

August 20, 1970

Prof. Ernesto F. Colón  
Director  
Water Resources Research Inst.  
Mayaguez, Puerto Rico


Dear Prof. Colón:

I am very pleased to submit to you the final report of the project on "The Demand for Water-based Recreation in Southwest Puerto Rico."

I must thank you for your cooperation and understanding.

The personnel of the WRRI, mostly Mrs. Starr Burgos, was very cooperative in providing all necessary information for the completion of this project.

Sincerely yours,

  
Gerard Latortue  
Principal Investigator

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The help of all my student assistants was extremely valuable in the preparation of this study. However, I must single out the contribution of Mr. Pierre André Sajous who cooperated with me in this project from its beginning to the end.

Also to be mentioned is the judicious advice of Dr. Gene Erion, consultant to this project.

My thanks also to the personnel of the Water Resources Research Institute, especially Mrs. Starr S. Burgos, for their cooperation and understanding.

## THE DEMAND FOR WATER BASED RECREATION IN SOUTHWEST PUERTO RICO

### I- INTRODUCTION

During the last two decades, Puerto Rico has experienced a remarkable economic growth and development to the extent that the island has been proposed as a model to the Third World.<sup>1</sup>

It is probable, however, that the Puerto Rican growth rate might not continue to rise so rapidly due to the serious crisis affecting presently the agricultural and manufacturing sectors, the rising cost of production, the competition faced by the tourist industry from Europe and the population pressures. Nonetheless, it seems certain that the island might be able to maintain at least a growth rate, in real terms of 4% during the present decade.

With the basic needs of the island population for housing, health, education and food being satisfied - to a large extent under Operation Bootstrap and Operation Serenity<sup>2</sup>, it is logical to expect that the demand for outdoor recreation will increase.

According to the 1962 Outdoor Recreation Resources Review Commission's studies<sup>3</sup>, the demand for outdoor recreation is "surging" regardless of the measure used. Their projections



show that while the population of the USA is due to double by the year 2000, demand for outdoor recreation will nearly triple. The report goes on to point out that on the basis of their studies and projections, 44% of the population, nationwide, prefer water-based outdoor recreational activities "over any other"<sup>4</sup>. All the studies which were conducted by the Commission confirm this fact. For example, one of these studies indicates that by the year 2000 swimming will be the most popular single outdoor recreational activity, exceeding even pleasure driving which now holds first place.<sup>5</sup>

Here in southwest Puerto Rico<sup>6</sup>, an area naturally endowed with beautiful beaches, clear blue Caribbean water and tropical sunshine the year around, the demand for water based recreation is bound to be high. This is the case because of constant increases in large-scale tourism<sup>7</sup>, the general improvement in the economic and social well-being of the local citizenry, and the population changes-specifically in terms of structural mobility and composition.

In Southwest Puerto Rico, significant developments in water-based recreation have taken place lately. The demand for swimming, as a hobby, has grown to large dimensions chiefly because of the excellent waters found in the area and the facilities built by the Commonwealth government on some beaches<sup>8</sup>. Several non-commercial fishing tournaments, both national and international, are conducted throughout the entire year. Boating, for purposes of racing and leisure,

is experiencing a great upsurge because of the availability - at relatively low prices - of boat rental through boating and aquatic clubs. Surfing, which was practically unknown in the area five years ago, has developed to such an extent (among young people), that an international surfing competition was held three years ago at Rincón which is located in the area covered by this study.

Presently, due to the high level of concentration of industries, tourism and recreational facilities in the metropolitan area, the Commonwealth government is implementing a program of decentralization leading to a better balanced development of the island. The southwest region of Puerto Rico<sup>9</sup> is the initial prime target of the insular government. A development plan for that region has been prepared and will be implemented in a very near future. The development plan of the southwest region calls, among other things, for the building of a second international airport, greater incentives to the establishment of new industries, and the development of water-based recreational facilities in Boquerón and La Parguera bioluminescent bays.

When the development plan for the Southwest region of Puerto Rico will be put in action, the area, which already has a few water-based recreational facilities, will experience a greater demand for such facilities in order to meet the needs of both the tourists and the residents of Puerto Rico.

This study will make a survey of existing water-based



recreational areas and facilities in Southwest Puerto Rico with a description of their location, characteristics and accessibility; indicate the opinions of a sample of recent users of these recreational areas and facilities; and finally make recommendations for their improvement and/or the establishment of new ones in order that all resources related to water-based recreation in the area can be exploited and used more fully.

In pursuit of the objectives mentioned above, a first series of personal interviews were conducted during the period of March 1969 to January 1970 (see Appendix I). In light of the obstacles encountered during this first series of personal interviews, a new questionnaire was designed and a second series of personal interviews were conducted during the period of February to May, 1970. (See Appendix II). Both series of interviews were conducted by sampling among tourists and local visitors of the recreational areas. The information gathered through the personal interviews was supplemented by secondary data provided by the Puerto Rico Planning Board, the Public Recreational and Park Administration and by personal observation made by the principal investigator, and the student assistants during their numerous visits to the recreational areas covered by this study.

II- EXISTING WATER BASED RECREATIONAL CENTERS IN THE AREA

There exists in the Southwestern part of Puerto Rico many locations for water-based recreation used both by the residents of Puerto Rico and the tourists. Most of them are dirty and polluted; a few are semi-developed but not very clean; still fewer are highly developed with excellent facilities. The last group also are easily accessible, and except for the water at El Tuque, they are clean.

A- Recreational Centers: Highly Developed.

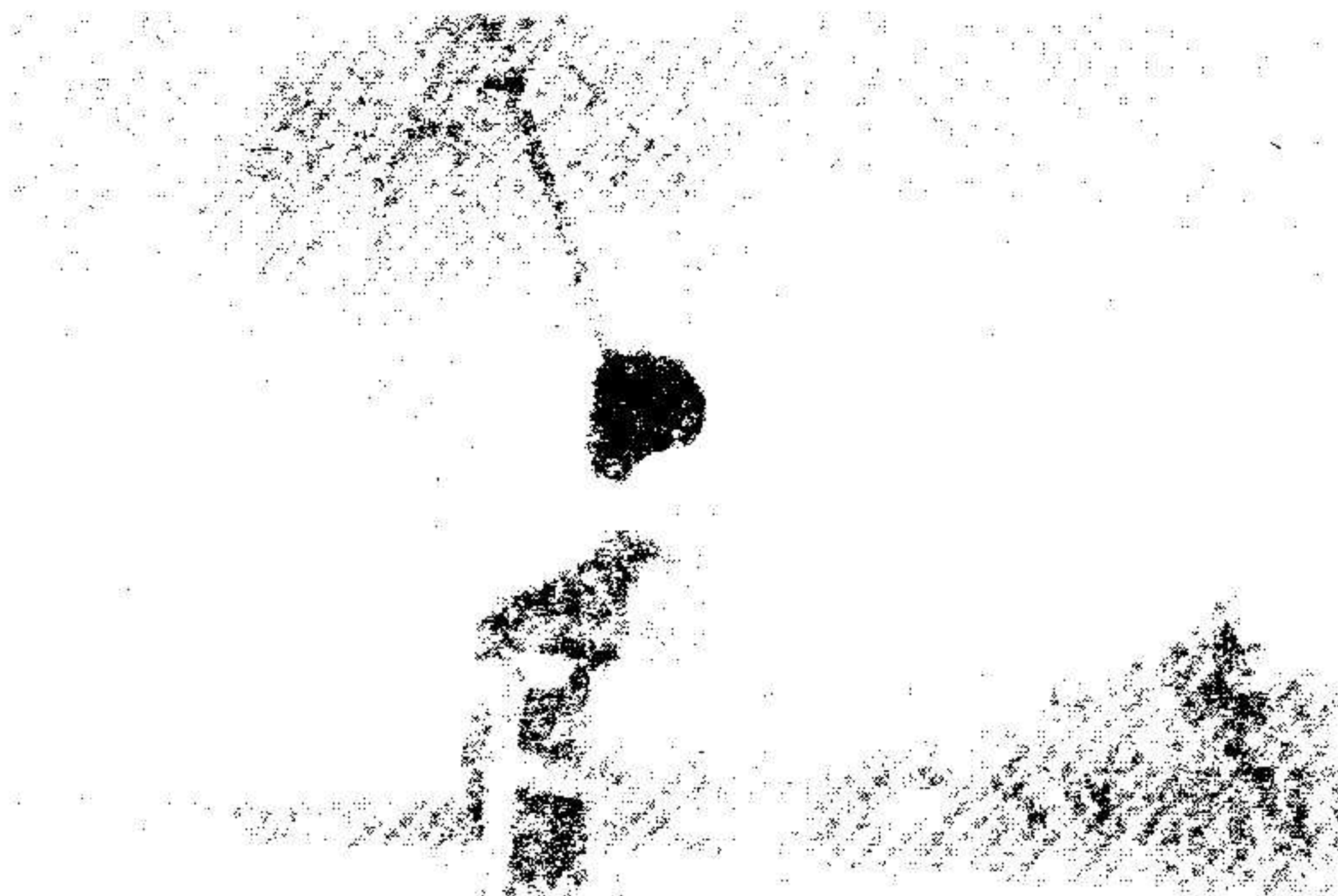
Three water-based recreational areas fall into this category: BOQUERON, TRES HERMANOS and EL TUQUE. All three are operated by the Public Recreation and Park Administration. They have large parking areas and are open only during day time. They also provide life guards and facilities for first-aid; accommodations for changing and showers; picnic tables; cafeterias, and garbage disposals.

1- BOQUERON

Boquerón is certainly the most successful and attractive water-based recreational area in Southwest Puerto Rico. An average of 400 persons visit the Boquerón beach during the week days. On week-ends the number of visitors averages 10,000. On 4th of July 1970, about 25,000 persons were at the beach.

Boquerón is a well-developed beach resort that any community would be proud of. Great care is taken in keeping the lawns trimmed and clean. The beautiful white sand beach with hundreds of coconut trees is kept very





Boquerón

Photo No. 1: Very efficient life guard services are offered at Boquerón beach.



Boquerón

Photo No. 2: On week day 4 life guards watch visitors. On weekends they are 10 life guards at Boquerón beach.

clean and no debris could be seen on the shore. The whole atmosphere is one of cleanness and relaxation.

The beach is open to the public from 8:00 am to 6:30 pm. The average time spent there is about 6 hours. Visitors to Boquerón include not only nearby residents but also people from the greater San Juan area, from the Ponce area, and a large number of tourists.

Bathing and swimming facilities at Boquerón are excellent. The water is very calm and of a beautiful blue.

Food and refreshments, including beers, are sold at a Snack Bar. Approximately 200 picnic tables on the beach are at the disposal of the visitors.

Nicely isolated from the main public beach, 50 cabins can be rented to families wanting to spend a few days on the sea-shore fully equipped and air conditioned, at reasonable prices. They are rented for at least 2 days and no more than 7 days. The average staying time of cabin renters is 3 days. The rate of occupancy of these cabins is close to 100% during the summer time and about 85% during the winter.

## 2- TRES HERMANOS

Inaugurated on November 22, 1969, Tres Hermanos is the most recent water-based recreational area under the supervision of the Public Recreation and Park Administration. It offers the same facilities as Boquerón except for the cottages.

On the average 6,000 persons visit this beach area





Añasco

Photo No. 3: Life guard at Tres Hermanos



Añasco

Photo No.4: A picnic table at Tres Hermanos



weekly. As is the case for all beach resorts in the island, it is much more crowded on week-ends and holidays than during week days. It is open from 9:00 am to 6:00 pm. The average time spent at the area by the visitors is about 5 hours. Most of them are from the immediate vicinity. Although the road to Tres Hermanos is much better than the one to Boquerón it is surprising to observe the under-utilization of Tres Hermanos. This is due, perhaps, to the fact that the beach facilities are new and not sufficiently publicized. Also the bottom slopes off more quickly under the water.

The beach area itself is clean and very good care is taken of the lawns. Unfortunately, unlike Boquerón, the coconuts are left unpicked on the trees, which constitutes a permanent danger for all those - specially children - who go for shade under the coconut trees.

Under normal circumstances the water is also clean and blue, of a deep blue. However, during the rainy season the water might be somewhat dirty due to alluvia carried by the Añasco river whose mouth is approximately 3 miles away.

There is a snack bar where sandwiches and soft drinks are sold. About 50 picnic tables are available for the visitors.

The present buildings were built on a temporary basis. New buildings will be built during the next 5 years. There are also plans for the construction of cottages similar to those of Boquerón. Located on 124 acres of land, Tres Hermanos offers tremendous potentials for further development in the future.

3- EL TUQUE

El Tuque is the third well developed water-based recreational area in the Southwestern part of Puerto Rico. It has basically the same physical facilities as Tres Hermanos. However, it is not used intensively.

The under utilization of El Tuque facilities is due possibly to two reasons:

- a) the water is not at all inviting as it has considerable oil in it<sup>10</sup>
- b) there is very little fine sand on shore. One finds there instead, a hard, dry, gravel-like sand.

It seems there is very little that can be done to improve El Tuque as a beach resort.

Some will continue to go there but chiefly just to enjoy the swimming pool. Definitely, El Tuque is a most unpleasant beach. It is a terrible failure as far as stimulating public interest in water based recreation is concerned.

B- Recreational Centers; Semi-Developed

In this group we include water-based recreational areas which do not have all the facilities of Boquerón, Tres Hermanos or El Tuque. However, they are easily accessible by car and offer more facilities than those areas that will be presented in the third group.

We classify in this group Caña Gorda, Guajataca Beach, Guajataca Lake, La Parguera, Rincón and Jobos.





Caña Gorda

Photo No. 7: Caña Gorda, there are picnic tables, but people do not seem too concerned about using them.



Caña Gorda

Photo No. 8: Caña Gorda: Very popular, but littered.



1- CAÑA GORDA

This recreational area is located at about four miles southeast of Guánica. It is a very popular beach in spite of being very dirty. About 500 persons visit Caña Gorda weekly. During the summer it is very common to find about 3000 persons at this beach resort on Saturdays and Sundays.

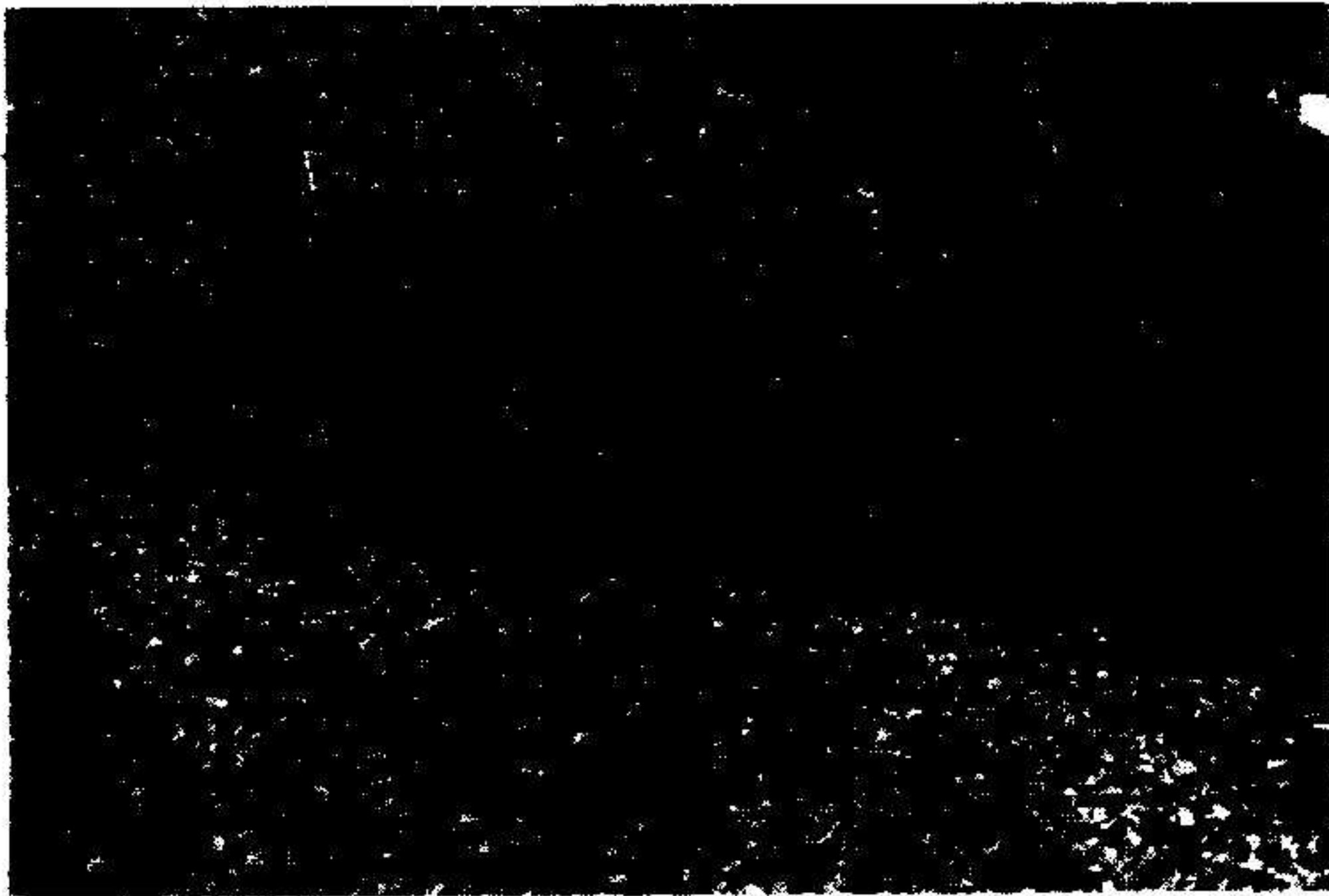
There are inadequate facilities for disposing of trash and people do not seem too concerned about using those available.

Snacks and drinks are sold on the beach site by cart vendors, but usually visitors bring along their own food and drinks.

Toilet facilities and dressing rooms are very poor. It is a matter of public health to improve them as soon as possible.

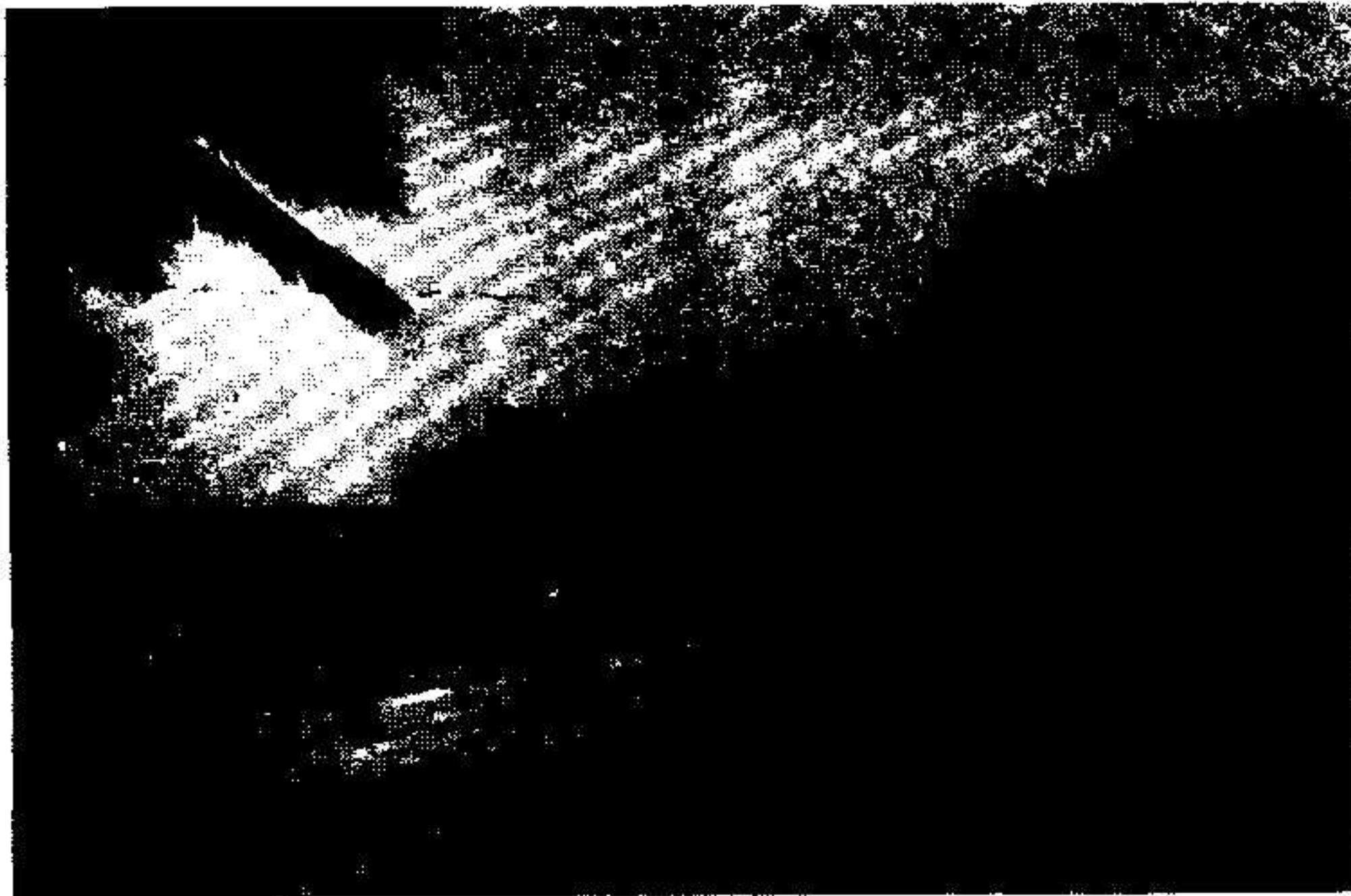
Parking spaces are available only along the public road. On Saturdays and Sundays - mostly during the summer - traffic jams are inevitable for hours. So many people come to Caña Gorda because it is free, the water is excellent and the general setting beautiful. It is a good place to relax. One big problem is the lack of life guards. This makes it very hazardous for children.

In the same area, at about three miles south of Caña Gorda, is a very small and secluded beach: EL TAMARINDO. The water is not the best for swimming because it contains lots of rocks and shells, but the scenery is ideal for couples looking for privacy, since Tamarindo is at one end of the island.



El Tuque

Photo No. 5: a rather scrubby beach, beautiful setting, but poor beach; dirty water, (from Corco) Fairly good facilities of Boquerón, except for cabañas.



Caña Gorda

Photo No. 6: Caña Gorda, a popular beach.



As at Caña Gorda, the dressing rooms and toilets are in a very bad condition. They need immediate improvement. The road to Tamarindo is not very good and parking spaces are very limited.

2- GUAJATACA BEACH

This beach easily accessible by car, is located on highway No. 2 between Isabela and Arecibo. Approximately 500 persons visit this recreational area weekly. They come from neighbouring towns as well as from San Juan. Many tourists come there also because of the scenic view, certainly one of the most beautiful and picturesque in the area. On week-ends many people come here also from different points of the island mostly to dance in the tunnel near the beach.

People can swim but this wonderful blue water is very stormy<sup>11</sup>. It seems that GUAJATACA BEACH is more appropriate for surfing but very few people use it for that purpose.

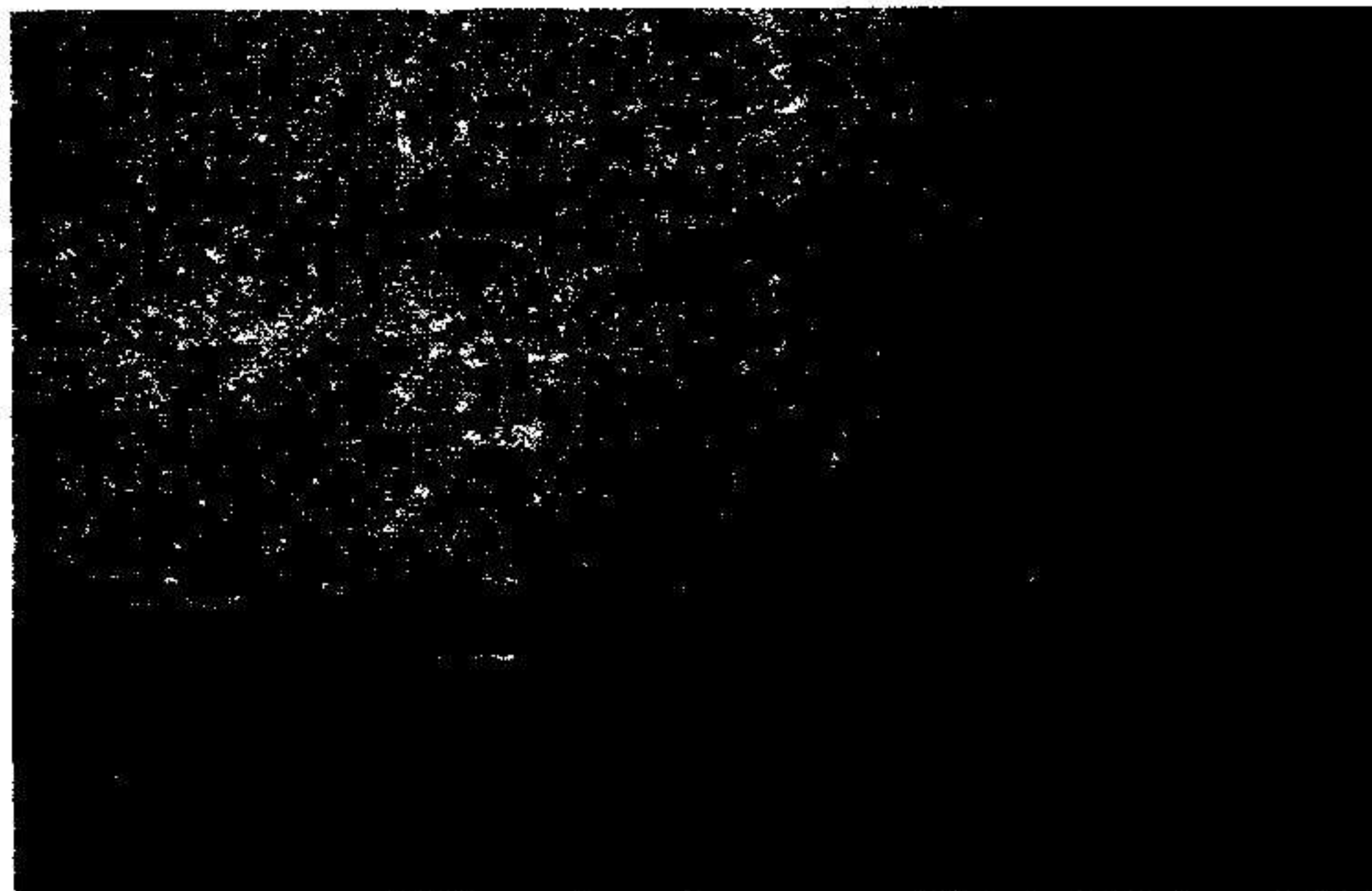
The beach itself is open from 9:00 am to 7:00 pm. The average time spent there by visitor is approximately of three (3) hours.

The entrance to the beach is on a private property<sup>12</sup>, so a charge of 50 cents is asked per car.

There are some very good restaurants and hotels around. Very often entire families will go to Guajataca to spend a week-end.

There are no boat docks, ramps, nor boat rental. Further more there are neither life guards nor camping facilities available.





Tamarindo

Photo No. 9: Tamarindo, at one end of the island.



Balneario Guajataca (El Tunel)

Photo No. 10: Guajataca beach, the water is very stormy.

3- GUAJATACA LAKE

Guajataca lake is a very beautiful resort located between San Sebastian, and Quebradillas. One can reach the lake very easily from road 446 or 476. There is a small cafeteria and some playground facilities provided strictly by private enterprise.

The recreational area is open to the public between 9:00 am and 6:00 pm daily. However, most of the visitors (about 150 weekly) go there on Sundays and holidays. On week days, the place is virtually deserted.

The visitors come primarily from the neighbouring towns and from Ramey Air Force Base. They go to the Lake mostly for picnicing. Some go boating and sailing and there is considerable fishing, both from the shore and from boats. Still fewer go swimming in the lake. This is due to the lack of swimming facilities and risks of bilharzia from the water of the Lake.

The site is very beautiful. Some nice trees provide enough shade for those who do not want sun-bathing. However, there are a lot of mosquitoes late afternoons.

The existing facilities at Guajataca Lake are completely inadequate. There are no life guards, no boat docks, no ramps, no lodging and very poor toilet facilities. Furthermore drinking water cannot be trusted. Road accessibility is very poor and hazardous for those who are not familiar with mountain driving.





Lake Guajataca Head

Photo No. 11: Lake Guajataca is just beautiful.



Lake Guajataca Foot

Photo No. 12: Guajataca Lake, another beautiful view.

4- LA PARGUERA

La Parguera is certainly one of the best known water-based recreational areas in Puerto Rico. It is not only well known in Puerto Rico, but also in the West Indies, North America, South America and even in Europe. Its fame is due to its bioluminescent bays. People come far away to see the marvelous spectacle of phosphorescent flying fish at La Parguera.

Located in the Lajas Valley, 15 minutes from San Germán, where the second international airport will be constructed, La Parguera seems to have a tremendous future. Unfortunately, the place is not yet ready to take full advantage of its great potential. Only one hotel offers good services. A few restaurants serve sea foods at reasonable prices. There are almost no parking places in this one street, fishermen's village.

Presently, people go to La Parguera mostly for sailing, boating and fishing. There are boat renting services, boat docks, ramps and lodging facilities. About 2000 persons visit La Parguera every week.

The Commonwealth government is planning the construction of a hotel of international class in La Parguera. This will certainly increase the attractiveness of this resort that is so neglected and dirty.

5- RINCON

In the Rincón area, there are two water-based recreational places that need to be mentioned; Playa Corcega and Punta Higuera.





Corcega (El Sombrero)

Photo No. 14: Corcega: very little care is taken of this beautiful white sand beach.



La Parguera

Photo No. 13: La Parguera: a place for boating and sailing.

Corcega is located on road 114 between Añasco and Rincón. It used to be a very popular beach in that part of the island. However since the inauguration of Tres Hermanos on November 22, 1969, fewer people go to Corcega. The water at Corcega is excellent and very clean but very little care is taken of this white sand beach. There are some very rudimentary dressing rooms and bathrooms in the only restaurant - night club that is located on the beach.

Punta Higuera is also known internationally because it was the site of an international surfing competition. The place is not inviting to swimming as such, but is excellent for surfing.

The users of Punta Higuera are mostly young people from continental USA and foreigners residing on the island who come to enjoy surfing at a site considered one of the best in Puerto Rico.

The facilities for boarding and lodging are fair, clean and relatively inexpensive.

The approach to Punta Higuera is not easy. Poor road signs may make someone take hours looking for the beach. An average of 200 persons visit this recreational area every week.

A promotional folder of a resort in Punta Higuera describes the region in the following terms:

"Just off the sleepy town of Rincón...  
on a high knoll overlooking lush coconut  
groves, a wide expanse of beach and white-  
capped waves. If you seek the quiet life





Punta Higuera and Rincón

Photo No. 15: Punta Higuera: Not a place for swimming.



Photo No. 16: Buyé, one of the finest beach in South West Puerto Rico.

in an unspoiled setting, this is it...

At Punta Higuera, you swim in sun-warmed crystal waters. Explore miles of adjoining beaches to find secluded coves hidden by bold head lands. You fish, skin dive or just plain laze."

These words describe quite accurately the potential of Punta Higuera, except that surf and rocks might make swimming a bit risking for most people.

#### 6- JOBOS

Located between Isabela and Ramey Air Force, off road 466, Jobos is an open sea beach. The site is lovely and the water excellent for swimming mostly during the summer months. During the winter and spring seasons, the winds blow from the north and the sea become extremely rough and dangerous.

Few bars are located in the vicinity of the beach area, but there are neither life guards nor parking and camping facilities for the average 250 persons who come here every week.

Because of its natural beauty, Jobos, if made easierly accessible by car, can attract a lot more of young people for surfing. The water here is as good for surfing as Punta Higuera.



C- RECREATIONAL CENTERS: UNDERDEVELOPED

The water-based recreational centers in this group differ from those in the previous groups by the fact that man has done almost nothing - except perhaps for EL COMBATE - to change their natural setting to either improve or otherwise transform them. Some of those areas, however, have tremendous potentials and could be made able to easily attract a few hundreds people more, and this at a very reasonable financial cost.

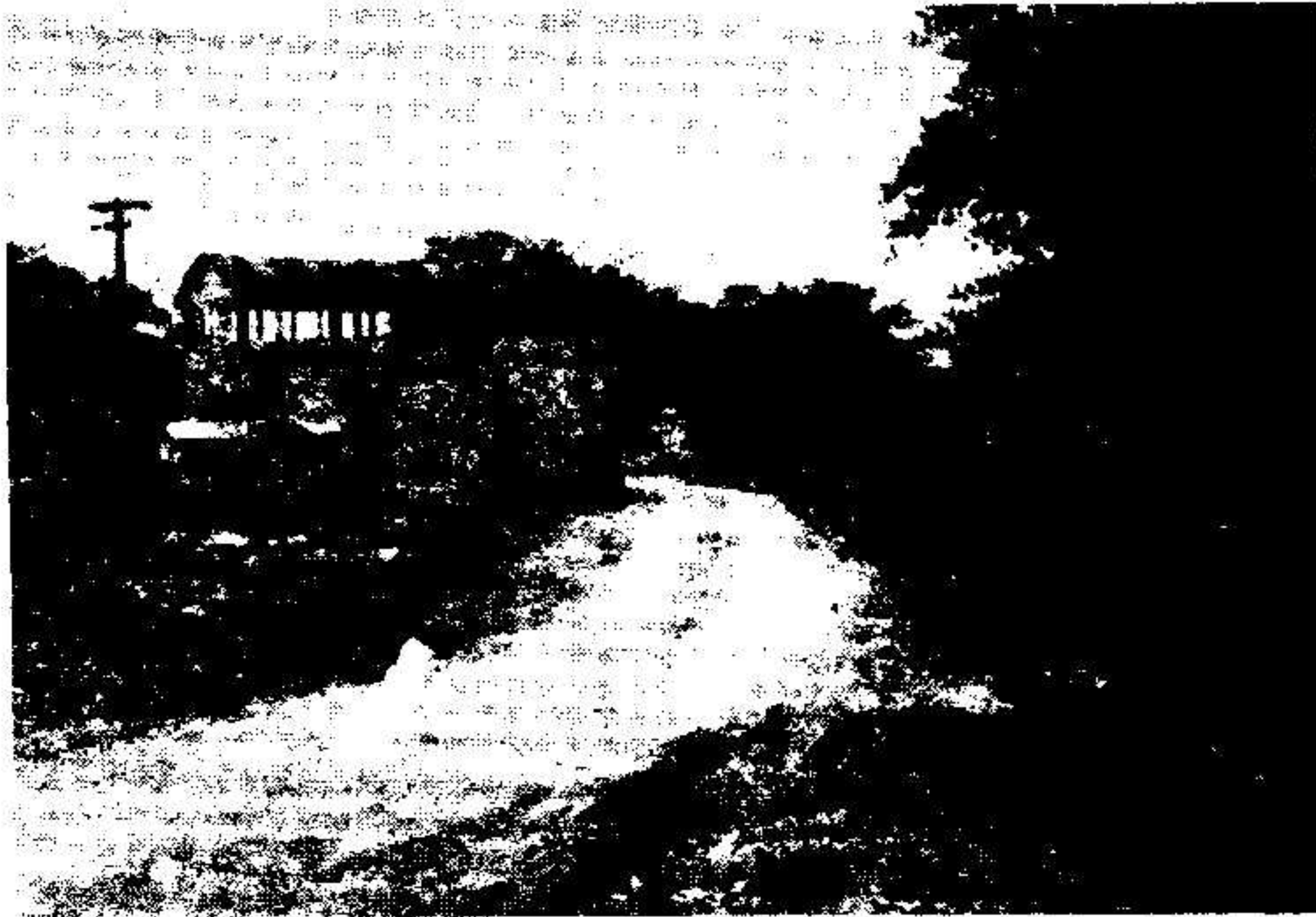
In this group we include in alphabetical order: Buyé, El Combate, El Faro de Cabo Rojo, el Faro de Aguadilla, and Salinas de Ensenada.

1- BUYE

Located between Puerto Real and Boquerón, Buyé is considered, by many connoisseurs, one of the finest beaches in Southwest Puerto Rico with the clearest water and the most enjoyable natural setting.

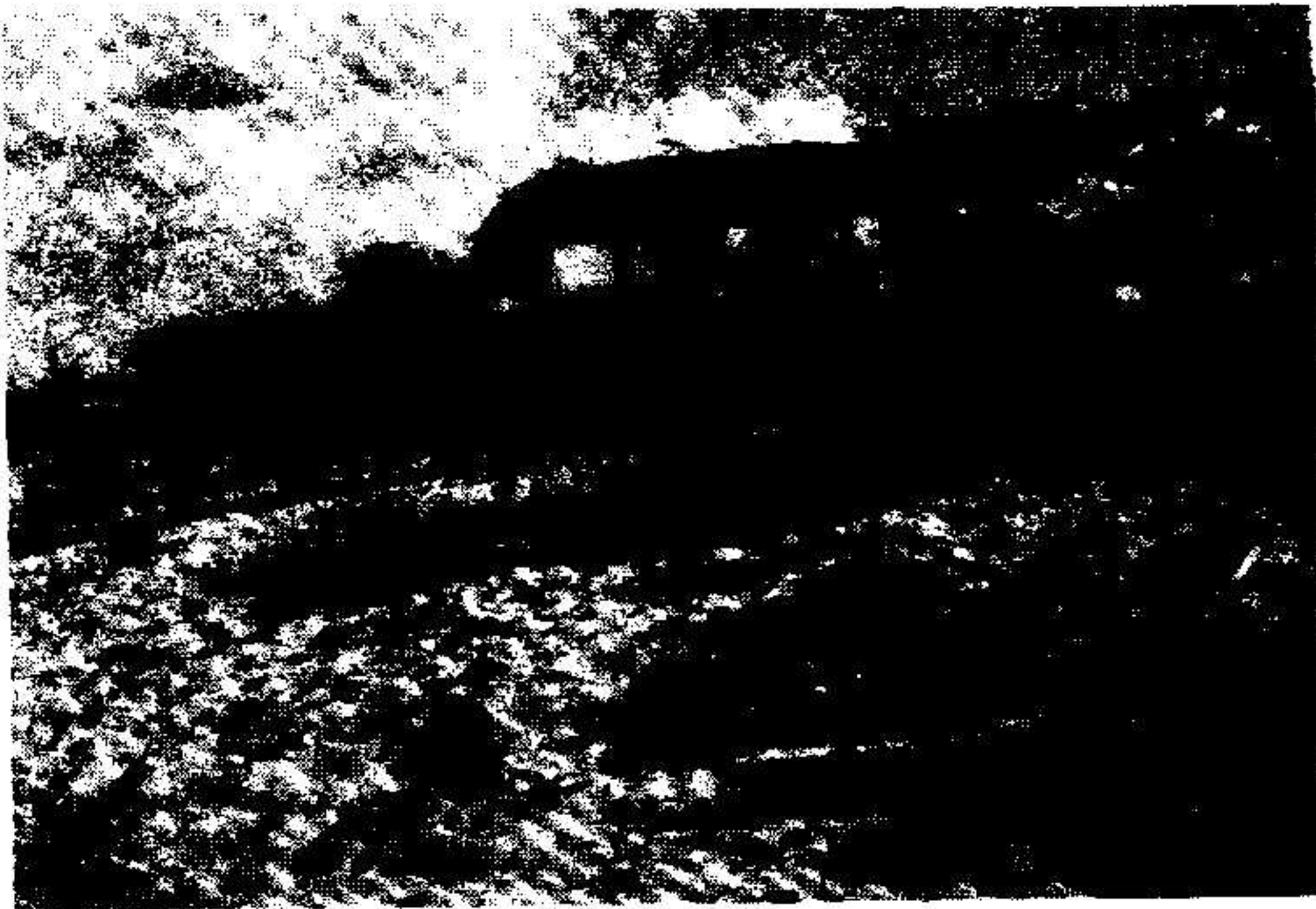
No more than 100 persons visit Buyé per week. This is due mostly to two reasons. One, there is no road sign indicating even the existence of the beach. To go there, one must know the place or someone who knows it must accompany him. Second, the last two miles giving access to Buyé are a road in name only are full of holes, and allow only one vehicle to pass through at a time. When it rains, it becomes almost impossible for a regular car to reach or leave Buyé.

There are no facilities (except private, some illegal, cabañas) at all at Buyé. One goes there only for swimming



El Combate

Photo No. 17: The road to El Combate is impossible.



El Combate

Photo No. 18: No care is taken of El Combate



and must provide for everything he might need at the beach.

2- EL COMBATE

El Combate is certainly the most "developed" water-based recreational area in this group. About 1000 persons visit this beach resort weekly, the larger number of them during the week-ends.

El Combate possesses the largest white sand beach area in Southwest Puerto Rico. If developed, it will, for sure, surpass Boquerón and will certainly attract people from all over the island, mostly with its good potential for camping.

Unfortunately the road to El Combate is extremely poor and the beach area very dirty and the many squatters and litters spoils the beauty of the natural setting. There are no bath-house, picnic tables, trash cans for the disposal of waste.

People go to El Combate for swimming, boating, sailing and fishing. The water itself is very clean and clear.

Located between Boquerón and La Parguera, El Combate is a very lovely setting with beautiful water and fine white sand.

3- EL FARO DE CABO ROJO

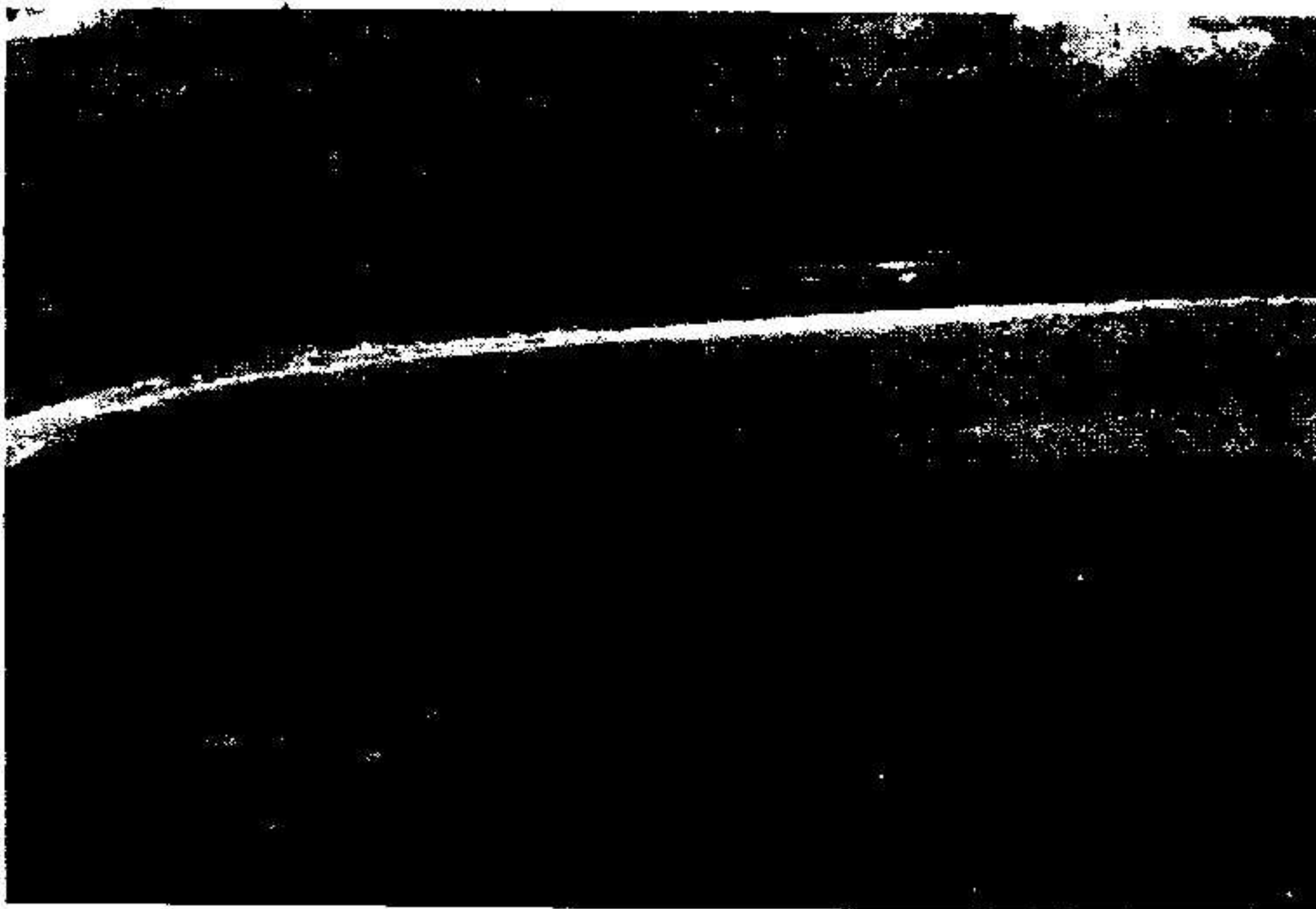
Not too far from El Combate one can discover a tremendous stretch of beautiful white sand, lovely water of indescribable shades. This is El Faro de Cabo Rojo.

This water based recreational area is a very secluded beach difficult to reach by car. It is a refuge for young



El Combate

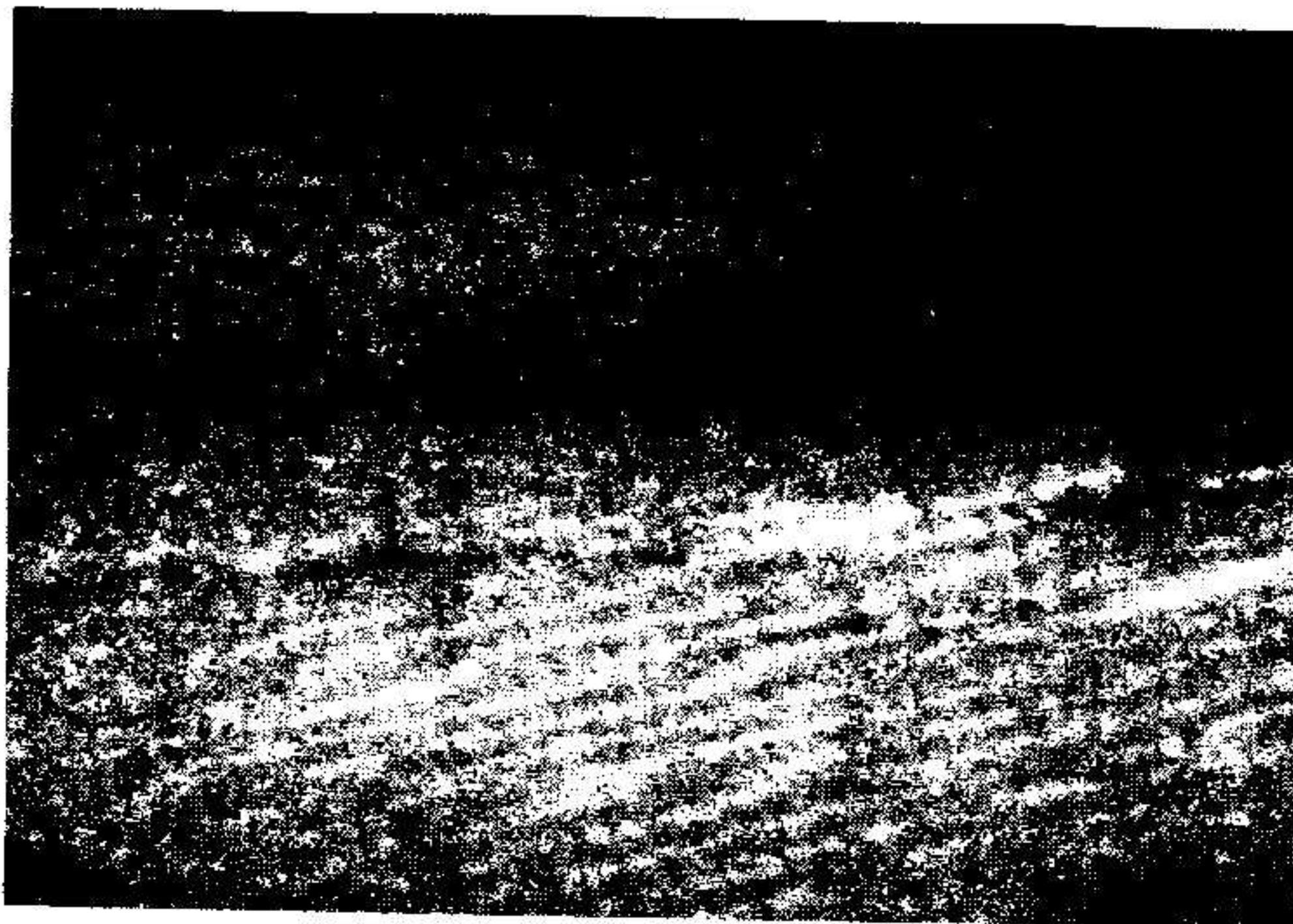
Photo No. 19: El Combate has the largest beach area in South West Puerto Rico.



Cabo Rojo Light House

Photo No. 20: The natural setting of Cabo Rojo Light House beach is extraordinary beautiful





Cabo Rojo Light House

Photo No. 21: At El Faro de Cabo Rojo, the water is of undescriptible shades.



Cabo Rojo Light House

Photo No. 22: The white sand at El Faro (Cabo Rojo) is increasingly getting littered.

couples searching privacy and tranquillity. The water is as good as Bayé. Unfortunately there are no trees on the beach and consequently no shade. It makes it very difficult for persons who cannot spend too much time in the sun to enjoy staying at this beach.

One goes to El Faro (Cabo Rojo) only for swimming and sun bathing. There are no facilities at all, not even a bathroom.

The beach is neglected and the white sand is increasingly littered.

#### 4- EL FARO DE AGUADILLA

This very beautiful beach is located between Aguadilla and Ramey Air Force Base. Until very recently (less than 5 years) this beach was not open to the public. It was a quasimilitary center reserved exclusively to the personnel of Ramey Air Force Base.

Weekly, an average of 200 persons from the neighbouring towns visit this beach resort for swimming. They come here mostly on week-ends and hot sunny days.

The beach itself is beautiful and the natural setting lovely. Unfortunately, there are no life guards, not enough parking spaces, no camping facilities.

#### 5- SALINAS DE ENSENADA

This is the last water-based recreational area included in this group and covered by the study. There are some other small secluded beaches in the Southwestern part of Puerto Rico





Salinas

Photo No. 23: Ensenada

Salinas: beautiful setting, spoiled by litter.



Ensenada

Photo No. 24: Ensenada, the children love

but as they are very difficult or impossible to reach by car, their potential was not considered sufficient, at present, to warrant including them in this study.

About 300 persons go to this beach every week for swimming and boating. Usually most of the visitors are large families with many children.

There are no facilities whatsoever at Salinas de Ensenada: no parking spaces, no picnic tables, no bathrooms, no trash cans.

The water, however, is very nice, very clear and not very salty. It gives almost the same sensation as fresh water.

The general setting is marvellous and sunset at Salinas is a spectacle that one should not miss.

To sum up, Salinas de Enseñada is a small but very beautiful cold beach. Lovely sand, very nice water for swimming, makes it an ideal site except for the litter. In some ways as Professor Gene Erion put it "it is the sort of lovely little beach, that one would wish was not used very intensively. But in its present condition, it is not very inviting even for the few who are enchanted with its setting, the fineness of its sand and the excellent water."<sup>13</sup>

### III- FINDINGS OF THE OPINION RESEARCH SURVEYS

As mentioned above, two series of personal interviews have been completed, sampling recent users of the water-based recreational areas located in Southwest Puerto Rico.





Caña Gorda

Photo No. 25: Pollution is already at Caña Gorda, not too far away from some petroleum refining plants.



El Combate

Photo No. 26: The many squatters at El Combate must be destroyed.

From the computation of the answers to the first series of interviews, it is clear that:

1- Most people go to the beach primarily to swim, to picnic and to relax. Very few go there for sailing and surfing. Surfing is popular only in Rincón, at Punta Higuera.

2- Most people go to the beach only during the week-ends, very few go there during the week days. Whenever they go to the beach, they stay only for a few hours. They stay longer at Boquerón than in any other water-based recreational area.

3- Surprisingly enough, 55.9% of the sample (350 persons including 50 tourists) indicate that they go to the beach all year around and not only during the summer.<sup>14</sup>

4- Boquerón is, by far, the most popular beach in the Southwestern part of Puerto Rico (46.8%), followed by Caña Gorda (16.6%) and El Tuque (7.7%). Among the factors that influence the choice of the users are: natural attractiveness (42.9%); beach facilities i.e., showers, dressing rooms, parking (23.9%); and services i.e., lifeguards, first aid (16.2%).

5- Most people go to the beach in groups of between five and 10 persons and do not usually visit more than one beach a day. Punta Higuera in Rincón, is one of the few beaches where usually people go in group less than five.

6- The largest percentage (47.1%) of those visiting the beaches earn between \$3,000 and \$7,000 per year.





Ensenada

Photo No. 27: It is hard to find a parking place at Salinas de Ensenada.

7- A very large percentage (84.9%) of the persons interviewed indicated their willingness and ability to pay if better services and facilities could be offered on beaches that are not highly developed.

8- Many persons - mostly large families - bring their own food and drinks when they go to the beach, since it is difficult (except for El Tuque, Boquerón and Tres Hermanos) to buy them at reasonable prices at most of the beaches in Southwest Puerto Rico.

9- Most persons spend between \$5 and \$25 (including gas or cost of transportation whatever is the case) for a day on the beach.

10- 44% of those visiting the beaches are between the ages of 20 and 40.

The second serie of interviews was conducted with a revised questionnaire. The comparaisón between the results of the original and those of the revised questionnaire shows that:

1) While the results of the first series of interviews showed that most people went to the beach to swim, to picnic and to relex - not to sail or surfing - the second series of interviews shows that although the interest in swimming is still high, there was some decline in the interest in relaxation and picnicing. There has been an increase in the users' interest in boating, sailing and fishing.

2) The results of the second questionnaire reconfirm that most people go to the beach only during week-ends and holidays. Two clear exceptions to this finding. One is the



case of Boquerón where many tourists, and professors and students from Interamerican University, San Germán Campus, go to the beach on week days. The second exception is the case of EL FARO (Aguadilla) where wives and dependents of military personnel from Ramey Air Force Base do go and enjoy the beach on warm and sunny week days.

3) The first sample indicated that 55.9% of the interviews went to the beach all year around. The second sample reconfirm this point, with 69.3% going to the beach all year around.

4) Boquerón is still the most popular beach in Southwest Puerto Rico (29.9%), but Jobos (10.4%) and Buyé (9.4%) have replaced the previous second and third place holders, (Caña Gorda and El Tuque respectively).

This particular finding is an indication of the reaction of the public to crowded, polluted and dirty beaches. They might prefer to go to a small secluded beach even if the place is difficult to reach.

5) 44.2% of the sample go to the beach in group between 5 and 10 persons.

6) A large percentage of the interviewees (73.8%) are willing to pay for better facilities and services.

7) Most of the interviewees (85.1%) carry their own food and refreshments. The percentage might be reduced by providing more clean food services at the less-developed beaches. Those that have nice cafeterias might sell more food if they feature more Puerto Rican dishes.

CONCLUSIONS AND RECOMMENDATIONS

Taking into consideration the natural beauty of the southwestern part of the island, the variety of beaches found in the region, (quiet and calm beaches on the Caribbean sea side and stormy beaches on the Ocean side) and the relatively limited alternatives for recreation, one may conclude that the demand for water-based recreation is extremely low. Except for Boquerón, Caña Gorda and Tres Hermanos, most of the other beaches in the area are under utilized.

If the Commonwealth government succeeds in its efforts to develop the Southwest region, it is highly probable that the demand for water-based recreation will increase considerably. Then the Government and/or the private sector would have to make an effort to meet this increasing demand.

The factors affecting this demand are the followings:

- 1- Recognition of the need for out-door recreation.
- 2- Willingness and ability to use existing water-based recreational areas.
- 3- The natural beauty and attractiveness of these recreational areas, and their accessibility by car.
- 4- The facilities found in these recreational areas including showers, dressing rooms, picnic tables, trash cans, cafeteria, parking spaces and life-guards for example.
- 5- A promotional effort towards educating the population about the need for recreation in general and



outdoor recreation in particular. Another objective of this promotional effort could be to inform residents of the island and tourists visiting Puerto Rico about the location of the various safe water-based recreational areas.

A policy should be developed towards meeting the demand for water-based recreation. To this end it is strongly recommended that:

- 1- In promoting industrial development in the Southwest, the Commonwealth government should take into consideration the ecology of the region and should not sacrifice environmental consideration for short term (even long term) gains in terms of physical output. One may recall, at this point, that among the industries creating the most pollution are chemicals, primary metals, paper and textiles, food products and petroleum refining.<sup>15</sup>

Because pollution problems will probably increase as the economy grows, it is now that the Commonwealth government must commit itself to evaluate the long-range environmental impact of its plan for development in Southwest Puerto Rico. One should value a liveable environment as much as growth measured in terms of gross product.

- 2- Some existing beautiful beaches such as Buyé, El Combate and El Faro (Cabo Rojo) have tremendous potential and could be made very attractive, at relatively low cost, (to be determined by a

feasibility study) for swimming, picnicing and perhaps camping. At one or more, a heavy investment in a first-class resort type of development might well be warranted in the future.

In any case, at these three beaches just mentioned, it is important and urgent to make the following improvements:

a- building of roads making all three of them more easily accessible by car under all weather conditions.

b- clean all three of them and remove the many squatters existing in El Combate.

c- provide for life guards, dressing rooms and parking spaces for all three.

3- In some of the semi-developed water-based recreational area, there is an immediate need for government action towards providing toilet facilities and life guards. In this group, the case of Caña Gorda must be singled out because of its popularity.

Immediate effort is needed for cleaning the beach area and make sure the visitors will use the garbage disposals. Life guards are urgently needed there.

4- Salinas de Ensenada is too beautiful a setting, has too excellent a water, and too fine a sand not to try to preserve it. This recreational area is declining steadily and rapidly. It needs to be taken care of by fixing a parking area, installing trash cans, cleaning the beach area and perhaps having one life guard because of the large number



of children visiting this beach.

5- More publicity needs to be provided about the water-based recreational resources of the Southwestern region of Puerto Rico. If more people spend their week ends and part of their vacations in the area, this might contribute to the creation of some new jobs in the hotels, restaurants, and filling stations of the region.

FOOT-NOTES

- 1- Leaders from many Caribbean islands have been looking upon Fomento Industrial development program as a model for the development of their own countries.
- 2- Both Operation Bootstrap and Operation Serenity have been proposed and developed by the Popular Democratic Party under the leadership of former governor Luis Muñoz Marín.
- 3- U.S. Outdoor Recreation Resources Review Commission: Outdoor Recreation for America (Washington, U.S. Government Printing Office, January 1962) p. 25 and 179.
- 4- Ibid.
- 5- Although the study deals mostly with continental U.S.A., one can rightly assume that the Puerto Rican people like very much water-based recreation.
- 6- For the purpose of this study, we include the area between Quebradillas and Ponce. In purely geographic terms, it is the West, (Northwest and Southwest) not exclusively the Southwest of the island.
- 7- In 1968-69, 585,000 tourists visited Puerto Rico. It is expected that the figures for the fiscal year 1969-70 will be slightly lower because of rising cost in the tourist industry. However, if it is possible to develop hotel facilities in the Southwestern part of the island that will offer accommodations at lower prices than those in the San Juan area, one can expect new increases in the number of tourists visiting the island.
- 8- There are Boquerón, Tres Hermanos and El Tuque.
- 9- For the Planning Board, the Southwest region is wider than the area covered in this study. The region is subdivided into two subregions: the district of Mayaguez and the district of Ponce.
- 10- Most people believe the oil come from the operations of CORCO, a petroleum refinery that is nearby. This needs to be verified.



- 11- Guajataca beach is located on the ocean side. All the waters on the Ocean side unlike those on the Caribbean sea are very stormy.
- 12- To get to the beach, one must pass on the property of El Tunnel restaurant.
- 13- Dr. Gene Erion is a Professor of Economics at Inter-American University of Puerto Rico, San Germán Campus and a Consultant to this project.
- 14- There is a saying in Puerto Rico that the residents of the island go to the beaches only during the months of May, June, July and August. The rest of the year is considered "winter time" because of the water is too cold or because of jelly fishes that are extremely numerous during those months.
- 15- Harvey Liever: Water Pollution, Current History, July 1970, p. 25.

APPENDIX I



Q E S T I O N N A I R E

**Project:**

**The Demand for Water-Based Recreation in Southwest P.R.**

1- Put the following recreational activities according to your order of preference. It should be the most preferred to the least. Indicate preference in space provided.

- |                                       |                                      |
|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> swimming     | <input type="checkbox"/> sun bathing |
| <input type="checkbox"/> boat sailing | <input type="checkbox"/> boating     |
| <input type="checkbox"/> fishing      | <input type="checkbox"/> skin diving |
| <input type="checkbox"/> surfing      | <input type="checkbox"/> picnicing   |
| <input type="checkbox"/> sightseeing  | <input type="checkbox"/> relaxing    |

2- When do you usually visit the beach?

- week-ends
- holiday
- daily
- on any occasion

3- How long do you stay on the beach?

- few hours
- days
- week-ends
- seasonal

4- When are you interested in going to the beach?

- during the summer
- during the winter
- all year around

5- Which of the following beaches you have visited?

- Boquerón (Cabo Rojo)
- Buyé (Cabo Rojo)
- Caña Gorda (Guánica)
- El Combate (Cabo Rojo)
- El Tamarindo (Guánica)
- El Tuque (Ponce)
- Punta Arenas (Cabo Rojo)

- La Parguera (Lajas)
- Tres Hermanos (Añasco)
- Córcega (Añasco)
- El Faro (Aguadilla)
- Jobos (Isabela)
- Lago de Guajataca
- Salinas (Ensenada)
- Others(specify)

6- Organize the beaches that you have visited according to your order of preference?

- |  |   |
|--|---|
| <input type="checkbox"/> Boquerón          | <input type="checkbox"/> Caña Gorda         |
| <input type="checkbox"/> Buyé              | <input type="checkbox"/> El Combate         |
| <input type="checkbox"/> El Tamarindo      | <input type="checkbox"/> El Tuque           |
| <input type="checkbox"/> Punta Arenas      | <input type="checkbox"/> La Parguera        |
| <input type="checkbox"/> Tres Hermanos     | <input type="checkbox"/> Córcega            |
| <input type="checkbox"/> El Faro           | <input type="checkbox"/> Jobos              |
| <input type="checkbox"/> Lago de Guajataca | <input type="checkbox"/> Salinas (Ensenada) |
| <input type="checkbox"/> Others(specify)   |   |

7- What factors influenced your preference?

- Natural attractiveness
- Accessibility (easy and comfortable to be reached)
- Facilities (showers, dressing rooms, parking, etc.)
- Services (lifeguards, police, etc..)
- Distance
- Others (specify)

8- Where do you presently live?

---

---

9- What means of transportation do you usually use to visit your favorite beach?

- |   |                                     |
|---|-------------------------------------|
| <input type="checkbox"/> private car      | <input type="checkbox"/> public car |
| <input type="checkbox"/> hitch-hiking     | <input type="checkbox"/> bicycles   |
| <input type="checkbox"/> boat             | <input type="checkbox"/> walking    |
| <input type="checkbox"/> others (specify) |                                     |



10- With whom do you usually go to your favorite beach?

- alone  with friends  
 with your family  with friends and family

11- If you usually go in group, what is the size of the group?

- less than five  between five and ten  
 between ten and twenty  more than twenty

12- How large is your group today?

- less than five  between five and ten  
 between ten and twenty  more than twenty

13- Do you usually go to more than one beach during a day?

Yes \_\_\_\_\_

No \_\_\_\_\_

14- Why do you move from one beach to the other?

- too crowded  not crowded enough  
 bothersome (insect)  bad conditions of the beach  
 don't like to be too long in more than one place

15- What is your working status?

- employed  unemployed  
 never worked  retired  
 student

16- What is your occupation?

- employed by a factory  employed in construction  
 employed in agriculture  employed in the government  
 employed in commerce  self-employed  
 others (specify)

- What is your occupational classification?

- professional
- semi-skilled worker
- skilled worker
- unskilled worker

18- Do you have a yearly paid vacation?

- yes
- No

19- What is your yearly income.

- none (not working)
- between \$1000 and \$2999
- between \$5000 and \$7000
- more than \$10,000
- less than \$1,000
- between \$3000 and \$4999
- between \$8000 and \$10000

20- If your favorite beach was to offer better facilities, would you be willing to pay for the services

- Yes
- No
- same as what is paid in other places
- more than what is paid in other places

21- Do you usually carry your own food and drinks to the beach?

- Yes
- No

If the answer is yes. Why?

- It is difficult to get food and drinks at your favorite place.
- Food and drinks could be purchased, but they are very expensive.

22- Are you accustomed to carry your own equipment to the beach (boats, surfing, board, dressing rooms, camera, etc..)

If the Answer is yes. Why?

- they are not available to be rented
- price is very high.
- prefer your own equipment



23- How much does it cost you for a day to the beach?

- |  |   |
|--|---|
| <input type="checkbox"/> nothing                 | <input type="checkbox"/> less than \$1.00       |
| <input type="checkbox"/> from \$1.00 to \$2.00   | <input type="checkbox"/> from \$2.00 to \$3.00  |
| <input type="checkbox"/> from \$3.00 to \$5.00   | <input type="checkbox"/> from \$5.00 to \$10.00 |
| <input type="checkbox"/> from \$10.00 to \$25.00 | <input type="checkbox"/> more than \$25.00      |

24- What is your opinion about this beach.

a- Condition of the beach

excellent       good       regular       poor

b- Condition of dressing rooms. Have \_\_\_\_\_ Have not \_\_\_\_\_

excellent       good       fair       poor

c- Condition of the road

excellent       good       fair       poor

d- Parking places

excellent       good       fair       poor

e- Information and signals

excellent       good       fair       poor

f- Boat docks and ramps

excellent       good       fair       poor

g- Camping facilities (tables, water, cooking facilities)

excellent       good       fair       poor

h- Lifeguards

excellent       good       fair       poor

i- Insects

excellent       good       fair       poor

What is your age?

- less than 15 years
- from 15 to 20 years
- from 20 to 30 years
- from 30 to 40 years
- from 40 to 60 years

What is your sex?

masculine

feminine



**APPENDIX II**

## QUESTIONNAIRE

Project: The Demand for Water Based Recreation in South West Puerto Rico.

- 1- Put the following recreational activities according to your order of preference. It should be the most preferred to the least - up to the first three - (i.e. by using numbers from 1 to 3).

- |                                       |                                      |
|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> swimming     | <input type="checkbox"/> skin diving |
| <input type="checkbox"/> sun bathing  | <input type="checkbox"/> surfing     |
| <input type="checkbox"/> boat sailing | <input type="checkbox"/> picnicing   |
| <input type="checkbox"/> boating      | <input type="checkbox"/> sightseeing |
| <input type="checkbox"/> fishing      | <input type="checkbox"/> relaxing    |

- 2- When are you interested in going to the beach?

- during the summer  
 all year round

- 3- Out of the following beaches you have visited, indicate the ones you prefer the most by using number from 1 to 3.

- |   |  |
|---|--|
| <input type="checkbox"/> Boquerón (Cabo Rojo)     | <input type="checkbox"/> Córcega (Añasco)                  |
| <input type="checkbox"/> Buyé (Cabo Rojo)         | <input type="checkbox"/> El Faro (Aguadilla)               |
| <input type="checkbox"/> Caña Gorda (Guánica)     | <input type="checkbox"/> Jobos (Isabela)                   |
| <input type="checkbox"/> El Combate (Cabo Rojo)   | <input type="checkbox"/> Lago de Guajataca                 |
| <input type="checkbox"/> El Tamarindo (Guánica)   | <input type="checkbox"/> Salinas (Ensenada)                |
| <input type="checkbox"/> El Tuque (Ponce)         | <input type="checkbox"/> Guajataca                         |
| <input type="checkbox"/> Punta Arenas (Cabo Rojo) | <input type="checkbox"/> Joyuda (Cabo Rojo)                |
| <input type="checkbox"/> La Parguera (Lajas)      | <input type="checkbox"/> Cabo Rojo Lighthouse<br>(El Faro) |
| <input type="checkbox"/> Tres Hermanos (Añasco)   | <input type="checkbox"/> Others (specify)                  |

- 4- Out of the factors that have influenced your preference, indicate the important ones by using numbers from 1 to 3.

- Natural attractiveness  
 Accessibility (easy and comfortable to be reached)  
 facilities (showers, dressing rooms, parking, etc.)  
 Services (Lifeguards, police, etc.)  
 Distance  
 Others (specify)



5- In what town do you presently live?

---

---

6- What means of transportation do you usually use to visit your favorite beach?

- |                                       |   |
|---------------------------------------|---|
| <input type="checkbox"/> private car  | <input type="checkbox"/> walking          |
| <input type="checkbox"/> public car   | <input type="checkbox"/> boat             |
| <input type="checkbox"/> hitch-hiking | <input type="checkbox"/> others (specify) |

7- With whom do you usually go to your favorite beach?

- alone
- with friends
- with your family

8- If you usually go in groups, what is the size of the group?

- |   |   |
|---|---|
| <input type="checkbox"/> less than five       | <input type="checkbox"/> between ten and twenty |
| <input type="checkbox"/> between five and ten | <input type="checkbox"/> more than twenty       |

9- What is your working status?

- |                                       |                                    |
|---------------------------------------|------------------------------------|
| <input type="checkbox"/> employed     | <input type="checkbox"/> retired   |
| <input type="checkbox"/> unemployed   | <input type="checkbox"/> student   |
| <input type="checkbox"/> never worked | <input type="checkbox"/> housewife |

10- Do you have a yearly paid vacation?

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

11- If your favorite beach was to offer better facilities, would you be willing to pay for the services.

- |                                    |                             |
|------------------------------------|-----------------------------|
| <input type="checkbox"/> Yes       | <input type="checkbox"/> No |
| <input type="checkbox"/> Undecided |                             |

12- If the previous answer is YES, why?

- same as what is paid in other places.
- more than what is paid in other places.

13- Do you usually carry your own food and drinks to the beach?

Yes

No

14- If the answer is yes. Why?

It is difficult to get food and drinks at your favorite place.

Food and drinks could be purchased, but they are very expensive.

15- Are you accustomed to carry your own equipment to the beach (boats, surfing, board, dressing rooms, camera, etc..)

Yes

No

16- If the answer is yes. Why?

they are not available to be rented.

price is very high.

prefer your own equipment.

17- What is your opinion about this beach?

a- Condition of the Water

\_\_\_\_\_ Clean      \_\_\_\_\_ Dirty      \_\_\_\_\_ Serene      \_\_\_\_\_ Stormy

b- Condition of dressing rooms.

Have

Have not

If they have:

\_\_\_\_\_ Excellent      \_\_\_\_\_ Good      \_\_\_\_\_ Poor

c- Condition of the road.

\_\_\_\_\_ Excellent      \_\_\_\_\_ Good      \_\_\_\_\_ Poor

d- Parking places.

\_\_\_\_\_ Excellent      \_\_\_\_\_ Good      \_\_\_\_\_ Poor



e- Information and signals.

\_\_\_\_ Excellent      \_\_\_\_ Good      \_\_\_\_ Poor

f- Boat docks and ramps.

\_\_\_\_ Excellent      \_\_\_\_ Good      \_\_\_\_ Poor

g- Camping facilities (tables, water, cooking facilities)

\_\_\_\_ Excellent      \_\_\_\_ Good      \_\_\_\_ Poor

h- Lifeguards.

(    ) Have                      (    ) Have not

i- Insects.

(    ) Have                      (    ) Have not

18- What is your age?

- (    ) less than 15 years
- (    ) from 15 to 20 years
- (    ) from 20 to 30 years
- (    ) from 30 to 40 years
- (    ) from 40 to 60 years

19- What is your sex?

\_\_\_\_ Masculine      \_\_\_\_ Feminine

20- Your general evaluation of the beach.

\_\_\_\_ Excellent      \_\_\_\_ Good      \_\_\_\_ Poor