Cabo Rojo PR 00623

Cabo Rojo

**Parcel Size:** 3.5 cuerdas

**Owner's interest:** Yes \_\_\_\_\_; No X

**If owner not interested, reasons why:** N/A

**Adjacent parcels:**

**North:** AHC Corp

**South:** Plan Bonito Development

**East:** Sucn. Josefa Malavé

**West:** Yabucoa Development Corp

**Registered in FSA:** YES \_\_\_\_\_; NO X

**Length of time under management/ownership:** 30 years

**Contract with conservation programs:** NO

**Type of agriculture:** None

**Cultivated areas:** N/A

**Water Bodies:** None

**General habitat description** Secondary Forest and pastures

**Concerns or identified impacts to natural resources or wildlife:** None

**Identified areas for restoration or conservation:** None

**Potential restoration or conservation practices:** None

**Potential program implementation:** N/A

**Observed wildlife:**

1. Ruiseñores
2. Níspero
3. Yagrumo



4. Tamarindo
5. Aura
6. Pitirre
7. Roble Nativo
8. Zarcilla
9. Malojillo
10. Úcar

**Comments:** After visual inspection, no exposed areas were found, probably due to the fact that there is no longer any active grazing and the most recent air photo coverage is 6 years old.

**Coordinates:** Lat. 18.133 Long. -67.164

**Case No.: 21**

**Parcel Number:** 426-000-001-10-852

**Owner:** Carmen Fas Fagundo. Dr. Ernesto Ponce De León (son), is the contact (787) 616-0516.

**Mailing Address:** PO BOX 703 CABO ROJO PR 00623-0703



**Coordinates:** 17.970 -67.109

**Adjacent parcels:** **East** – EF Realty LLC **West** – Tomás Irizarry y José A, Fas **North** – José A. Fas **South** – Caribbean Sea


# Cabo Rojo Best Management Practice Project



## Parcels

-  Selected parcel
-  Other parcels

## HABITAT

-  Coral Reef and Colonized Hardbottom

Case  
Number: 3

Case  
Number: 21

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community





**Figure 1.** South part of the property. The coastal zone are part of the Boquerón State Forest, Pitahaya section.



**Figure 2.** South-east view of the property. No erosion evidence was detected on the parcel.



**LOG:**

**February 2, 2016** – Dr. Ernesto Ponce de Leon, son of Mrs. Carmen Fas, was contacted (787-616-0516) and was reticent to participate arguing that there is no erosion on their property.

**February 26, 2016** spoke to him and although his reaction was not positive, coordinated appointment.

**March 7, 2016** canceled and rescheduled for Thursday, March 10 was coordinated.

**March 9, 2016** canceled and rescheduled for Friday, March 11 coordinated at 3:00 pm

**March 11, 2016** canceled and rescheduled for Friday March 18 at 3:00 pm

**March 24, 2016** - visiting the parcel next to the company of Dr. Ernesto Ponce De León. After visual inspection, and although no evidence of erosion was detected, it was presented some recommendations and presentation of the different programs that can be applied according to the parameters identified in the grounds.

**Date:** 18 de marzo de 2016    **Participants:** Dr. Ernesto Ponce de León Fas

**Owner's Name:** Carmen Fas Fagundo

**Manager/Representative:** Dr. Ernesto Ponce de León (son)

**Phone Number:** (787) 616-0516

**Physical Address:** Carr. 303 Km 10.7

**Postal Address:** P.O. Box 703

Sector Pitahaya Bo. Llanos Costa

Cabo Rojo PR 00623

Cabo Rojo PR

**Parcel Size:** 347 cuerdas

**Owner's interest:** Yes \_\_\_\_\_; No ☒ **X**

**If owner not interested, reasons why:** Distrust of real intentions of the project.

**Adjacent parcels:**

**North:** José A. Fas

**South:** Bosque Estatal de Boquerón Sector La Pitahaya

**East:** EF Realty LLC

**West:** Tomás Irizarry y José A, Fas

**Registered in FSA:** YES \_\_\_\_\_; NO ☒ **X**

**Length of time under management/ownership:** 18 years

**Contract with conservation programs:** No

**Type of agriculture:** None

**Areas under use:** Pasture and Livestock

**Water Bodies:** None

**General habitat description** Mesquite forest and pasture

**Concerns or identified impacts to natural resources or wildlife:** Drought and invasive species.

**Identified areas for restauration or conservation:** None

**Potential restoration or conservation practices:** None

**Potential program implementation:** Partners for Wildlife (FWS) and Auxiliary Forest (DRNA)

**Observed wildlife:**

1. Juí
2. San Pedrito
3. Judío
4. Mariquitas
5. Canario de Mangle
6. Turpiales
7. Tórtolas Aliblanca
8. Paloma Cabeciblanca
9. Tordo Lustroso
10. Zumbadores
11. Mozambique
12. Pájaro Bobo
13. Aura
14. Ruiseñores
15. Búho de Sabana
16. Pitirres

**Comments:**

---

---

---

---

**Coordinates:** Lat. 17.970 Long. -67.109

**Case No.:** 24

**Parcel Number:** 404-000-001-04-998

**Owner:** Carmen Fas Fagundo. Dr. Ernesto Ponce De León (son), is the contact (787) 616-0516. The parcel is leased to Mr. José Camacho (787) 244-4986

**Mailing Address:** PO BOX 703, CABO ROJO PR 00623-0703

**Coordinates:** 17.984 -67.135

**Adjacent parcels:** **East** - Roberto Rivera **West** – Kevin A. Agramonte, Marcos Acosta, Julio Acosta y Rita T. Fagundo Fas **North** - RR Farm Corp y Phillips South – Carr. 303 y José A. Fas Fagundo

## Cabo Rojo Best Management Practice Project

0 125 250 500 Meters

—

### Parcels

- Selected parcel
- Other parcels

### HABITAT

- Coral Reef and Colonized Hardbottom

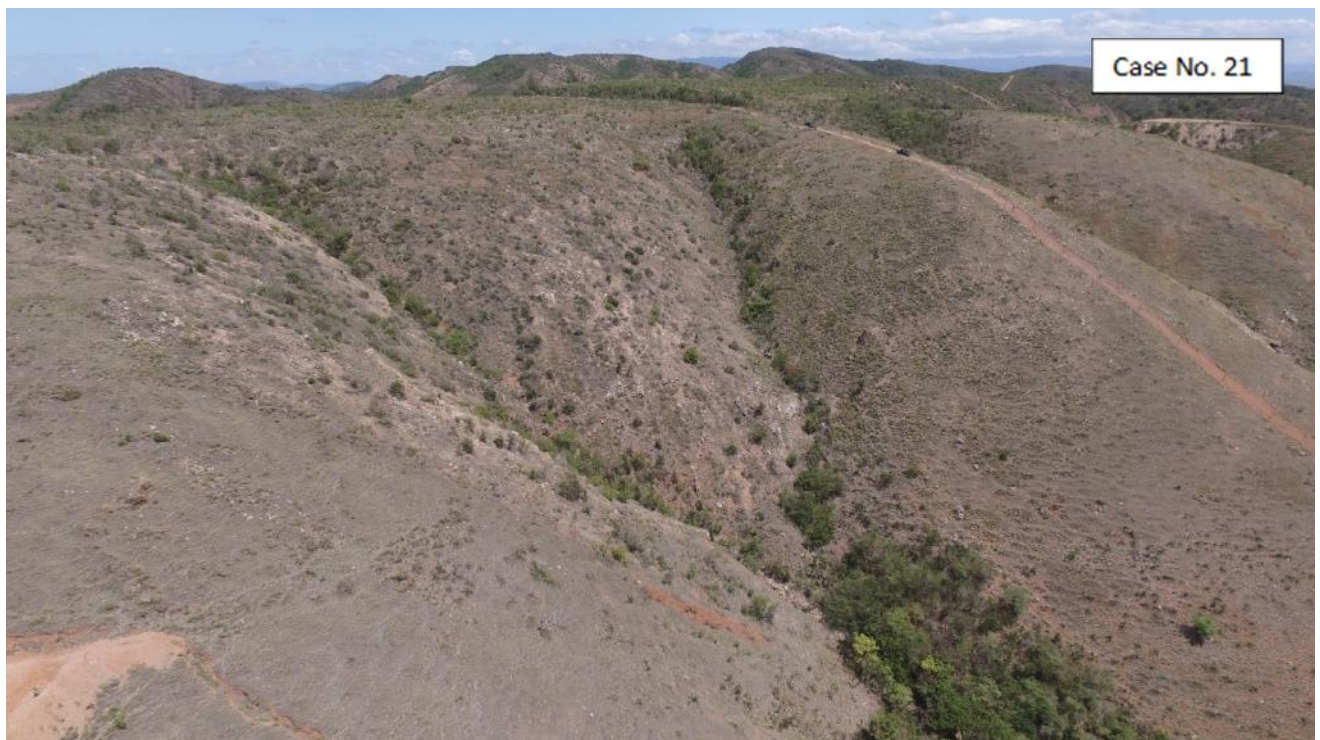
Case  
Number: 24

Case  
Number: 11





**Figure 1.** Erosion by unpaved road and runoff water.



**Figure 2.** View of the runoff area.

**LOG:**

**March 7, 2016** Parcel is hired by José Camacho (787) 244-4986 (787) 387-0492-grandmother Doña Corin. He was contacted personally and visit for Friday March 11th coordinated at 11:00 am

**March 24, 2016** - visiting the parcel with of José Camacho. After visual inspection, it was presented some recommendations and presentation of the different programs that can be applied according to the parameters identified in the grounds.

**Date:** 11 de marzo de 2016

**Participants:** José Camacho, Eduardo Ventosa - Biólogo

**Owner's Name:** Carmen Fas Fagundo

**Manager/Representative:** José Camacho Enríquez

**Phone Number:** (787) 244-4986 jose.francisco9218@gmail.com

**Physical Address:** Carr. 303 Km 11.2

**Postal Address:** HC-02 Box 1909

Sector Las Palmas Bo. Llanos Costa

Boquerón PR 00622

Cabo Rojo PR

**Parcel Size:** 200 cuerdas

**Owner's interest:** Yes \_\_\_\_\_; No X

**If owner not interested, reasons why:** Lease is about to expire, and owner will not be leasing the land. Same owner had expressed (Dr. Ponce de León) a lack of interest in participating.

**Adjacent parcels:**

**North:** RR Farm Corp y Phillips

**South:** Carr. 303 y José A. Fas Fagundo

**East:** Roberto Rivera

**West:** Kevin A. Agramonte, Marcos Acosta, Julio Acosta

**Registered in FSA:** YES X; NO \_\_\_\_\_

**Length of time under management/ownership:** 6 years

**Contract with conservation programs:** Yes, NRCS

**Type of agriculture:** Grazing

**Water Bodies:** spring

**General habitat description** Pasture, Sub-Tropical Dry Forest, Dry Forest Palm

**Concerns or identified impacts to natural resources or wildlife:** Fire, erosion, excessive runoff

**Identified areas for restoration or conservation:** Intermittent stream, springs

**Potential restoration or conservation practices:** Erosion control from spring area along streambed, sediment traps on roads.

**Potential program implementation:** Partners for Wildlife (FWS)

**Observed wildlife:**

1. Pitirre
2. Aura
3. Guaraguao Colirojo
4. Búhos
5. Changos
6. Mariquitas
7. Turpiales
8. Juí
9. Rolitas
10. Paloma Aliblanca
11. Iguana

**Comments:**

---

---

---

---

**Coordinates:**    **Lat.** 17.984    **Long.** -67.135

**Case No.:** 3

**Parcel Number:** 425-000-005-08-902

**Owner:** María C. Fas Fagundo. **Contact:** Georgie Fas (787) 632-1070, (787) 508-7155.

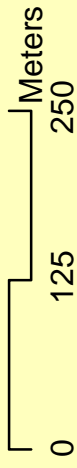
**Mailing Address:** PO BOX 676 CABO ROJO PR 00623

**Coordinates:** 17.96 -67.13

**Adjacent parcels:** **East** - Carmen Fas **West** – Emidgio F. Iñigo **North** – José A. Fas **South** - José M. Portela Morales.



# Cabo Rojo Best Management Practice Project



—

## Parcels

Selected parcel

Other parcels

## HABITAT

Coral Reef and Colonized Hardbottom

Case  
Number: 21

Case  
Number: 3



**Figure 1.** Impacted zone by land cover removal.



**Figure 2.** Unpaved roads.

**LOG:**

**February 10, 2016** - I contacted personally the parcel owner, Mr. Georgie Fas. He has rented the parcel for growing hay. (787) 508-7155

**February 26, 2016** - I spoke with him and coordinated appointment for March 7 10:00 am.

**March 7, 2016** – We visit the parcel with of Mr. Georgie Fas. After visual inspection, he was presented with some recommendations and a presentation of the different programs that can be applied according to the parameters identified in the grounds.

**Date:** 7 de marzo de 2016      **Participants:** Georgie Fas – Administrator, Eduardo Ventosa – Biólogo EER y Elizabeth Ramos - Assistant

**Owner's Name:** María C. Fas Fagundo

**Manager/Representative:** Georgie Fas

**Phone Number:** (787) 508-7155

**Physical Address:** Carr. 303 Camino La Pitahaya

**Postal Address:** Fas #30

Bo. Llanos Costa

Cabo Rojo PR 00623

Cabo Rojo PR 00623

**Parcel Size:** 136 cuerdas

**Owner's interest:** Yes \_\_\_\_\_; No X

**If owner not interested, reasons why:** Has already leased the land for hay cultivation.

**Adjacent parcels:**

North: José Fas Fagundo

South: José M. Portela

East: Carmen Fas Fagundo

West: Emigdio Iñigo Fas

**Registered in FSA:** YES \_\_\_\_\_; NO X

**Length of time under management/ownership:** 30 years

**Contract with conservation programs:** NO

**Type of agriculture:** Hay

**Cultivated areas:** 90% pastures

**Water Bodies:** Runoff areas

**General habitat description** Mesquite savannah, hay fields.

**Concerns or identified impacts to natural resources or wildlife:** Extreme drought, fire and caterpillar infestation

**Identified areas for restauration or conservation:** intermittent ponds

**Potential restoration or conservation practices:** Hay bales to reduce erosion. Check-dams on intermittent streams

**Potential program implementation:** Forest Stewardship Program and Auxiliary Forests

**Observed wildlife:**

1. Mezquite
2. Come ñame
3. Reinita común
4. Juí Blanco
5. Aura
6. Paloma Alí Blanca
7. Turpial
8. Chamorro
9. Sebucán

**Comments:**

---

---

---

---

**Coordinates:**    **Lat.** 17.96    **Long.** -67.13



**Case No.:** 26

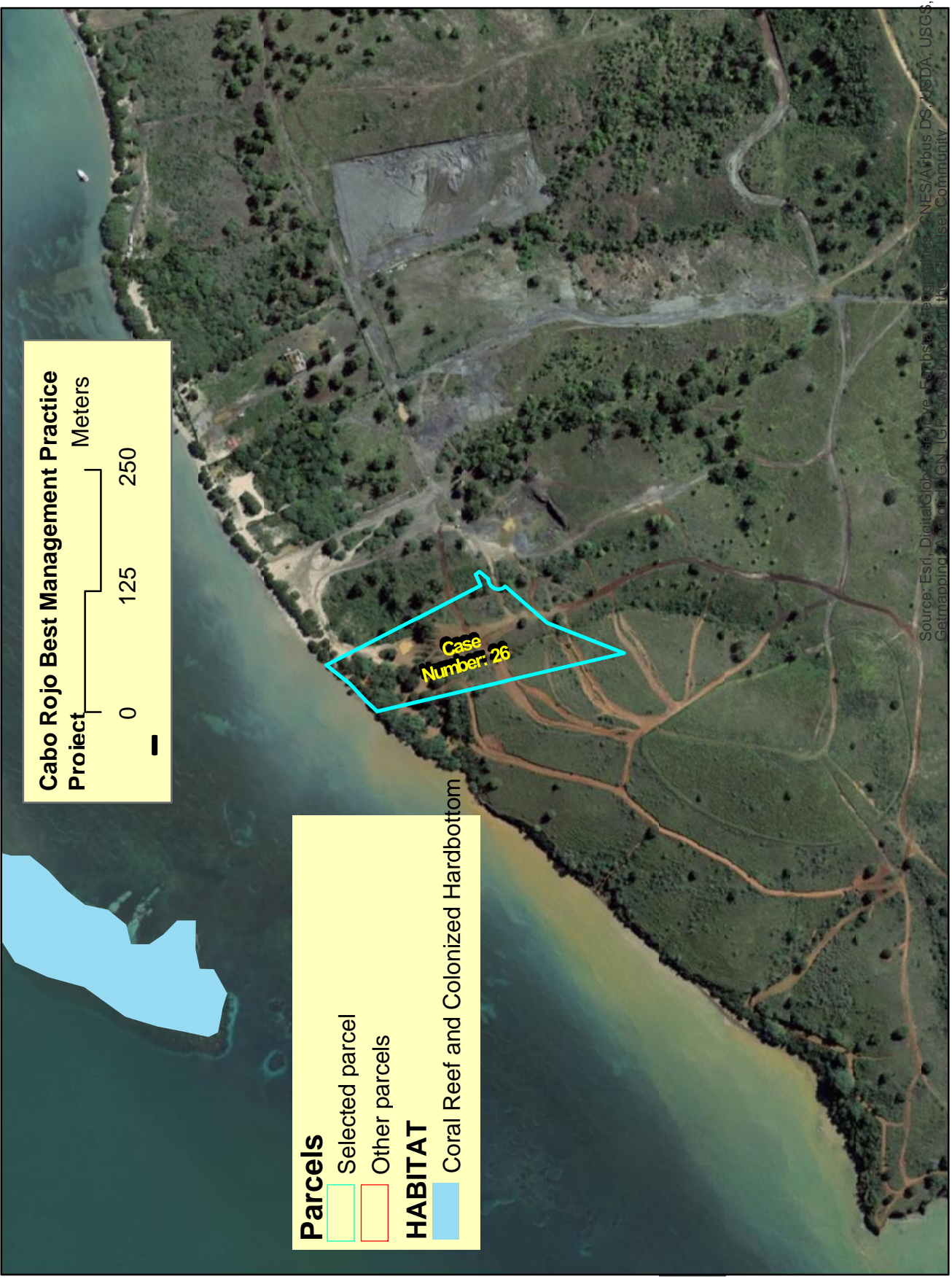
**Parcel Number:** 402-000-004-64-000

**Owner:** Ramonita Martín Vélez **Contact:** Ing. Javier Acosta Hijo (787) 646-1998 (787) 834-3256. AM Electric Company Inc. Ing. Javier Acosta (son of Ramonita) [jacosta@amelectricpr.com](mailto:jacosta@amelectricpr.com).

**Mailing Address:** PO BOX 3745 MAYAGUEZ PR 00681-374

**Coordinates:** 17.996 -67.208

**Adjacent parcels:** **East** – Boquerón Ward LLC and Pedro L. Silva Huyke **West** – Escorial Holdings LLC  
**North** – Caribbean Sea **South** - Puerto Rico Farm Credit ACA.

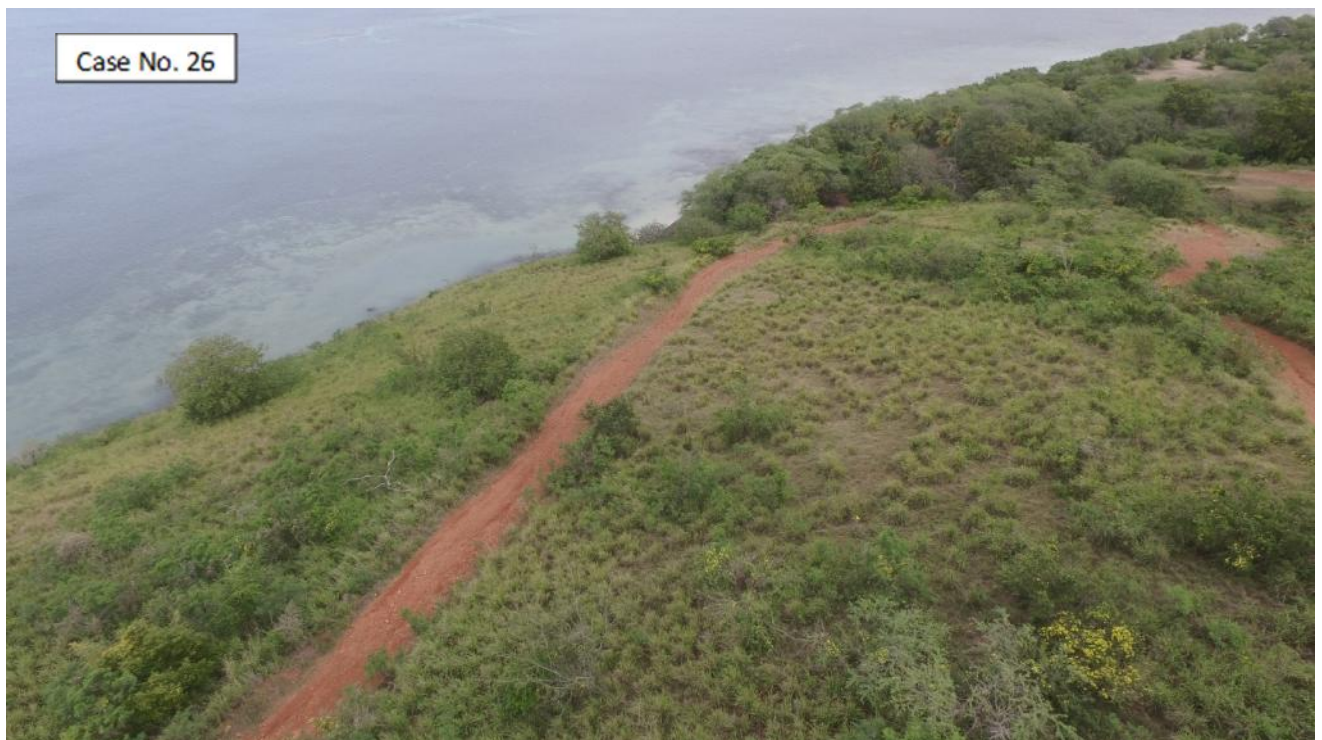


Source: Esri, DigitalGlobe, GeoEye, Earthstar (Earthstar), CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerion, IGN, IGPP, Swire, and the GeoEye Community





**Figure 1.** Unpaved road. Roads are created by all-terrain vehicles.



**Figure 2.** Unpaved road close to the shoreline.

**LOG:**

**February 8, 2016** - We established contact with the owner, he confirmed that the parcel belongs to him and offered other numbers. (787) 646-1998 and (787) 646-1894-Ramonita

**February 19, 2016** - I spoke with Mr. Acosta and coordinate visit date for March 15.

**March 15, 2016** - Parcel was visited in the company of Ing. Javier Acosta, Ramonita Martin and Alexis Dragoni. After visual inspection, it was presented some recommendations and presentation of the different programs that can be applied according to the parameters identified in the grounds. Because there's no agricultural activities on their land, we present the programs offered by the USFWS and the DNER. Those were Partners for Fish & Wildlife and Auxiliary Forest.

**Date:** 15 de marzo de 2016  
– EER y Eduardo Ventosa - Biólogo

**Participants:** Ing. Javier Acosta, Ramonita Martin, Alexis Dragoni

**Owner's Name:** Ramonita Martin

**Manager/Representative:** Ing. Javier Acosta

**Phone Number:** (787) 646-1998 y (787) 646-1894

**Physical Address:** Carr. 3303 K.m. 2 Interior

**Postal Address:** P.O. Box 7745

Entrada cerca de la Farmacia El Combate

Marina Station

Sector Los Pozos, Boquerón Cabo Rojo

Mayagüez PR 00681

**Parcel Size:** 5 cuerdas

**Owner's interest:** Yes ☐ No ☒

**If owner not interested, reasons why:** There are several heirs, they would consult with the family and communicate with the Biologist.

**Adjacent parcels:**

**North:**

**South:**

**East:**

**West:**

**Registered in FSA:** YES; NO ☒

**Length of time under management/ownership:** 10 years

**Contract with conservation programs:** NO

**Type of agriculture:** NO

**Cultivated areas:** None

**Water Bodies:** NO



**General habitat description** Sub-tropical Dry Forest

**Concerns or identified impacts to natural resources or wildlife:** Impacts caused by ATV's

**Identified areas for restauration or conservation:** trails

**Potential restoration or conservation practices:** Reforestation, access control.

**Potential program implementation:** Partners for Wildlife (FWS), Forest Legacy y Forrest Stewardship (DRNA)

**Observed wildlife:**

1. Auras
2. Changos
3. Aroma
4. Calotropis
5. Úcar
6. Nim
7. Leucaena
8. Pasto
9. Piloceneus Cactus
10. Trinitarias

**Comments:**

---

---

---

---

**Coordinates:**    **Lat.** 17.996    **Long.** -67.208

**Case No.:** 9 and 18

**Parcel Number:** 283-064-395-28-000, 379-000-009-05-000

**Owner:** Mr. Merino Quirino (787-833-0680). Contact: Ms. Marianita Carbó (787) 485-2554. Mr. Merino is the owner of Los Primos Mufflers, 314 East Calle Dr. Ramón Emeterio Betances Mayaguez against Belmonte.

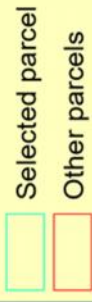
**Mailing Address:** PMB 458 100 GRAN PASEO BLVD SUITE 112 SAN JUAN PR 00926-5955

**Coordinates:** 18.002 -67.197

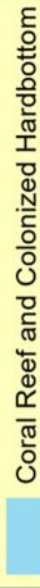
# Cabo Rojo Best Management Practice Project



## Parcels



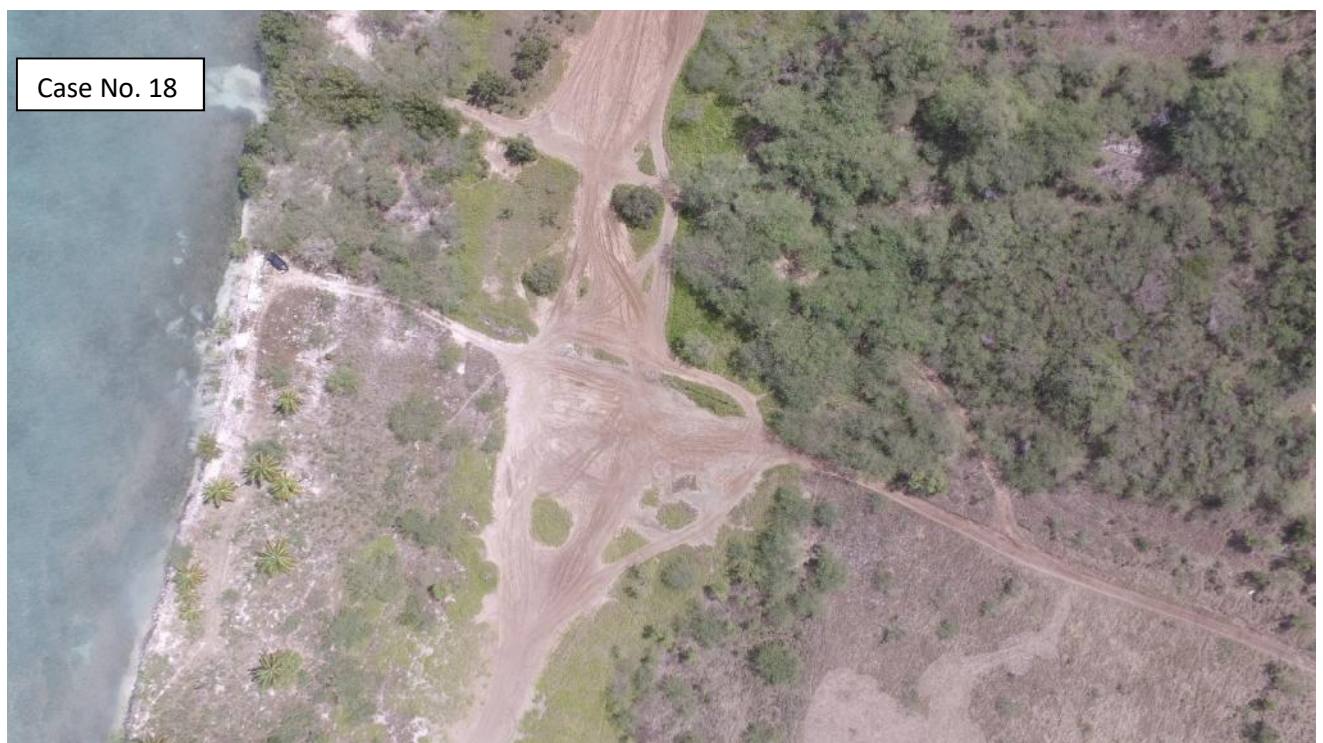
## HABITAT



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroX, GeoMapping, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community



**Figure 1.** North view of the property.



**Figure 2.** Image of the most eroded area of the property.



**LOG:**

**February 7, 2016** – Visit to the workshop and contact with Mr. Quirino Merino.

**February 19, 2016** - I spoke with him by telephone and told me that it is impossible to leave the business. He can go on a Sunday. Alternatively, he will talk with his ex-wife.

**February 23, 2016** - Talk to him, he did not communicate with his ex-wife.

**February 25, 2016** - I spoke with Mr. Merino and he gave me his Ex Tel # (787) 485-2554 Ms. Marianita Carbo. We spoke with Ms. Carbo, was very friendly and available. A visit for the March 16 was coordinated.

**February 26, 2016** - the date was changed at the request of the biologist for March 1.

**March 1, 2016** - Parcel was visited in the company of Ms. Mariana Carbo -. Representative Mr. Merino and Ms. Mirtelina Carbo. After visual inspection, recommendations were discussed and presentation of the different programs that can be applied according to the parameters identified in the grounds. Programs are Forest Stewardship, Partners for Fish & Wildlife, and Auxiliary Forest.

**Date:** 1 de marzo de 2016      **Participants:** Marianita Carbó – Representativo of Mr. Merino, Mirtelina Carbó, Eduardo Ventosa, Elizabeth Ramos

**Owner's Name:** Quirino Merino Pedrozo

**Manager/Representative:** Marianita Carbó

**Phone Number:** 787-833-0680, 787-485-2554

**Physical Address:** Carr. 3303 K.m. 2 Interior

**Postal Address:** Calle Madrid #50

Entrada cerca de la Farmacia El Combate

Urb. Belmonte

Sector Combate en Boquerón Cabo Rojo

Mayagüez PR 00680

**Parcel Size:** 45 cuerdas

**Owner's interest:** Yes ☐; No ☒

**If owner not interested, reasons why:** Parcels in process of being sold.

**Adjacent parcels:**

**North:** Bahía de Boquerón, Playa Los Pozos

**South:** MC Acquisition

**East:** MC Acquisition

**West:** Edgar Ruiz

**Registered in FSA:** Yes ☐; No ☒

**Length of time under management/ownership:** More than 30 years

**Contract with conservation programs:** NO

**Type of agriculture:** NO

**Cultivated areas:** NO

**Water Bodies:** Intermittent streams, hypersaline ponds

**General habitat description** Secondary dry forest, pasture.

**Concerns or identified impacts to natural resources or wildlife:** Erosion and arson

**Identified areas for restauration or conservation:** View attached photos

**Potential restoration or conservation practices:** Retention pond, reforestation with black mangrove

**Potential program implementation:** Auxiliary Forest (DRNA).

**Observed wildlife:**

1. Aura
2. Garza Blanca
3. Reinita Común
4. Judío
5. Rolón
6. Emajaguilla
7. Palma de Coco
8. Pasto

**Comments:**

---

---

---

---

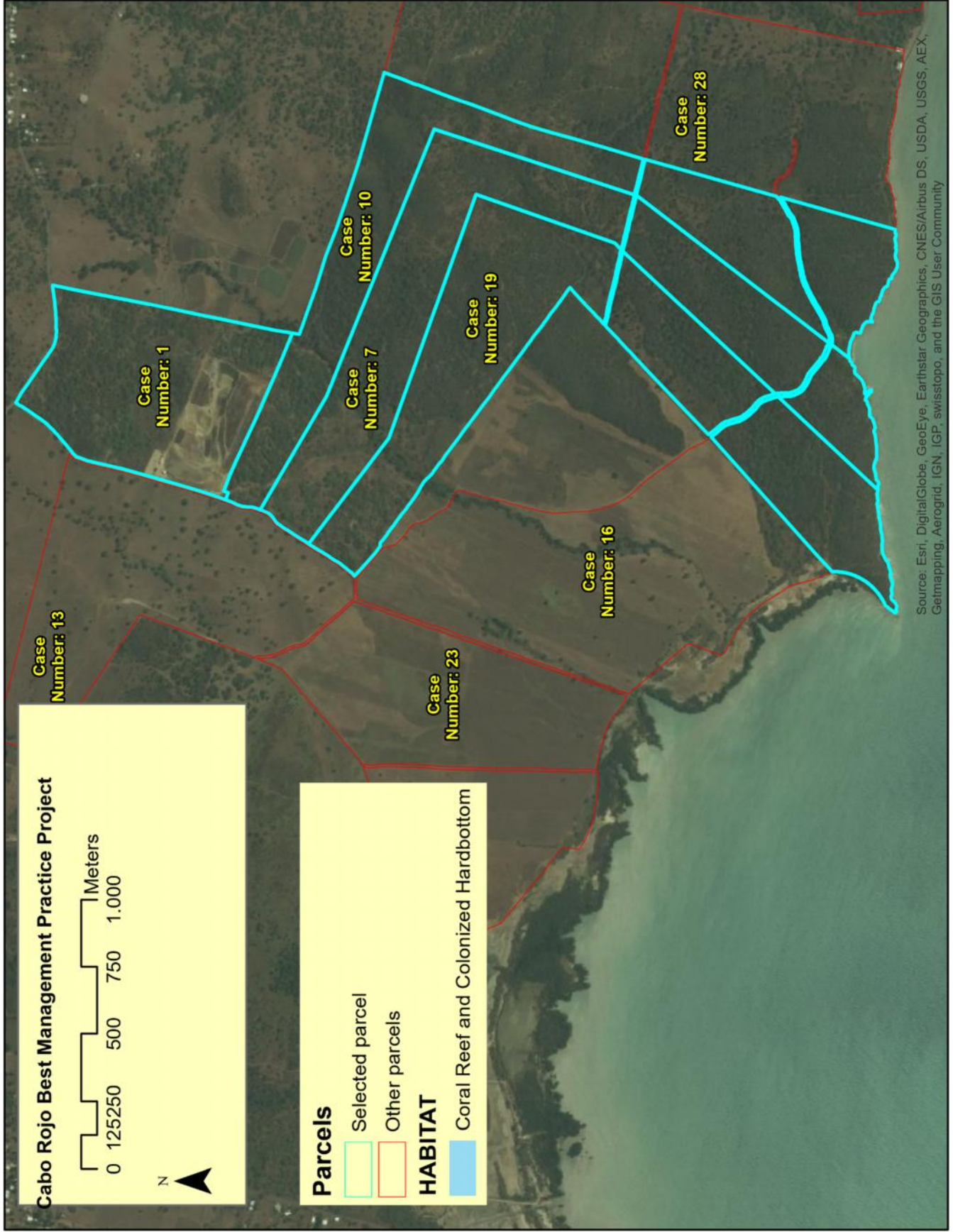
**Coordinates:**    **Lat.** 18.002    **Long.**-67.197

**Case No.:** 1, 7, 10, 19

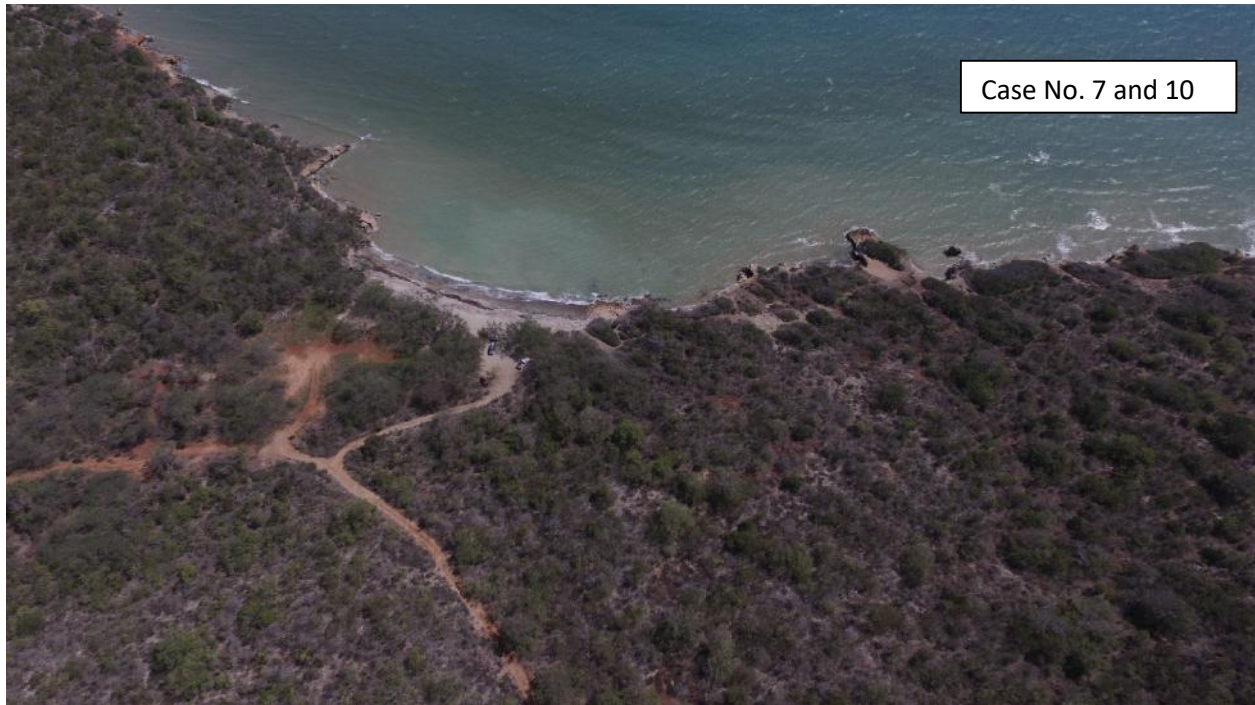
**Parcel Number:** 403-000-008-02-000, 425-000-004-02-000, 425-000-004-03-000, 425-000-003-02-901

**Owner:** Miguel Carlo "son". (787) 560-6695.

**Mailing Address:** PO BOX 3265, MAYAGUEZ PR 00681-3265







**Figure 1.** Aerial view of the impacted area. This was the only eroded zone in the property

**LOG:**

**February 5, 2016** - Mr. Miguel Carlo died. Alicia brother Carlo (Aymat) De Sanchez. Father of Mr. Miguel "Michel" Carlo Fajardo (has property in Lajas Carr. 116 K. M. Flagstone 10.9 Guánica Left Hand. Contact person E. Ventosa (787) 560-6695). He notes that the parcel is "rented" and belongs to the heirs (he and his brothers).

**February 19, 2016** - Coordinated visit with Don Miguel for 3 March.

**March 2, 2016** – Mr. Miguel Carlo canceled for health reasons. He was offered arrange for Wednesday 9th.

**March 8, 2016** – Mr. Carlo canceled and appointment for Friday, March 11.

**March 10, 2016** - was canceled again. Pending for next week. We must call on Monday and coordinate.

**March 14, 2016** - visit for Thursday, March 17 coordinated.

**March 17, 2016** - Mr. Carlo to tell us canceling the visit today for health reasons. It is recommended that we call the person who leased the property, Mr. Emerito Mateo (787) 316-7341.

**March 21, 2016** – A field visit was coordinated with Mr. Emerito Mateo for Thursday, March 24th at 2:00 pm

**March 24, 2016** - Mr. Mateo was not present during the field visit but granted us free access to the property. After visual inspection, information about the programs was left with the representatives of

Mr. Mateo and planned to contact Mr. Mateo to discuss the findings of the visit and offer programs available within the parameters of the parcel. After several attempts to contact the land administrator, they show no interest in the available programs.

**Date:** 24 de marzo de 2016      **Participants:** Eduardo Ventosa Febles

**Owner's Name:** Miguel Carlos Aymat - Sucesión

**Manager/Representative:** Miguel Carlo Fajardo – Hijo Emerito Mateo – arrendatario

**Phone Number:** (787) 560-6695 Miguel Carlo-Hijo (787) 316-7341 Emerito Mateo

**Physical Address:** Carr. 301 Km 2.6

**Postal Address:**

Bo. Llanos Costa

Cabo Rojo PR

**Parcel Size:**

**Owner's interest:** Yes;   No X

**If owner not interested, reasons why:**

Owners never responded.

**Adjacent parcels:**

**North:**

**South:**

**East:**

**West:**

**Registered in FSA:** YES;   NO X

**Length of time under management/ownership:**

**Contract with conservation programs:**

**Type of agriculture:** pasture

**Cultivated areas:** None

**Water Bodies:** Coastal

**General habitat description:** Dry forest

**Concerns or identified impacts to natural resources or wildlife:** intentional fires

**Identified areas for restauration or conservation:** A eroded area close to the coast (see included photo).

**Potential restoration or conservation practices:** Sedimentatin Trap

**Potential program implementation:**

**Observed wildlife:**

**Comments:**

Owner has no interest.

**Coordinates:**    **Lat.** 17.971    **Long.** -67.150

**Case No.:** 27

**Parcel Number:** 308-023-150-84-000

**Owner:** Instituto Secular de Schoenstatt. **Contact:** Sister Carmín (787) 851-5368

**Mailing Address:** PO BOX 744 CABO ROJO PR 00623-0744

**Coordinates:** 18.110 -67-167

**Adjacent parcels:** **East** – Lilibeth Ramírez Colberg, Marlene Ramírez Colberg, and Manuel Maldonado Hernández. **West** - Filiberto Perez Pérez, Sucn. Félix Perez Avilés. **North** – Ángel Vargas Rodríguez, Comunidad Conde Ávila, Carlos N. Torres Ferrer. **South** - Western Construction, Sara M. Pagán, Brunilda Pérez Palermo.



# Cabo Rojo Best Management Practice Project

0 125 250 500 Meters

## Parcels

Selected parcel

Other parcels

## HABITAT

Coral Reef and Colonized Hardbottom

Case  
Number: 27



**Figure 1.** Aerial view of the most impacted areas on the property (red circles).



**Figure 2.** North view of an eroded area.





**Figure 3.** Erosion and sediment road.

**LOG:**

**February 2, 2016** - Olga and I spoke personally with Sister Carmine and confirmed parcel ownership.

**February 24, 2016** - I spoke with Sister Carmine and coordinated field visit on Wednesday, March 16.

**March 15, 2016** - new date of the visit was coordinated for Thursday, March 17th at 9:00 am.

**March 17, 2016** – On site interview with Sister Carmine Moyet was held. After visual inspection, it was presented some recommendations and presentation of the different programs that can be applied according to the parameters identified in the grounds.

**Date:** 17 de marzo de 2016      **Participants:** Hermana Carmín Moyet, Sra. Olga Irizarry y Eduardo Ventosa - Biólogo

**Owner's Name:** Instituto Secular de Schoenstatt

**Manager/Representative:** Hermana Carmín Moyet

**Phone Number:** (787) 851-5368      [srcarmin@schsrsmay.org](mailto:srcarmin@schsrsmay.org)    [olgapfm@aol.com](mailto:olgapfm@aol.com)

**Physical Address:** Carr. # 100 Int.      **Postal Address:** P.O. Box 744

Bo. Miradero

Cabo Rojo PR 00623

Cabo Rojo PR

**Parcel Size:** 210 cuerdas

**Owner's interest:** Yes ; No X

**If owner not interested, reasons why:** In process of leasing, lease

**Adjacent parcels:**

**North:** Ángel Vargas, Comunidad Conde Ávila....  
Pagán

**South:** Western Construction, Sara M.

**East:** Lilibeth Ramírez, Marlene Ramírez....

**West:** Filiberto Perez, Sucn. Félix Perez Avilés...

**Registered in FSA:** YES; NO X

**Length of time under management/ownership:** More than 30 years

**Contract with conservation programs:** NO

**Type of agriculture:** Pasture

**Cultivated areas:** Grazing

**Water Bodies:** Connection with Joyuda lagoon

**General habitat description** Secondary moist forest

**Concerns or identified impacts to natural resources or wildlife:** Severe erosion

**Identified areas for restauration or conservation:** Several eroded areas

**Potential restoration or conservation practices:** Retention bars and revegetation

**Potential program implementation:** Partners for Wildlife

**Observed wildlife:**

1. Pitirre
2. Auras
3. Ruiseñores
4. Rodales Leucaena

**Comments:**

---

---

---

---

**Coordinates:** Lat. 18.110 Long. -67-167



