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305(b)/303(d) Integrated Report

Plans and Special Projects Division
Evaluation and Strategic Planning Area
Environmental Quality Board

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EXECUTIVE SUMMARY

The Puerto Rico Environmental Quality Board (PREQB) is the local agency responsible for seeking the attainment of the designated uses established in the Water Quality Standards Regulation for the various water resources and is also responsible for the oversight, maintenance and protection of the quality of these water resources. The designated uses established in the Water Quality Standards Regulation (WQSR) are:

- Primary Contact Recreation
- Secondary Contact Recreation
- Aquatic Life
- Raw Source for Drinking Water

To comply with the requirements established in Section 305(b) of the Clean Water Act (CWA), PREQB performs the required assessment in terms of the current water quality in the different water resources throughout Puerto Rico. This assessment allows us to determine whether or not these resources comply with the applicable water quality standards and achieve the designated uses. This report constitutes the Puerto Rico 305(b)/303(d) Integrated Report for fiscal year 2010.

This report presents the same segmentation system used for inland waters (river basins) in the 2006 and 2008 IR Cycles. This segmentation system reduces the total number of AU reported for inland waters in the 2004 IR from 471 to 201 for the 2006 IR. The reduction in the total number of AU and the actual composition of the AU (sub-watersheds) resulted in a significant increase in the size of each individual AU. For 2008 IR cycle the total number of inland waters AU increased from 201 to 204 due to two AU of San Juan Bay Estuary and one AU of Quebrada Melanía that were inadvertently omitted from 2006 IR cycle. In 2010 there were 204 AU.

The San Juan Bay Estuary System is the only estuary identified as a separate basin due to its complex composition and interrelation of streams, lagoons, channels and closed bay. The reduction in the number of basins corresponds to (1) the inclusion of 5 basins in the overall drainage area of the San Juan Bay Estuary System, and (2) the incorporation of the small riverine portions of Caño Rodriguez and Caño Tiburones into the estuarine portions of the respective water bodies. The 5 basins included in the overall drainage area of the San Juan Bay Estuary System are Caño Martin Peña, Quebrada Juan Mendez, Quebrada San Anton and Río Piedras, Quebrada Blasina.

Moreover, for this cycle is present the new coastal segmentation developed in 2007. The primary objective of the revision for the coastal segmentation is to develop, update and simplify the existing shoreline assessment unit segmentation system. The current coastal segmentation is composed of 149 segments (assessment units) around the island of Puerto Rico alone. In the minor islands Culebra, Vieques and Mona the total of segments is 9. As result, this new segmentation presents a reduced number of Assessment Units (AU) reported in the 2008 IR from 158 segments to 64 segments for 2010 IR. The reduction in the number of AU, size and the

actual composition of the new segmentation resulted in an increase on the size of each AU and a reduction of the total of miles in the coastal shoreline.

Rivers & Streams

The water quality assessment for the 2010 cycle indicates that 2,053.0 of all river and stream miles are impaired and TMDLs would be required to be developed and implemented. The impairment for primary and secondary recreation uses was due to fecal coliforms violations to the standard. For aquatic life and drinking water uses impairment violations to arsenic, turbidity, surfactants, copper and cyanide were the most common causes.

For this cycle EQB requested recent (three years or less) chemical and biological data on water bodies, to determine if this information may useful in the evaluation of corresponding water bodies. Information pertaining to the quality control procedure and protocols that were used to generate the data is also requested along with the submitted data. A summary of the agencies and academic institutions that submitted data is found in Part C 2: Data Solicitation of this document.

Lakes (reservoirs)

During this cycle, a total of 7,288 acres of lakes are considered to be impaired for aquatic life due to the violations of the dissolved oxygen standard as shown by readings taken at the bottom depths of the lakes. A total of 713 acres are impaired for primary recreation due to fecal coliforms violations and 1,713 are impaired for drinking water due to violations of the arsenic parameter.

Coastal Waters

Of the total 546.63 coastal shoreline miles, 72.87 (13.3%) miles supported all designated uses (Category 1). In 252.58 (46.2%) miles of the total there is insufficient data to make attainment determinations for all designated uses (Category 2). In 65.01 (11.9%) miles of the total coastal shoreline there is insufficient data to determine the attainment of any of the designated uses (Category 3) and in 156.17 (28.6%) miles of the total coastal shoreline are considered to be impaired (Category 5). In the coastal shoreline the impairment for the designated use of primary contact recreation was due by violations to the water quality standard of fecal coliforms and enterococcus. In addition, the impairment for the designated use of aquatic life was violations to the water quality standard of dissolved oxygen, turbidity, pH and thermal modifications (temperature).

Estuaries

The assessment of estuaries included in this report corresponds to lower reaches of the rivers near the coastal shoreline as the term estuaries is defined in the Puerto Rico Water Quality Standards Regulation. The exception to this is the San Juan Bay Estuary System, which includes a complex combination of a significantly closed bay (San Juan), three lagoons (San José,

Torrecilla and Piñones), two rivers (Rio Piedras and Rio Puerto Nuevo) as well as various streams and canals, including the Caño Martin Peña and several other minor canals).

Islandwide, there are a total of 5,884.1 acres and 230.2 stream miles that form part of estuaries. Of these, 2,453.8 acres and 122.4 stream miles correspond to the San Juan Bay Estuary System.

For at least one designated use 23.29 acres of estuaries were found to be impaired. The impairment was due violations of the following: arsenic, fecal coliforms and turbidity**.** In the specific case of the San Juan Bay Estuary System, all 2,555.8 acres, 120.7 stream miles show impairment for at least one designated use. Among the most important causes of impairment were: arsenic, fecal coliforms, low dissolved oxygen, surfactants, oil & grease, phosphorous, cyanide, ammonia, pH and turbidity. It should be noted that the phrase "at least one designated use" does not mean that the total acres or stream miles were impaired for the same designated use. The impairment in some cases was for one particular designated use and in other cases impairment was for a different designated use. However, irrespective of the specific designated use affected, impairment was determined.

For those water bodies, which our assessment reflected that the water quality criteria are not being achieved, the PREQB will continue to develop and implement strategies directed towards the restoration of the designated water quality. Among the actions already implemented by the PREQB to address the restoration of the designated water quality in streams, lakes and coastal waters are the following:

- Implementation of the Watersheds Restoration Action Plan
- Development of Total Maximum Daily Loads in the Impaired Basins

In developing Section 303(d) lists, PREQB is required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information for which water quality problems have been reported by governmental agencies, members of the public or academic institutions. For the 2010 cycle PREQB requested recent (three years or less) chemical and biological data on water bodies along with information pertaining to the quality control procedure and protocols that were used to generate the data.

To achieve the restoration and preservation of the designated water quality in our streams, lakes and coastal shorelines will require the coordinated effort of various government agencies, private enterprise and concerned citizen groups as well as outreach and educational programs, both in communities and through the public media. We recognize this to be a difficult, lengthy and slow process, especially when there are competing issues with respect to the same available resource. However, we are committed to the restoration of our water resources.

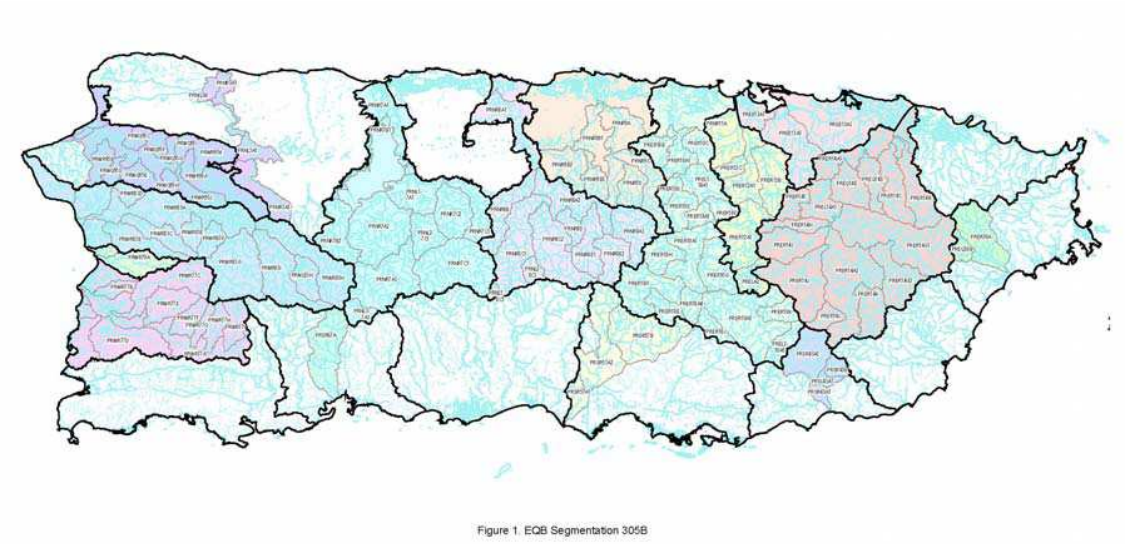
PART A. Background

Total Waters

Waters is the most important resource in the universe and the most essential liquid for all forms of life, nevertheless the most threatened, too. This invaluable resource is threatened by different sources of pollution; which affect the quantity and quality of the water, and therefore the basic and multiple needs associate with it. Consequently people, communities, agencies, NGO's have to work together in order to maintain the integrity and quality of the resource.

In PREQB is one of the agencies involved in preserve, maintain and enhance the island waters quality; among others responsibilities. EQB groups all the basins in four hydrographic regions, in which the different watersheds are included: to the north (9 watersheds), east (28 watersheds), and south (33 watersheds), and west (26 watersheds). (Figure 1)

Figure 1: Watersheds in Puerto Rico



The reservoirs in Puerto Rico, constructed in the main rivers basins in order to store water for domestic and industrial consumption, irrigation, production of electrical power and control of floods, also provide an additional benefit, recreation. (Figure 2). The recreational activity that is realized in these includes direct contact (swimming) as indirect contact (recreational fishing and strolls in boat).

Figure 2: Reservoirs in Puerto Rico

The coastal shoreline, presents a great variety of geologic aspects such as: cliffs, dunes, beaches, wooded hills, sinkhole, forests, lagoons, mangrove, salt mines, earth flooding, bays, small barren islands and keys, which altogether give the characteristics and specific form to the archipelago. The coastal zone is one of the areas of greater tourist-recreational value and the areas bordering to the coasts constitute very active zones of economic and social development, where it undergoes a fast growth of population and an active commercial and industrial growth.

Table 1 shows total waters for Puerto Rico.

Table 1: Total Waters for Puerto Rico

WATERS	VALUE
Total Miles of Rivers and Streams	5,045.4*
Number of Reservoirs	19
Acres of Reservoirs	7,323
Acres of Estuaries	3,430.3**
Miles of Coastal Waters	546.63

* Not included: 7.4 miles for the Río Arroyo Cajul
**Not included: 2,453.8 acres for the San Juan Bay Estuary.

Water Pollution Control Program

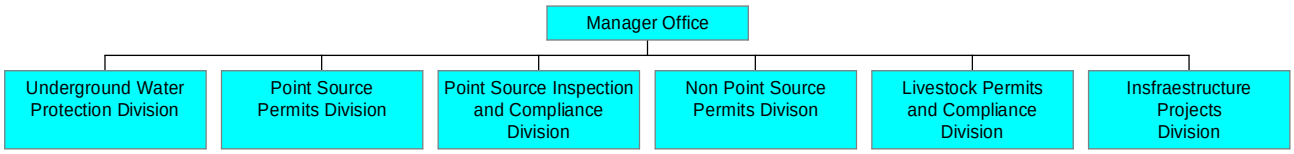
Since 2006, PREQB begins a reorganization of the agency's programs in order to improve its operational organization, therefore, more effective implementation of the various permits issuance and compliance programs. EQB expects that this change will allow meeting in the following goals:

- Expiate the issuance of permit
- Improve the surveillance to assure compliance with permits, regulations and laws; and;
- Modernization of the operations concerning the management of the different permits review and issuance procedures.

According to the new organization, personnel were transferred to different Divisions or Areas.

The ***Water Quality Area (WQA)*** is one of the main areas that compose the operational organizational structure of EQB affected by the reorganization. After the reorganization process the WQA was simplified with the following structure:

Figure 3: Water Quality Area Organization Chart



As part of their functions is, protect, improve and maintain the quality of the water bodies, in order to attain the propagation and preservation of desirable species.

EQB maintains close coordination with federal and state agencies in order to fulfill these functions in an effective way. Also, develops regulations and it carries out action to assure the fulfillment with the effective regulation. Between these there are the developments of activities where the methods of final disposition of wastewaters and wastes generated by industrial and agricultural activities are controlled.

Following an overview of the Water Quality Area Divisions: (Figure 3).

The *Underground Water Protection Division* was created to regulated/control the facilities with underground storage tanks (UST) and/or with underground injection systems (UIS) and responds to the problematic of escapes that could be affecting the underground water resource. In order to control these types of systems permits and authorizations are issued, sampling monitoring reports are evaluated and remedial plans are required to those where the bad operation of the systems has caused spills to the water or to the subsoil. The Environmental Protection Agency (EPA) thru a memorandum of understanding with EQB delegated the pursuit of both types of systems (UST and UIS) to EQB.

The *Point Permit Division* regulates wastewater treatment systems that do not have direct discharges to surface and coastal waters. The discharge of pollutants to surface and coastal waters are regulated by the National Discharge Elimination System (NPDES) under Section 402 of the Federal Clean Water Act (the Act). This is a program administered by the EPA. Section 401 of the Act, as amended requires EPA that prior to issuing a discharge permit under NPDES a Water Quality Certificate must be obtained from state agency with jurisdiction over water pollution control. In Puerto Rico such responsibility is also, on EQB specifically to the *Point Source Permits Division*.

The *Point Source Inspection and Compliance Division* performs inspections to industries, laboratories, water treatment plants, wastewater treatment plants, facilities with underground storage tanks, and other point sources to determine compliance with the applicable states and federal rules and regulations.

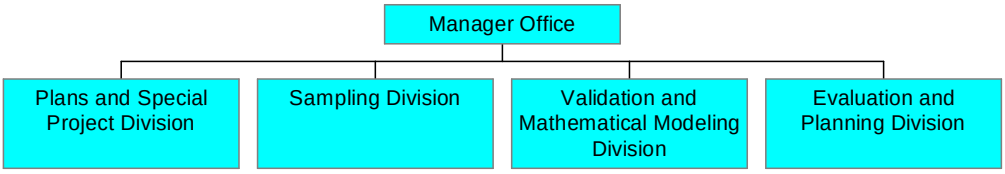
However, the *Non Point Source Permit Division* implements and manages the Erosion Control and Sedimentation Prevention Regulation, which performs enforcement actions to the facilities regulated under the General Permit. This permit is a new one that became effective on 2007. The aforementioned division is responsible to perform inspections to all the projects that will be presented in order to take corrective action or legal action promptly. This permit change the business process related to issuance of permits an increase protection of our environment.

The *Infrastructure Projects Division* has the responsibility of manage the federal funds assign by EPA through the State Revolving Fund program. Also assess the planning, design and construction phases of each project in order to verify compliance with Title IV of the Act.

The *Livestock Permit and Compliance Division* performs inspections, evaluates and approves the Animal Waste Management Plans that submit livestock enterprises such as: dairy facilities, poultry facilities, horse farms, among others. From its beginnings the Division does not have a regulation where the procedures, requirements and prohibitions with respect to the design, implementation, operation and maintenance of the Animal Waste Management Plan for each facility where animal in confinement stay. The animal waste generated by the livestock enterprises are classified as non-hazardous solids waste, according to the "Reglamento para el manejo de Desperdicios Sólidos No Peligrosos" of EQB. During this cycle EQB is working in order to adopt the "Reglamento para el Control de los Desperdicios Fecales de Animales en Confinamiento".

The ***Evaluation and Strategic Planning Area (ESPA)*** was created as a result of the reorganization process (Figure 4). The ESPA has as the main management determines environmental objectives analyze possible alternatives and propose the public policy that should be adopted to comply with those objectives, and a predetermined term so they are possible to be transformed based on the strategically plans that lead to a better environment.

Figure 4: Evaluation and Strategic Planning Area Organization Chart



Plans and Special Project Division manages and evaluates the monitored water quality data to determine if the desirable water quality in the different hydric resources from the country is achieved. Also, verifies the effectiveness of the management and control programs implemented and develops the strategies for the improvements of the water quality, as required by the Federal Clean Water Act and the Water Quality Standard Regulation. Those strategies include the Total Maximum Daily Loads (TMDL) for the waterbodies impaired in Puerto Rico. A TMDL specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and allocates pollutant loadings among point and nonpoint pollutant sources. By law, EPA must approve or disapprove lists and TMDLs established by states, territories, and authorized tribes. If a state, territory, or authorized tribe submission is inadequate, EPA must establish the list or the TMDL.

The *Sampling Division* as part of their responsibilities has to perform the sampling of the surface, coastal, underground waters, lakes and sampling projects in some watersheds in Puerto Rico.

The main function of the *Validation and Mathematical Modeling Division* consists of promoting the collection, validation, transference and environmental information analysis using the technology that guarantees optimum quality for the benefit and protection of the human health and the environment. In addition, to evaluate the impact of atmospherics pollutants on our atmosphere and the health of our people, task that is vital to alert on the pollution levels that they can represent a threat to the public health. The Air Quality Index is informing in accordance to the 40 Code of Federal Regulations Part 58.50 Appendix G and Rule 107 of the Regulation for the Atmospheric Control of EQB. The Validation and Mathematical modeling Division has the responsibility of get the necessary information, perform the corresponding calculation of the Index, and notify to the general public thru the different communications medias.

The *Evaluation and Planning Division* by means of the compilation, organization and information processing is in charge to recommend public policy to facilitate the decision-making that provides total or partial solution to problems defined by specific environmental needs. Also, is responsibly to verify that the environmental components that are studied are the related ones to the analyzed problem, and that the bonds of the function analyzed with other functions are known by the person in charge in the decision making.

The following tables show a summary of Actions Initiated by Point and Non-Point Source Control Units

Table 2: Actions Initiated Point Sources Control Units

	NPDES Facilities	Non- NPDES Facilities	UST	UIC	Non-Filer (Illegal Discharges)
Certificates or permits Issued	53	111	81	144	N/A
Total number of inspections	293	N/A	741	62	187
Referrals to Legal Affairs	0	N/A	35	1	22

Table 3: Actions Initiated Non-Point Sources Control Units

	SEC Activities	Livestock enterprises
Certificates or permits Issued	1156	245
Total number of inspections	723	964
Referrals to Legal Affairs	77	22

Cost/Benefit Assessment

Accurate costs associated with water quality improvements in Puerto Rico are not readily available. This type of assessment would require diverse data on government and private expenditures concerning multiple aspects of direct environmental improvement efforts, including installation of treatment methods, changes and improvements in treatment levels, technologies and methods, installation and improvements of sewerage and storm water sewer systems, development and implementation costs of best management practices, as well as urban, rural and industrial development improvements. Other necessary information would include increased use and/or demand of the improved environmental resource as well as the monitoring and assessment efforts and activities performed to measure the improvements or lack of improvements achieved in a given basin or regional area.

Although this information is not readily available, we do provide some of the costs involved in efforts pertaining to water quality improvement and protection. These costs are only those incurred directly by PREQB utilizing state and federal funds to operate and manage water quality planning and control programs. Other costs such as sanitary infrastructure improvements, governmental and private sector expenditures on waste and storm water management and control programs, recreational benefits (including tourism promotional activities and costs), governmental and private expenditures to promote natural resources protection, preservation and enjoyment are not being considered.

The table below provides the major costs incurred with federal and state funds to operate environmental protection and planning activities in the Water Quality Area and Evaluation and Strategic Planning Area of PREQB.

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	Performance Partnership Grant (PPG)				Beach Monitoring and Notification Program (BEACH)				LUST				Water Quality Management Program (604B)				State Revolving Fund (SRF)	
	`2008		2009		2008		2009		2008		2009		2008		2009		2008 & 2009	
	Federal	State	Federal	State	Federal	State	Federal	State	Federal	State	Federal	State	Federal	State	Federal	State	Federal	State
Salaries	2,619,267	807,299	1,900,851	581,359	96,236	-	143,881	-	226,884	25,209	221,030	24,559	50,750		39,031	-		
Fringe Benefits	751,061	231,489	601,474	183,956	27,710	-	43,580	-	69,085	7,676	72,581	8,065	13,614		12,090	-		
Travel	71,915	22,165	60,000	18,350	26,000	-	20,400	-	4,120	458	4,540	504	3,000		3,000	-		
Contractual	125,816	38,778	111,808	34,196	-	-	-	-	-	-	-	-	-		-	-		
Construction	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-
Equipment	9,695	2,988	17,344	5,305	4,040	-	-	-	-	-	-	-	-		-	-		
Sampling Supplies	21,533	6,637	8,000	2,447	-	-	2,000	-	-	-	-	-	-		-	-	-	-
Field Supplies	-	-	8,000	2,447	6,000	-	5,000	-	-	-	-	-	-		-	-		
Laboratory Supplies	-	-	8,000	2,447	20,000	-	20,000	-	-	-	-	-	-		-	-	-	-
Office Supplies	-	-	20,000	6,117	4,875	-	4,755	-	771	86	3,300	367	1,692		2,293	-		
Other	30,454	9,386	45,914	14,042	113,665	-	41,875	-	-	-	-	-	56,786		46,147	-	18,340,841	3,668,168
Sub-Total	$3,629,741	$1,118,743	$2,781,391	$ 850,666	$ 298,526	$ -	$ 281,491	$ -	$ 300,860	$ 33,429	$ 301,451	$ 33,495	$ 125,842	$ -	$ 102,561	$ -	$ 8,340,841	$3,668,168

	Sub-Total by Year			
	2008		2009	
	Federal	State	Federal	State
PPG	3,629,741	1,118,743	2,781,391	850,666
BEACH	298,526	-	281,491	-
LUST	300,860	33,429	301,451	33,495
604B	125,842	-	102,561	-
SRF	-	-	18,340,841	3,668,168
	$4,354,969	$2,815,172	$ 21,807,735	$6,948,329

TOTAL

2008/2009	
Federal	State
281,491	-
26,162,704	9,763,501
$26,444,195	$9,763,501

$ 36,207,696

Special State Concerns and Recommendations

[RESERVED]

PART B. Assessment Methodology and Assessment Results

Assessment Methodology Used for 305(b)/303(d) Integrated Report for 2010 Cycle

The assessment methodology used in the present cycle of the Integrated Report 305(b)/303(d) is the same used since the 2006 Cycle Integrated Report. In the following section you will find the explanation of the segmentation criteria and assessment units to be utilized during the 2010 Cycle Integrated Report. In addition, we provide pertinent information concerning the new segmentation and assessment units of the coastal shoreline developed as part of Water Monitoring Strategy. This segmentation is being used in the 2010 IR for the first time.

Segmentation Criteria and Assessment Units for Inland Waters

Segmentation Criteria

This report presents the same segmentation system used for inland waters (river basins) in the 2006 and 2008 IR Cycles.

This segmentation system reduces the total number of AU reported for inland waters in the 2004 IR from 471 to 201 for the 2006 IR. The reduction in the total number of AU and the actual composition of the AU (sub-watersheds) resulted in a significant increase in the size of each individual AU. For 2008 IR cycle the total number of inland waters AU increased from 201 to 204 due to two AU of San Juan Bay Estuary and one AU of Quebrada Melanía that were inadvertently omitted from 2006 IR cycle. In 2010 there were 204 AU.

Each AU generally consists of one of the following:

- A section of the main basin, with the corresponding minor first order tributaries.
- Sub-basin represented by major first order tributary (a river or stream that flows directly into main basin), second order tributary (a river or stream that flows into a first order tributary, and in some cases, third order tributary (a river or stream that flows into a second order tributary).
- In cases where either the main basin or any major tributary includes a lake (reservoir), the lake constitutes another AU. The AU defined by the lake includes the lake (from the dam up to the highest reach that defines the lake) and all the immediate minor tributaries that discharge directly to the lake. This new AU for lakes results in a decrease in stream miles and an increase in lake surface area.

There are 96 basins, including the San Juan Bay Estuary System. This is the only estuary identified as a separate basin due to its complex composition and interrelation of streams, lagoons, channels and closed bay. The composition of the San Juan Bay Estuary System presented here is the same as that defined in the CCMP Final Document developed for this estuary.

The Table 4 below provides basic information pertaining to the 96 basins that compose the current inland waters segmentation system.

Table 4: Basins for the Inland Waters Segmentation System

BASIN NAME	BASIN ID	BASIN SEQUENCE	BASIN SIZE (Miles)	REGION	SUB-BASINS
Total					
QUEBRADA DE LOS CEDROS	PRNQ1A	01	12.0	N	1
QUEBRADA DEL TORO	PRNQ2A	02	1.0	N	1
RIO GUAJATACA*	PRNR3A	03	38.0	N	4
QUEBRADA BELLACA	PRNQ4A	04	1.7	N	1
RIO CAMUY	PRNR5A	05	48.6	N	1
QUEBRADA SECA	PRNQ6A	06	2.0	N	1
RIO GRANDE DE ARECIBO*	PRNR7A	07	424.6	N	11
RIO GRANDE DE MANATI*	PRNR8A	08	234.6	N	11
RIO CIBUCO*	PRNR9A	09	144.6	N	6
RIO LA PLATA*	PRER10A	10	470.1	E	18
RIO HONDO	PRER11A	11	22.0	E	1
RIO BAYAMON*	PRER12A	12	185.0	E	5
SAN JUAN BAY ESTUARY SYSTEM*	PREE13A	13	**	E	3
RIO GRANDE DE LOIZA*	PRER14A	14	554.3	E	15
RIO HERRERA	PRER15A	15	17.0	E	1
RIO ESPIRITU SANTO*	PRER16A	16	58.4	E	1
RIO MAMEYES	PRER17A	17	38.9	E	1
QUEBRADA MATA DE PLATANO	PREQ18A	18	4.0	E	1
RIO SABANA	PRER19A	19	33.1	E	1
RIO JUAN MARTIN	PRER20A	20	7.8	E	1
QUEBRADA FAJARDO*	PREQ21A	21	10.0	E	1
RIO FAJARDO	PRER22A	22	59.0	E	1
RIO DEMAJAGUA	PRER23A	23	2.8	E	1
QUEBRADA CEIBA	PREQ24A	24	5.0	E	1
QUEBRADA AGUAS CLARAS	PREQ25A	25	4.8	E	1
RIO DAGUAO	PRER26A	26	13.8	E	1
QUEBRADA PALMA	PREQ27A	27	11.8	E	1
QUEBRADA BOTIJAS	PREQ28A	28	7.4	E	1
RIO SANTIAGO	PRER29A	29	15.3	E	1
RIO BLANCO	PRER30A	30	58.4	E	2
RIO ANTON RUIZ	PRER31A	31	20.4	E	1
QUEBRADA FRONTERA	PREQ32A	32	8.5	E	1
RIO HUMACAO*	PRER33A	33	55.8	E	1
RIO CANDELERO	PRER34A	34	10.4	E	1
RIO GUAYANES*	PRER35A	35	94.6	E	1
QUEBRADA EMAJAGUA	PREQ36A	36	2.5	E	1
RIO MAUNABO*	PRER37A	37	36.0	E	1
QUEBRADA MANGLILLO	PRSQ38A	38	1.0	S	1
QUEBRADA FLORIDA	PRSQ39A	39	3.0	S	1
RIO JACABOA	PRSR40A	40	13.0	S	1
QUEBRADA PALENQUE	PRSQ41A	41	1.0	S	1
RIO CHICO	PRSR42A	42	14.6	S	1
RIO GRANDE DE PATILLAS*	PRSR43A	43	48.6	S	4
QUEBRADA YAUREL	PRSQ44A	44	6.0	S	1
RIO NIGUAS – ARROYO	PRSR45A	45	21.0	S	1
QUEBRADA SALADA	PRSQ46A	46	1.7	S	1

BASIN NAME	BASIN ID	BASIN SEQUENCE	BASIN SIZE (Miles)	REGION	SUB-BASINS
Total					
QUEBRADA CORAZON	PRSQ47A	47	9.7	S	1
QUEBRADA BRANDERI	PRSQ48A	48	4.5	S	1
RIO GUAMANI	PRSR49A	49	22.0	S	1
QUEBRADA MELANIA	PRSQ50A	50	7.0	S	2
RIO SECO	PRSR51A	51	24.7	S	1
QUEBRADA AMOROS	PRSQ52A	52	0.7	S	1
QUEBRADA AGUAS VERDES	PRSQ53A	53	15.0	S	1
RIO NIGUAS – SALINAS	PRSR54A	54	102.5	S	1
RIO JUEYES	PRSR55A	55	11.0	S	1
RIO CAYURES	PRSR56A	56	5.0	S	1
RIO COAMO*	PRSR57A	57	115.7	S	3
RIO DESCALABRADO	PRSR58A	58	18.8	S	1
RIO CAÑAS	PRSR59A	59	8.0	S	1
RIO JACAGUAS	PRSR60A	60	89.5	S	4
RIO INABON	PRSR61A	61	66.7	S	1
RIO BUCANA – CERRILLOS*	PRSR62A	62	60.4	S	3
RIO PORTUGUES*	PRSR63A	63	54	S	1
RIO MATILDE - PASTILLO	PRSR64A	64	51.2	S	1
RIO TALLABOA	PRSR65A	65	59.6	S	1
RIO MACANA	PRSR66A	66	21.7	S	1
RIO GUAYANILLA*	PRSR67A	67	60.0	S	1
RIO YAUCO	PRSR68A	68	93.7	S	3
RIO LOCO	PRSR69A	69	113.4	S	3
RIO ARROYO CAJUL	PRSR70A	70	7.4	S	1
QUEBRADA BOQUERON	PRWQ71A	71	11.7	W	1
QUEBRADA ZUMBON	PRWQ72A	72	1.7	W	1
QUEBRADA GONZALEZ	PRWQ73A	73	1.8	W	1
QUEBRADA LOS PAJARITOS	PRWQ74A	74	2.7	W	1
CAÑO CONDE AVILA	PRWK75A	75	4.0	W	1
QUEBRADA IRIZARRY	PRWQ76A	76	2.0	W	1
RIO GUANAJIBO*	PRWR77A	77	324.6	W	9
CANO MERLE	PRWK78A	78	11.1	W	1
RIO YAGUEZ*	PRWR79A	79	42.2	W	1
QUEBRADA DEL ORO	PRWQ80A	80	10.0	W	1
CAÑO MANI	PRWK81A	81	3.0	W	1
CAÑO BOQUILLA	PRWK82A	82	12.3	W	1
RIO GRANDE DE AÑASCO*	PRWR83A	83	488.6	W	10
QUEBRADA JUSTO	PRWQ84A	84	1.0	W	1
QUEBRADA ICACOS	PRWQ85A	85	1.4	W	1
QUEBRADA CAGUABO	PRWQ86A	86	1.0	W	1
CAÑO GARCIA	PRWK87A	87	2.0	W	1
QUEBRADA GRANDE DE CALVACHE	PRWQ88A	88	14.8	W	1
QUEBRADA LOS RAMOS	PRWQ89A	89	6.9	W	1
QUEBRADA PUNTA ENSENADA	PRWQ90A	90	5.0	W	1
QUEBRADA PILETAS	PRWQ91A	91	2.0	W	1
RIO GRANDE	PRWR92A	92	21.8	W	1
CAÑO DE SANTI PONCE	PRWK93A	93	4.8	W	1
RIO GUAYABO	PRWR94A	94	43.1	W	1
RIO CULEBRINAS*	PRWR95A	95	308.8	W	11

BASIN NAME	BASIN ID	BASIN SEQUENCE	BASIN SIZE (Miles)	REGION	SUB-BASINS
Total					
CAÑO CORAZONES	PRWK96A	96	1.3	W	1

*Basins with monitoring stations

** The San Juan Bay Estuary System increased in size because it receives the total miles of five streams basins that contribute to the total drainage area of the estuary system. These water bodies were previously considered as separate basins.

Twenty-two (22) of the 96 basins are monitored routinely. These 22 basins form part of the permanent stream water quality network. For purposes of water quality assessment and planning, PREQB continues to group all the basins into four (4) geographic regions (Table 5). The table 5 below presents geographic regions with corresponding number of basins and basins part of the monitoring network. All of the assessment units that compose the 96 basins are classified using the attainment categories Category 1, 2, 3, 4a, 4b, 4c, and 5.

Table 5: Geographic Regions

REGION	ASSESSMENT UNITS	BASINS IN PERMANENT STREAM WATER QUALITY NETWORK	ASSESSMENT UNITS BY EXTERNAL DATA
North	9	4	16
South	33	5	22
East	28*	9	6
West	26	4	7

*Included the San Juan Bay Estuary System

For assessment units with monitoring stations, the water quality assessment made with the data generated at each station is considered to be indicative of the water quality upstream along the whole AU until it reaches another AU. For unmonitored AU, supplementary information, such as: NPDES compliance evaluation inspections, operation and maintenance inspections, pump station by-passes and sanitary sewer system overflow incidents for a period of two years, implementation of BMPs by non-point sources, fish-kills or spill events, that make possible identified potential pollution sources.

Assessment Unit for Inland Waters

At the moment, the PREQB uses the river basins system for planning activities and implementation of restoration efforts. In order to achieve these efforts in a more effective manner, we have replaced the old system based on the segmentation of small portions of rivers and individual creeks by basin segmentation system that has been implemented since the 2006 reporting cycle (See Figure 5). The non contributions basins are those areas, contribute to the coastal shoreline instead of the inland waters. Under this system, each main river basin it is divided in assessment units that consist of complete sub-basins. The smaller river basins have been maintained as a single assessment unit or, at the most, it may be segmented in two assessment units.

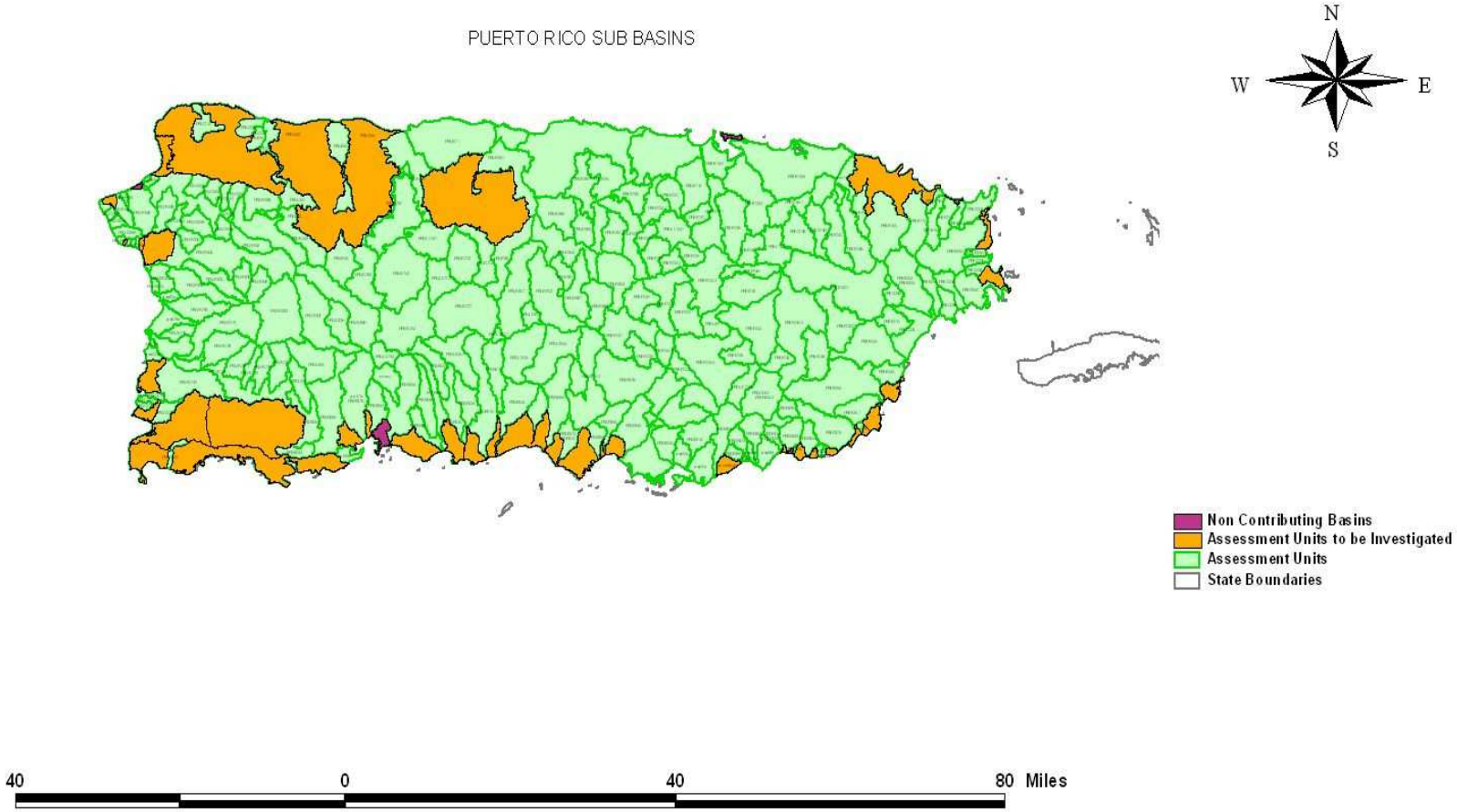


Figure 5: Puerto Rico Sub Basins

Coastal Shoreline Segmentation System

The 2010 Cycle 305(b)/303(d) Integrated Report presents significant changes in the segmentation criteria and assessment units defined for the coastal shoreline as compared to the 2008 Cycle Integrated Report. In the following section we provide a brief explanation of the new segmentation criteria and assessment units for the coastal shoreline.

Segmentation Criteria

The new coastal segmentation began to develop since 2007 and along with it; we are working with the relocation of the Permanent Coastal Monitoring Network Stations. This work is performed in order to adjust the monitoring stations with the new coastal shoreline segmentation; in order to update the strategies for the protection and conservation of our coastal waters. However, considering that the relocation of the Permanent Coastal Water Quality Monitoring Network Stations requires more time and effort, we are implementing the use of the new segmentation system for this cycle and continue working with the relocation of the monitoring stations during 2010.

After completing revision of the inland water bodies segmentation system, the existing coastal shoreline regions, each of which includes numerous assessment units of significantly different sizes, were subjected to scrutiny and critical evaluation to determine if it was necessary to revise, simplify and update the segmentation within each region.

The first issue considered in this respect pertained to the argument and reasoning used to establish the delimitation of the existing coastal shoreline regions. In the case of the hydrological regions for inland waters, the arguments and reasoning are discussed in water quality planning documents developed in the 1970s. However, the reference points used to establish each of these regions are the outflow points to the coastal shoreline of the various inland water basins that compose each of the regions. The only significant variation in the delineation of hydrological regions of inland waters for which we have direct knowledge is the elimination of the central region. This region, which basically was limited to the central mountain range, included the headwater portions of the major basins in the north region. After much debate concerning the merits (or lack of these) and the functionality of the central region with respect to water quality management planning, it was finally considered eliminated after year 2000; however, internally EQB never considered the central region for purposes of water quality planning and implementation efforts because these require that each basin be treated as a single continuous system.

Historically, the hydrological regions of inland waters, in general terms, have also been used to delimit the corresponding coastal shoreline, with some inconsistent minor changes concerning the location of some of the reference points. Information pertaining to the arguments and reasoning used to establish these points and to make subsequent changes has not been found in any of the various planning documents we have available. In order to avoid additional unknowns to the regional extents of the coastal shoreline, it was determined that the most direct and relevant decision pertaining to this matter was to delimit the coastal shoreline with the same reference points used to delimit the hydrological regions for inland waters. The use of a single regional system for both shoreline and inland waters we believe is the best alternative because the

shoreline regional system can be easily referenced to inland waters within the same region and adjacent regions.

Efforts to develop coastal shoreline regions in terms of near shore currents were fruitless. Initially, it was considered that this criterion would allow for the establishment of possible direct relationships of cause and effect between sources and pollutants when use impairment was determined within a specific region. In addition, interregional effects may be determined during those periods that currents are subject to changes in direction. This alternative, although preferable, cannot be implemented at this time due to the severe lack of sufficient information pertaining to near shore currents. Efforts made in various agencies and universities pertaining to this issue revealed that relatively very little work has been done on near shore currents in Puerto Rico. Studies done for the modeling of mixing zones at the end of ocean outfalls provide general information for localized areas, which is not sufficient to delimit reference points to establish shoreline regions. However, our search for this information revealed that recently many professionals on the field have identified the need for such information in the Caribbean basin. This need for information may encourage independent or collaborative efforts that can possibly result in sufficient data to allow for the development of a coastal shoreline regional system that may be more representative than the system we have presented here.

The Department of Natural and Environmental Resources (DNER) developed a shoreline regional system composed of seven regions for the island of Puerto Rico and an eighth region for the offshore islands, which include Vieques, Culebra and Mona. (Figure 6) The criteria used to develop this system were ecological, geological and topographical characteristics.

Adoption of this alternative by EQB was discarded due to the large number of regions and significant differences with the regions established for inland waters. The only DNER coastal region which resembles an existing EQB coastal region is the western region.

The current reference points used to separate the corresponding coastal shoreline regions are not the same reference points used to separate the inland waters hydrologic regions. (Figure 7) Therefore, in order to use a single set of reference points to delimit both regions it was necessary to make adjustments in the length measurements of some of the current shoreline regions. The references points that were changed are: (Figure 8)

- The point which divides the West Region from the North Region. Currently this reference point is the outflow point of Río Culebrinas (1 in Figure 7; 1A in Figure 8).
- The point which divides the North Region from the East region. Currently this reference point Punta Cerro Gordo (2 in Figure 7; 2A in Figure 8).
- The reference point which separates the West region from the South region. In this case there are two reference point that have been used in the past these are 4A (Punta Mela) and 4B (Punta Boca Prieta). The location of both of these two reference points can be seen in Figures 7 and 8.

The reference point which divides the ***West Region*** from the ***North Region*** is changed from the outflow point of Rio Culebrinas (1A in Figure 8) to Punta Borinquen (1B in Figure 8). This change is done taking in consideration that the first inland water basin in the ***North Region*** is Quebrada de los Cedros, which is located significantly to north with respect to the mouth of Rio Culebrinas. As result, Punta Borinquen is more representative of the north than the mouth of Rio Culebrinas. The change in the reference point did not require adjustments in the lengths for the current corresponding coastal segment, given that the change performed coincides with the point of separation of the corresponding segments.

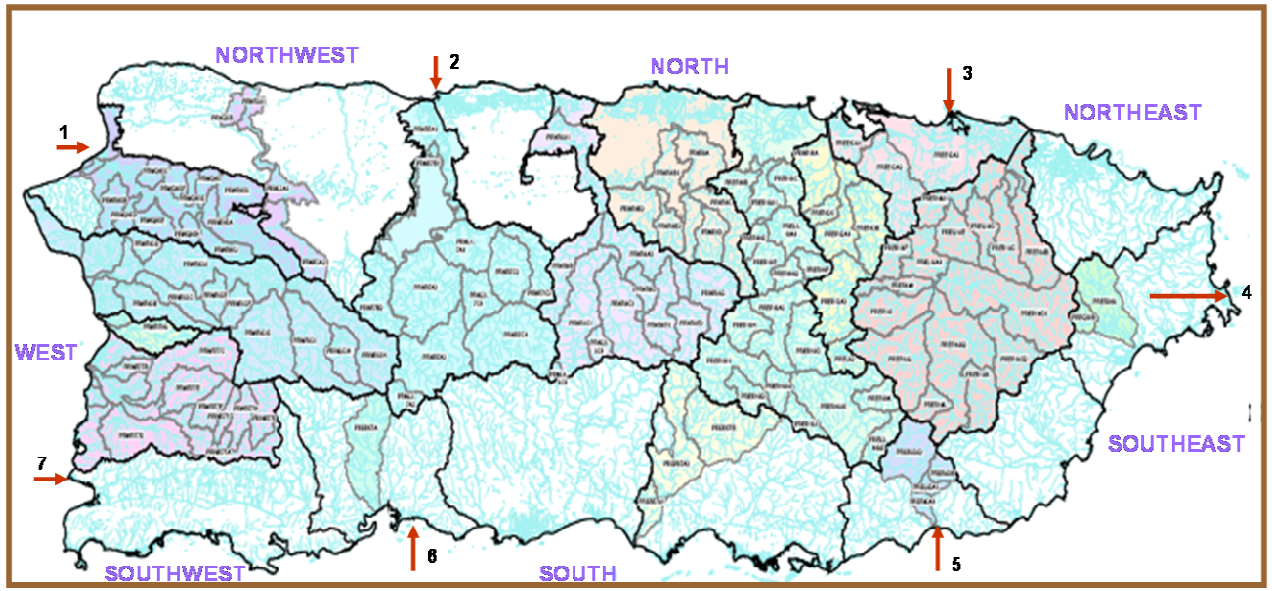
The reference point separating the ***North Region*** and the ***East Region*** is changed from Punta Cerro Gordo (2A in Figure 8) to Punta Boca Juana (2B in Figure 8). The change in location of reference point responds to the fact that the first inland water basin of the East Region is Rio La Plata. In accordance with the current coastal shoreline regions, Punta Boca Juana is part of a segment that begins in Punta Cerro Gordo and extends to the east beyond the mouth of Rio La Plata (current segment PRES0002b_00). The shifting of the reference point to Punta Boca Juana requires that segment PRES0002b_00 be cut in two pieces. One piece (cut 1), with 2.62 miles remains on the west side of the outflow point of Rio La Plata and becomes part of the North Region. The other piece (cut 2) with 0.38 miles falls on the east side of Rio La Plata and becomes part of the East Region.

With respect to the reference point which separates the ***East Region*** from the ***South Region*** (3 in Figure 8), there was no need to change location of this point.

The last change with respect to reference points corresponds to the point that divides the ***South Region*** from the ***West Region*** (4A, 4B, and 4C in Figure 8). The reference point that divides these two regions has fluctuated between points 4A and 4B. Reasons for this fluctuation have not been found. For our purposes, we have established the reference point that separates the ***South Region*** from ***West Region***, is the Cabo Rojo Lighthouse (Faro de Cabo Rojo) (point 4C in Figure 8). This point was selected because it is represents the most conspicuous location between Rio Arroyo Cajul (PRSR70A), the last inland water basin in the South Region and Quebrada Boquerón (PRWQ71A).

The municipality island Culebra is divided in 2 segments and the municipality island of Vieques are divided in 6 segments in the current segmentation. After reviewing this segmentation, it has been determined to eliminate the different segments and identified each island as one segment (assessment unit). In the case of Mona Island, a natural reserve, the assessment unit is maintained as established in the original segmentation and only changed the new segment identification (New Segment ID). Therefore, the number of miles for the each island did not change.

(BASED ON ECOLOGICAL, GEOLOGICAL AND TOPOGRAPHICAL CHARACTERISTICS)



NORTHWEST – from Rio Culebrinas in Aguada (1) up to Rio Grande de Arecibo in Arecibo (2)

NORTH – from Rio Grande de Arecibo (2) up to Boca de Cangrejos in Carolina (3).

NORTHEAST – from Boca de Cangrejos (3) up to Rio Demajagua in Ceiba (4).

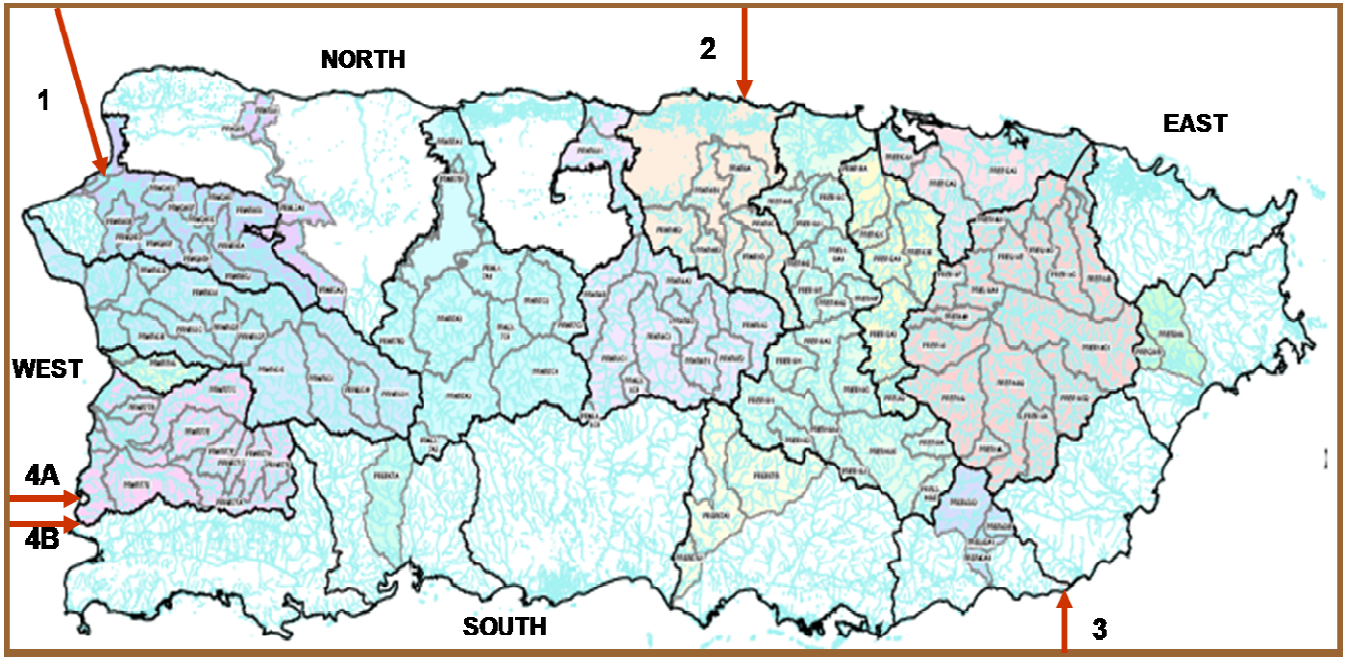
SOUTHEAST – from Río Demajagua (4) up to Rio Grande de Patillas in Patillas (5).

SOUTH- from Rio Grande de Patillas (5) up to Río Tallaboa in Peñuelas (6).

SOUTHWEST – from Río Tallaboa (6) up to Punta Guaniquilla in Cabo Rojo (7)

WEST – from Punta Guaniquilla (7) up to Río Culebrinas (1).

Figure 6: Coastal Shoreline Establish by DNER



1: Mouth of Rio Culebrinas in Aguada

2: Punta (Point) Cerro Gordo in Vega Alta

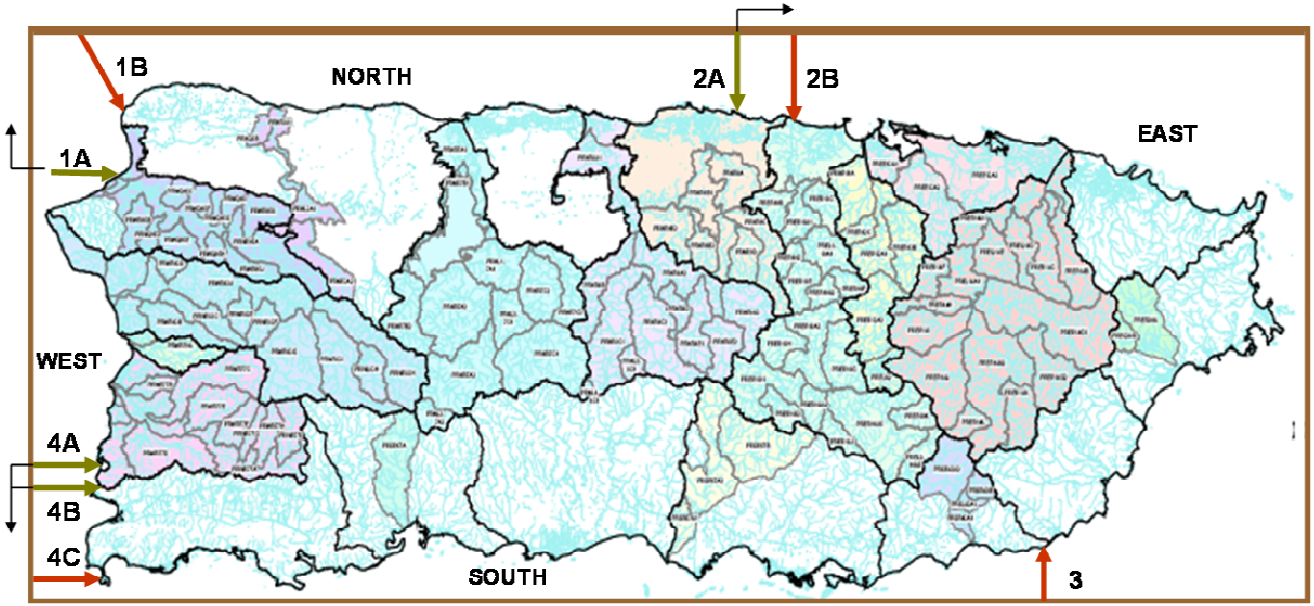
3: Cabo (Cape) Mala Pascua in Patillas.

4: Punta (Point) La Mela in Cabo Rojo

NOTE: Points 4A y 4B are two locations that have been found in different water quality management documents to indicate the reference point which separates the South Coast shoreline from the West Coast shoreline.

Figure 7: Current Coastal Shoreline Regions (1970-2006)

(THE SAME REFERENCE POINTS THAT SEPARATE HYDROLOGICAL REGIONS OF INLAND WATER BASINS)



1B. **Punta Borinquen in Aguadilla – THE REFERENCE POINT IS MOVED FROM 1A TO 1B.** THE FIRST INLAND WATER BASIN TO THE EAST OF PUNTA BORINQUEN IS QUEBRADA DE LOS CEDROS (PRNQ1A),, WHICH IS THE FIRST BASIN IN THE NORTH REGIÓN.

2.B **Punta Boca Juana in Dorado – THE REFERENCE POINT IS MOVED FROM 2A TO 2B.** THE LAST BASIN OF THE NORTH REGION IS RIO CIBUCO (PRNR9A), WHICH IS LOCATED TO THE WEST OF PUNTA BOCA JUANA. THE FIRST BASIN TO THE EAST OF THIS REFERENCE POINT IS RIO LA PLATA (PRER10A), WHICH IS THE FIRST BASIN IN THE EAST REGIÓN.

3. **Cabo Mala Pascua in Patillas** – THE ORIGINAL REFERENCE POINT (3) IS MAINTAINED. THIS POINT IS TO THE WEST OF RIO MAUNABO (PRER37A), WHICH IS THE LAST INLAND WATER BASIN IN THE EAST REGION AND TO THE EAST OF QUEBRADA MANGLILLO (PRSQ38A), THE FIRST INLAND WATER BASIN IN THE SOUTH REGION,

4C. **Cabo Rojo Lighthouse –** THE REFERENCE POINT IS MOVED TO 4C. THE REFERENCE POINT IS THE WEST OF RIO ARROYO CAJUL (PRSR70A), THE LAST BASIN IN THE SOUTH REGIÓN AND BEFORE QUEBRADA BOQUERON (PRWQ71), THE FIRST BASIN IN THE WEST REGIÓN. (FOR POINTS 4A Y 4B SEE FIGURE 1.)

Figure 8: Modified Coastal Shoreline Region (2007)

With this last change we complete the identification and location of the reference points that shall use to separate the different regions of the coastal shoreline. The primary objective of the revision of the coastal shoreline segmentation is to develop update and simplify the existing shoreline assessment unit segmentation system. The current shoreline segmentation system is composed of 149 segments (assessment units) around the island of Puerto Rico alone. In the minor islands Culebra, Vieques and Mona the total of segments are 9. The number of segments included in the original shoreline regions and the number of segments included in the modified shoreline regions are listed in the table below.

EQB has proposed a re-segmentation that would result in 6 segments having more than one water quality classification (Table 6). While EQB has indicated that there are plans to rectify this in future cycles with changes in the coastal monitoring network and water quality standards, the proposed re-segmentation would provide immediate complications for our water Standards, TMDL and Permitting programs. In addition, there are no guarantees that these proposed changes would be completed by the 2012 Assessment Cycle. Finally, we are anticipating that EQB (as well as other local agencies and NGOs) will begin to monitor in Class SA waters. Complications would arise if these segments have more than one classification. Therefore, we would like to discuss with you the modification of the following segments so that they align with the appropriate coastal classifications that have been set by the water quality standards. See table below:

Table 6: Coastal Shoreline Assessment Units with more than one Classification

Assessment Unit ID	Classification
PREC10	SB/SC
PRSC41	SA/SB
PRSC37	SB/SC
PRSC36	SB/SC
PREC28	SB/SC
PRVC54	SA/SB

Due to administrative error, six of these coastal segments overlap with more than one water quality classification. While EQB plans to update its coastal monitoring network and water quality standards in future cycles, the proposed re-segmentation would have provided immediate complications for the water quality standards, TMDL and permitting programs. Therefore, the six segments were further divided in order to align with a single water quality classification. Please see the Table 7 below for the correction to this figure:

Table 7: Corrected Coastal Shoreline Assessment Units

Assessment Unit ID	Multiple Classification	Corrected Assessment Unit	Single Classification	Description
PREC10	SB/SC	PREC10B	SB	Punta Salinas to Río Bayamón Mouth
		PREC10C	SC	Río Bayamón Mouth to Isla de Cabras
PRSC41	SA/SB	PRSC41B1	SB	Punta Brea to Bahía Fosforesente, La Parguera
		PRSC41A1	SA	Bahía Fosforesente, La Parguera

Assessment Unit ID	Multiple Classification	Corrected Assessment Unit	Single Classification	Description
		PRSC41B2	SB	Bahía Fosforesente, La Parguera to Punta Cueva de Ayala
		PRSC41A2	SA	Bahía Monsio José
		PRSC41B3	SB	Bahía Monsio José to Faro de Cabo Rojo
PRSC37	SB/SC	PRSC37B	SB	Punta Cucharas to Cayo Parguera
		PRSC37C	SC	Cayo Parguera to Punta Guayanilla
PRSC36	SB/SC	PRSC36B	SB	Punta Cabullones to Punta Carenero
		PRSC36C	SC	Punta Carenero to Punta Cucharas
PREC28	SB/SC	PREC28C	SC	Punta Guayanés to Punta Quebrada Honda
		PREC28B	SB	Punta Quebrada Honda to Punta Yegua
PRVC54	SA/SB	PRVC54A	SA	Bahía Mosquito
		PRVC54B	SB	Isla de Vieques

Table 8: Shoreline Segmentation Distribution

Region	Original Coastal Shoreline Segments	Original Coastal Shoreline miles	Modified Coastal Shoreline Segments	Modified Coastal Shoreline miles
North	27	71.7	8	72.22
East	58	144.7	24	134.11
South	52	177.1	17	162.17
West	12	34.5	11	56.23
Offshore Islands	9	121.9	4	121.90
Total	158	549.9	64	546.63

As seen on the Table 8 the new segmentation system for the coastal shoreline has been reduced the total number of AU and size reported in 2008 IR for the 2010 IR. This reduction in the total number of AU, size and the actual composition of the new segmentation resulted in an increase on the size of each AU and a reduction of the total of miles in the coastal shoreline.

In the Table 9 are included the 158 old coastal shoreline segments for the current segmentation and the 64 coastal shoreline segments for the new segmentation:

Table 9: Crosswalk of Coastal Water Segmentation

Old Coastal Shoreline Region	Old Segments (Assessment Units)	Size of Old Segments (miles)	New Coastal Shoreline Region	New Segments (Assessment Units)	Size of New Segments (miles)
NORTH	PRNS0001d_01	2.30	NORTH	PRNC01	11.75
NORTH	PRNS0001d_02	3.40	NORTH	PRNC01	11.75
NORTH	PRNS0001d_03	1.90	NORTH	PRNC01	11.75
NORTH	PRNS0001d_04	2.30	NORTH	PRNC01	11.75
NORTH	PRNS0001e_00 cut 1	1.85	NORTH	PRNC01	11.75
NORTH	PRNS0001e_00 cut 2	1.15	NORTH	PRNC02	14.10
NORTH	PRNS0001f_00	1.90	NORTH	PRNC02	14.10
NORTH	PRNS0001g_00	3.00	NORTH	PRNC02	14.10
NORTH	PRNS0001h_01	4.10	NORTH	PRNC02	14.10
NORTH	PRNS0001h_02	1.80	NORTH	PRNC02	14.10
NORTH	PRNS0001i_00 cut 1	2.15	NORTH	PRNC02	14.10
NORTH	PRNS0001i_00 cut 2	0.85	NORTH	PRNC03	9.65
NORTH	PRNS0001j_00	1.40	NORTH	PRNC03	9.65
NORTH	PRNS0001k_00	4.40	NORTH	PRNC03	9.65
NORTH	PRNS0001L_00	3.00	NORTH	PRNC03	9.65
NORTH	PRNS0001m_00	1.90	NORTH	PRNC04	13.66
NORTH	PRNS0001n_01	5.10	NORTH	PRNC04	13.66
NORTH	PRNS0001n_02	2.70	NORTH	PRNC04	13.66
NORTH	PRNS0001n_03	1.50	NORTH	PRNC04	13.66
NORTH	PRNS0001o_00 cut 1	2.46	NORTH	PRNC04	13.66
NORTH	PRNS0001o_00 cut 2	0.54	NORTH	PRNC05	7.46
NORTH	PRNS0001p_01	1.60	NORTH	PRNC05	7.46
NORTH	PRNS0001p_02	3.00	NORTH	PRNC05	7.46
NORTH	PRNS0001p_03 cut 1	2.32	NORTH	PRNC05	7.46
NORTH	PRNS0001p_03 cut 2	1.08	NORTH	PRNC06	3.23
NORTH	PRNS0001q_00 cut 1	2.15	NORTH	PRNC06	3.23
NORTH	PRNS0001q_00 cut 2	0.85	NORTH	PRNC07	5.05
NORTH	PRNS0001r_00	2.30	NORTH	PRNC07	5.05
NORTH	PRNS0001s_00	1.90	NORTH	PRNC07	5.05
EAST	PRES0002a_01	2.80	NORTH	PRNC08	7.32
EAST	PRES0002a_02	1.90	NORTH	PRNC08	7.32
EAST	PRES0002b_00 cut 1	2.62	NORTH	PRNC08	7.32
EAST	PRES0002b_00 cut 2	0.38	EAST	PREC09	5.78
EAST	PRES0002c_00	3.30	EAST	PREC09	5.78
EAST	PRES0002d_00	2.00	EAST	PREC09	5.78
EAST	PRES0002e_00 cut 1	0.10	EAST	PREC09	5.78
EAST	PRES0002e_00 cut 2	0.10	EAST	PREC10B	2.91
EAST	PRES0002f_00 cut 1	2.81	EAST	PREC10B	2.91
EAST	PRES0002f_00 cut 2	0.19	EAST	PREC10C	6.63
EAST	PRES0002g_01 cut 1	6.44	EAST	PREC10C	6.63
EAST	PRES0002g_01 cut 2	0.46	EAST	PREC11	7.79
EAST	PRES0002g_02**	4.08	EAST	PREC11	7.79
EAST	PRES0002h_00	0.60***	See notes	----	----
EAST	PRES0002i_00	0.50***	See notes	----	----
EAST	PRES0002j_00	0.60***	See notes	----	----
EAST	PRES0002k_00 cut 1	0.15***	See notes	----	----

Old Coastal Shoreline Region	Old Segments (Assessment Units)	Size of Old Segments (miles)	New Coastal Shoreline Region	New Segments (Assessment Units)	Size of New Segments (miles)
EAST	PRES0002k_00 cut 2	1.85	EAST	PREC11	7.79
EAST	PRES0002L_00	1.40	EAST	PREC11	7.79
EAST	PRES0002LL_00	2.30	EAST	PREC12	3.50
EAST	PRES0002m_01	0.50	EAST	PREC12	3.50
EAST	PRES0002m_02	0.50	EAST	PREC12	3.50
EAST	PRES0002m_03 cut 1	0.20	EAST	PREC12	3.50
EAST	PRES0002m_03 cut 2	0.70	EAST	PREC13	4.31
EAST	PRES0002n_00	1.20	EAST	PREC13	4.31
EAST	PRES0002o_00	0.30	EAST	PREC13	4.31
EAST	PRES0002p_00	0.40	EAST	PREC13	4.31
EAST	PRES0002q_00	0.60	EAST	PREC13	4.31
EAST	PRES0002r_00 cut 1	1.11	EAST	PREC13	4.31
EAST	PRES0002r_00 cut 2	0.69	EAST	PREC14	4.19
EAST	PRES0002s_00	1.30	EAST	PREC14	4.19
EAST	PRES0002t_00	2.20	EAST	PREC14	4.19
EAST	PRES0002u_01	2.50	EAST	PREC15	6.23
EAST	PRES0002u_02	2.20	EAST	PREC15	6.23
EAST	PRES0002u_03 cut 1	1.53	EAST	PREC15	6.23
EAST	PRES0002u_03 cut 2	0.57	EAST	PREC16	9.46
EAST	PRES0002v_00	3.00	EAST	PREC16	9.46
EAST	PRES0002w_00	1.20	EAST	PREC16	9.46
EAST	PRES0002x_00	3.00	EAST	PREC16	9.46
EAST	PRES0002y_00 cut 1	1.69	EAST	PREC16	9.46
EAST	PRES0002y_00 cut 2	5.71	EAST	PREC17	8.41
EAST	PRES0002z_00 cut 1	2.70	EAST	PREC17	8.41
EAST	PRES0002z_00 cut 2	0.30	EAST	PREC18	10.46
EAST	PRES0002z1_01	1.60	EAST	PREC18	10.46
EAST	PRES0002z1_02	4.60	EAST	PREC18	10.46
EAST	PRES0002z2_00	3.00	EAST	PREC18	10.46
EAST	PRES0002z3_00 cut 1	0.96	EAST	PREC18	10.46
EAST	PRES0002z3_00 cut 2	3.34	EAST	PREC19	7.08
EAST	PRES0002z4_00	1.10	EAST	PREC19	7.08
EAST	PRES0002z5_00	1.80	EAST	PREC19	7.08
EAST	PRES0002z6_00 cut 1	0.84	EAST	PREC19	7.08
EAST	PRES0002z6_00 cut 2	5.33	EAST	PREC20	5.33
EAST	PRES0002z6_00 cut 3	3.00	EAST	PREC21	3.00
EAST	PRES0002z6_00 cut 4	3.30	EAST	PREC22	3.30
EAST	PRES0002z6_00 cut 5	1.23	EAST	PREC23	8.83
EAST	PRES0002z7_00	7.60	EAST	PREC23	8.83
EAST	PRES0002z8_00 cut 1	9.07	EAST	PREC24	9.07
EAST	PRES0002z8_00 cut 2	0.53	EAST	PREC25	9.83
EAST	PRES0002z9_00	1.90	EAST	PREC25	9.83
EAST	PRES0002z10_01	0.80	EAST	PREC25	9.83
EAST	PRES0002z10_02	1.50	EAST	PREC25	9.83
EAST	PRES0002z11_00	0.30	EAST	PREC25	9.83
EAST	PRES0002z_12	2.40	EAST	PREC25	9.83
EAST	PRES0002z_13	0.40	EAST	PREC25	9.83

Old Coastal Shoreline Region	Old Segments (Assessment Units)	Size of Old Segments (miles)	New Coastal Shoreline Region	New Segments (Assessment Units)	Size of New Segments (miles)
EAST	PRES0002z14_00 cut 1	2.00	EAST	PREC25	9.83
EAST	PRES0002z14_00 cut 2	1.00	EAST	PREC26	1.84
EAST	PRES0002z15_00 cut 1	0.84	EAST	PREC26	1.84
EAST	PRES0002z15_00 cut 2	2.26	EAST	PREC27	3.74
EAST	PRES0002z16_00	1.10	EAST	PREC27	3.74
EAST	PRES0002z17_00 cut 1	0.38	EAST	PREC27	3.74
EAST	PRES0002z17_00 cut 2	1.72	EAST	PREC28C	4.68
EAST	PRES0002z18_00	2.10	EAST	PREC28C	4.68
EAST	PRES0002z19_01	0.50	EAST	PREC28C	4.68
EAST	PRES0002z19_02 cut 1	0.36	EAST	PREC28C	4.68
EAST	PRES0002z19_02 cut 2	0.74	EAST	PREC28B	0.74
EAST	PRES0002z20_00	3.50	EAST	PREC29	4.35
EAST	PRES0002z21_00 cut 1	0.85	EAST	PREC29	4.35
EAST	PRES0002z21_00 cut 2	2.15	EAST	PREC30	2.65
EAST	PRES0002z22_00	0.50	EAST	PREC30	2.65
SOUTH	PRSS0003a_01	3.60	SOUTH	PRSC31	4.06
SOUTH	PRSS0003a_02 cut 1	0.46	SOUTH	PRSC31	4.06
SOUTH	PRSS0003a_02 cut 2	2.54	SOUTH	PRSC32	6.16
SOUTH	PRSS0003a_03	1.00	SOUTH	PRSC32	6.16
SOUTH	PRSS0003b_00 cut 1	2.62	SOUTH	PRSC32	6.16
SOUTH	PRSS0003b_00 cut 2	0.38	SOUTH	PRSC33	8.10
SOUTH	PRSS0003c_00	5.80	SOUTH	PRSC33	8.10
SOUTH	PRSS0003d_00 cut 1	1.92	SOUTH	PRSC33	8.10
SOUTH	PRSS0003d_00 cut 2	0.08	SOUTH	PRSC34	40.96
SOUTH	PRSS0003e_00	1.20	SOUTH	PRSC34	40.96
SOUTH	PRSS0003f_00	4.60	SOUTH	PRSC34	40.96
SOUTH	PRSS0003g_00	2.70	SOUTH	PRSC34	40.96
SOUTH	PRSS0003h_00	3.00	SOUTH	PRSC34	40.96
SOUTH	PRSS0003i_00	0.90	SOUTH	PRSC34	40.96
SOUTH	PRSS0003j_00	3.00	SOUTH	PRSC34	40.96
SOUTH	PRSS0003k_00	0.40	SOUTH	PRSC34	40.96
SOUTH	PRSS0003L_01	18.50	SOUTH	PRSC34	40.96
SOUTH	PRSS0003L_02	0.90	SOUTH	PRSC34	40.96
SOUTH	PRSS0003L_03 cut 1	5.68	SOUTH	PRSC34	40.96
SOUTH	PRSS0003L_03 cut 2	0.92	SOUTH	PRSC35	16.19
SOUTH	PRSS0003m_00	3.00	SOUTH	PRSC35	16.19
SOUTH	PRSS0003n_00 cut 1	12.27	SOUTH	PRSC35	16.19
SOUTH	PRSS0003n_00 cut 2	2.53	SOUTH	PRSC36B	2.53
SOUTH	PRSS0003p_00	2.20	SOUTH	PRSC36C	6.70
SOUTH	PRSS0003q_00	2.20	SOUTH	PRSC36C	6.70
SOUTH	PRSS0003r_00	2.30	SOUTH	PRSC36C	6.70
SOUTH	PRSS0003s_00	1.90	SOUTH	PRSC37B	3.30
SOUTH	PRSS0003t_00	1.40	SOUTH	PRSC37B	3.30
SOUTH	PRSS0003u_00	2.10	SOUTH	PRSC37C	4.20
SOUTH	PRSS0003v_00	2.10	SOUTH	PRSC37C	4.20
SOUTH	PRSS0003w_00	2.30	SOUTH	PRSC38	13.20
SOUTH	PRSS0003x_00	2.50	SOUTH	PRSC38	13.20

Old Coastal Shoreline Region	Old Segments (Assessment Units)	Size of Old Segments (miles)	New Coastal Shoreline Region	New Segments (Assessment Units)	Size of New Segments (miles)
SOUTH	PRSS0003y_00	1.60	SOUTH	PRSC38	13.20
SOUTH	PRSS0003z_00	2.10	SOUTH	PRSC38	13.20
SOUTH	PRSS0003z1_00	3.80	SOUTH	PRSC38	13.20
SOUTH	PRSS0003z2_00	0.90	SOUTH	PRSC38	13.20
SOUTH	PRSS0003z3_00	3.00	SOUTH	PRSC39	6.41
SOUTH	PRSS0003z4_00 cut 1	3.41	SOUTH	PRSC39	6.41
SOUTH	PRSS0003z4_00 cut 2	0.69	SOUTH	PRSC40	13.26
SOUTH	PRSS0003z5_00	3.00	SOUTH	PRSC40	13.26
SOUTH	PRSS0003z6_00	0.30	SOUTH	PRSC40	13.26
SOUTH	PRSS0003z7_00	2.70	SOUTH	PRSC40	13.26
SOUTH	PRSS0003z8_00	3.50	SOUTH	PRSC40	13.26
SOUTH	PRSS0003z9_01 cut 1	3.07	SOUTH	PRSC40	13.26
SOUTH	PRSS0003z9_01 cut 2	1.63	SOUTH	PRSC41B1	10.93
SOUTH	PRSS0003z9_02	3.00	SOUTH	PRSC41B1	10.93
SOUTH	PRSS0003z9_03	6.30	SOUTH	PRSC41B1	10.93
SOUTH	PRSS0003z10_00	2.00	SOUTH	PRSC41A1	2.00
SOUTH	PRSS0003z11_00	2.70	SOUTH	PRSC41B2	7.00
SOUTH	PRSS0003z12_00	1.50	SOUTH	PRSC41B2	7.00
SOUTH	PRSS0003z13_00	2.80	SOUTH	PRSC41B2	7.00
SOUTH	PRSS0003z14_00	1.80	SOUTH	PRSC41A2	3.72
SOUTH	PRSS0003z15_01 cut 1	1.92	SOUTH	PRSC41A2	3.72
SOUTH	PRSS0003z15_01 cut 2	13.45	SOUTH	PRSC41B3	13.45
SOUTH	PRSS0003z15_01 cut 3	2.23	WEST	PRWC42	2.89
SOUTH	PRSS0003z15_02 cut 1	0.66	WEST	PRWC42	2.89
SOUTH	PRSS0003z15_02 cut 2	1.84	WEST	PRWC43	9.54
SOUTH	PRSS0003z15_03	2.00	WEST	PRWC43	9.54
SOUTH	PRSS0003z16_00	3.00	WEST	PRWC43	9.54
SOUTH	PRSS0003z17_01	2.40	WEST	PRWC43	9.54
SOUTH	PRSS0003z17_02 cut 1	0.30	WEST	PRWC43	9.54
SOUTH	PRSS0003z17_02 cut 2	1.80	WEST	PRWC44	2.50
SOUTH	PRSS0003z17_03	0.70	WEST	PRWC44	2.50
WEST	PRWS0004a_01	2.80	WEST	PRWC45	2.95
WEST	PRWS0004a_02 cut 1	0.15	WEST	PRWC45	2.95
WEST	PRWS0004a_02 cut 2	2.85	WEST	PRWC46	4.00
WEST	PRWS0004a_03 cut 1	1.15	WEST	PRWC46	4.00
WEST	PRWS0004a_03 cut 2	3.85	WEST	PRWC47	3.85
WEST	PRWS0004b_00	1.20	WEST	PRWC48	5.60
WEST	PRWS0004c_00	2.50	WEST	PRWC48	5.60
WEST	PRWS0004d_00	1.90	WEST	PRWC48	5.60
WEST	PRWS0004e_00	2.60	WEST	PRWC49	6.98
WEST	PRWS0004f_00	3.00	WEST	PRWC49	6.98
WEST	PRWS0004g_01	1.00	WEST	PRWC49	6.98
WEST	PRWS0004g_02 cut 1	0.38	WEST	PRWC49	6.98
WEST	PRWS0004g_02 cut 2	1.92	WEST	PRWC50	4.98
WEST	PRWS0004g_03	2.30	WEST	PRWC50	4.98
WEST	PRWS0004g_04 cut 1	0.76	WEST	PRWC50	4.98
WEST	PRWS0004g_04 cut 2	6.14	WEST	PRWC51	6.14

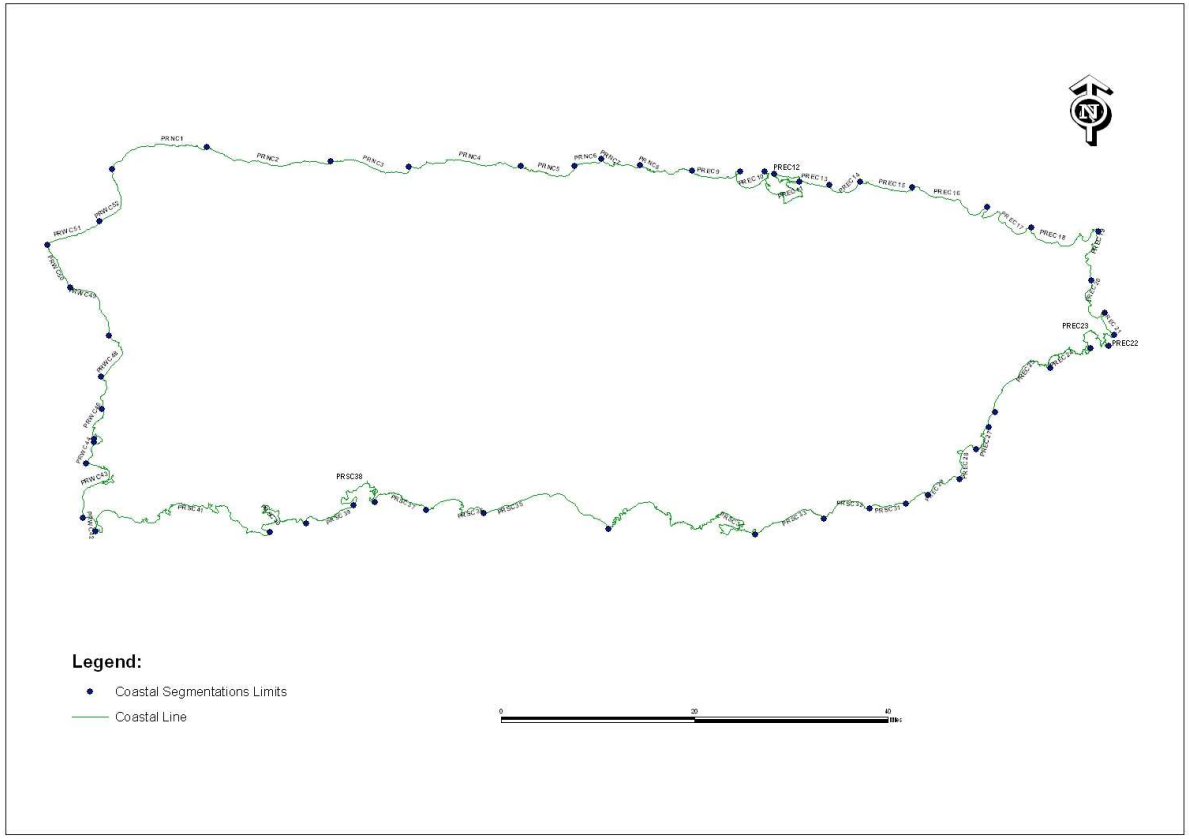
Old Coastal Shoreline Region	Old Segments (Assessment Units)	Size of Old Segments (miles)	New Coastal Shoreline Region	New Segments (Assessment Units)	Size of New Segments (miles)
NORTH	PRNS0001a_00	0.90	WEST	PRWC52	6.80
NORTH	PRNS0001b_00	3.00	WEST	PRWC52	6.80
NORTH	PRNS0001c_00	2.90	WEST	PRWC52	6.80
OFFSHORE ISLANDS	PRES0306a_00	1.00	OFFSHORE ISLANDS	PRCC53	32.70
OFFSHORE ISLANDS	PRES0306b_00	31.70	OFFSHORE ISLANDS	PRCC53	32.70
OFFSHORE ISLANDS	PRES0307c_00	3.00	OFFSHORE ISLANDS	PRVC54A	3.00
OFFSHORE ISLANDS	PRES0307a_00	1.00	OFFSHORE ISLANDS	PRVC54B	67.60
OFFSHORE ISLANDS	PRES0307b_00	43.40	OFFSHORE ISLANDS	PRVC54B	67.60
OFFSHORE ISLANDS	PRES0307c_00	3.00	OFFSHORE ISLANDS	PRVC54B	67.60
OFFSHORE ISLANDS	PRES0307d_00	3.60	OFFSHORE ISLANDS	PRVC54B	67.60
OFFSHORE ISLANDS	PRES0307e_00	0.60	OFFSHORE ISLANDS	PRVC54B	67.60
OFFSHORE ISLANDS	PRES0307f_00	19.00	OFFSHORE ISLANDS	PRVC54B	67.60
OFFSHORE ISLANDS	PRWS0308_00	18.60	OFFSHORE ISLANDS	PRMC55	18.60

** In the existing segmentation, the segment PRES0002g_02 measures 5.50 miles. During a field inspection performed on January 16, 2007 we documented a small peninsula (Peninsula La Esperanza) that forms part of this segment. This peninsula is divided by a channel constructed with the purpose of improving the mixing of the San Juan Bay waters on both sides of the peninsula. As result of the construction of the channel, a portion that is part of segment PRES0002g_02 is now an isolated and separate little island within the bay. The segment length corresponding to the peninsula was reduced by 1.42 miles to account for the loss of length as result of the channel and the formation of the separate little island. The new length for the segment is 4.08 miles. In the new segmentation, the reduced segment PRES0002g_02, forms part of the new segment PREC11.

*** In the existing segmentation is included the Condado Lagoon as part of the coastal shoreline. There are three (3) coastal segments corresponding to this lagoon. These segments are PRES0002h, PRES0002i and PRES0002j with a total of 1.7 miles. Although we have not found documented information pertaining to the decision of segmenting the Condado Lagoon and including the segments as part of the coastal shoreline, it is possible that the Condado Lagoon was included as part of the coastal shoreline as result of the efforts implemented during the early 1980s to restore the water quality of the San Juan-Isla Verde beachfront area. These restoration efforts also included the Condado Lagoon. The lack of documented information pertaining to the consideration of the Condado Lagoon as part of the coastal shoreline was discussed in a meeting of personnel from the Evaluation and Strategic Planning Area on January 17, 2007. In addition, the situation of similar water bodies along the coast of Puerto Rico was compared to that of the Condado Lagoon. As result of this meeting it was decided to remove the three segments corresponding to the Condado Lagoon from the group of segments that constitute the coastal shoreline and include the Condado Lagoon along with the other similar lagoons of the San Juan Bay Estuary System. The coastal segment PRES0002k_00 must be reduced by 0.15 miles, given that this small piece should be considered as part of the Condado Lagoon shoreline.

Assessment Units for Coastal Waters

Figure 9 present the new segmentation for coastal-shoreline and the table 10 are summarized the 64 new segments for the new segmentation system:



PR Coastal Segmentation

Figure 9: PR Coastal Shoreline New Segmentation System

Table 10: New Assessment Units for Coastal Waters

New Segment ID	New Segment Name	New Segment Size (miles)	Region
PRNC01*	Punta Borinquen to Punta Sardina	11.72	North
PRNC02*	Punta Sardina to Punta Manglillo	14.10	North
PRNC03*	Punta Manglillo to Punta Morrillos	9.65	North
PRNC04*	Punta Morrillos to Punta Manatí	13.66	North
PRNC05*	Punta Manatí to Punta Chivato	7.46	North
PRNC06*	Punta Chivato to Punta Puerto Nuevo	3.23	North
PRNC07*	Punta Puerto Nuevo to Punta Cerro Gordo	5.05	North
PRNC08*	Punta Cerro Gordo to Punta Boca Juana	7.32	North
PREC09*	Punta Boca Juana to Punta Salinas	5.78	East
PREC10B*	Punta Salinas to Rio Bayamon Mouth	2.91	East
PREC10C	Rio Bayamon Mouth to Isla de Cabras	6.63	East
PREC11	Isla de Cabras to Punta del Morro	7.79	East
PREC12*	Punta del Morro to west side of Condado Bridge	3.50	East
PREC13*	East side of Condado Bridge to Punta Las Marias	4.31	East
PREC14*	Punta Las Marias to Punta Cangrejos	4.19	East
PREC15*	Punta Cangrejos to Punta Vacía Talega	6.23	East
PREC16*	Punta Vacía Talega to Punta Miquillo	9.46	East
PREC17*	Punta Miquillo to Punta La Bandera	8.41	East
PREC18*	Punta La Bandera to Cabezas de San Juan	10.46	East
PREC19*	Cabezas de San Juan to Punta Barrancas	7.08	East
PREC20	Punta Barrancas to Punta Medio Mundo	5.33	East
PREC21	Punta Medio Mundo to Punta Puerca	3.00	East
PREC22	Punta Puerca to Isla Cabras	3.30	East
PREC23	Isla Cabras to Punta Cascajo	8.83	East
PREC24	Punta Cascajo to Punta Lima	9.07	East
PREC25*	Punta Lima to Morro de Humacao	9.83	East
PREC26	Morro de Humacao to Punta Candelero	1.84	East
PREC27	Punta Candelero to Punta Guayanés	3.74	East
PREC28C*	Punta Guayanés to Punta Quebrada Honda	4.68	East
PREC28B*	Punta Quebrada Honda to Punta Yeguas	0.74	East
PREC29	Punta Yeguas to Punta Tuna	4.35	East
PREC30*	Punta Tuna to Cabo Mala Pascua	2.65	East
PRSC31	Cabo Mala Pascua to Punta Viento	4.06	South
PRSC32*	Punta Viento to Punta Figuras	6.16	South
PRSC33*	Punta Figuras to Punta Ola Grande	8.10	South
PRSC34*	Punta Ola Grande to Punta Petrona	40.96	South
PRSC35*	Punta Petrona to Punta de Cabullones	2.53	South
PREC36B	Punta de Cabullones to Punta Carenero	6.70	South
PRSC36C*	Punta Carenero to Punta Cuchara	9.23	South
PRSC37B*	Punta Cuchara to Cayo Parguera	3.30	South
PRSC37C*	Cayo Parguera to Punta Guayanilla	4.20	South
PRSC38*	Punta Guayanilla to Punta Verraco	13.20	South
PRSC39*	Punta Verraco to Punta Ballenas	6.41	South
PRSC40*	Punta Ballenas to Punta Brea	13.26	South
PRSC41B1*	Punta Brea to Bahia Fosforescente La Parguera	10.93	South
PRSC41A1	Bahia Fosforescente	2.00	South

New Segment ID	New Segment Name	New Segment Size (miles)	Region
PRSC41B2*	Bahia Fosforescente to Punta Cueva de Ayala	7.00	South
PRSC41A2	Bahia Monsio José	3.72	South
PRSC41B3	Bahia Monsio José to Faro de Cabo Rojo	13.45	South
PRWC42	Faro de Cabo Rojo to Punta Aguila	2.89	West
PRWC43*	Punta Aguila to Punta Guaniquilla	9.54	West
PRWC44*	Punta Guaniquilla to Punta La Mela	2.50	West
PRWC45	Punta La Mela to Punta Carenero	2.95	West
PRWC46*	Punta Carenero to front of Cayo Ratones	4.00	West
PRWC47	In front of Cayo Ratones to Punta Guanajibo	3.85	West
PRWC48*	Punta Guanajibo to Punta Algarrobo	5.60	West
PRWC49*	Punta Algarrobo to Punta Cadena	6.98	West
PRWC50*	Punta Cadena to Punta Higüero	4.98	West
PRWC51*	Punta Higüero to Punta del Boquerón	6.14	West
PRWC52*	Punta del Boquerón to Punta Borinquén	6.80	West
PRCC53*	Culebra Island	32.70	Offshore Islands
PRVC54A	Bahia Mosquito	3.00	Offshore Islands
PRVC54B*	Vieques Island	67.60	Offshore Islands
PRMC55	Mona Island	18.60	Offshore Islands

The new segmentation for the coastal shoreline provides for fourteen (14) segments unmonitored (assessed) and forty-four (44) segments monitored (with monitoring stations). However, location of the monitoring stations corresponding to the Permanent Coastal Monitoring Network and Beach Monitoring and Public Notification Program have not been changed. Nevertheless, it will be necessary to relocate many of the Permanent Coastal Monitoring Network Stations in accordance with the new shoreline segmentation. The Beach Monitoring and Public Notification Program stations will not be affected by the changes to be made in the Coastal Monitoring Network. These efforts will be completed during the year 2010. See Figure 10 to 14.

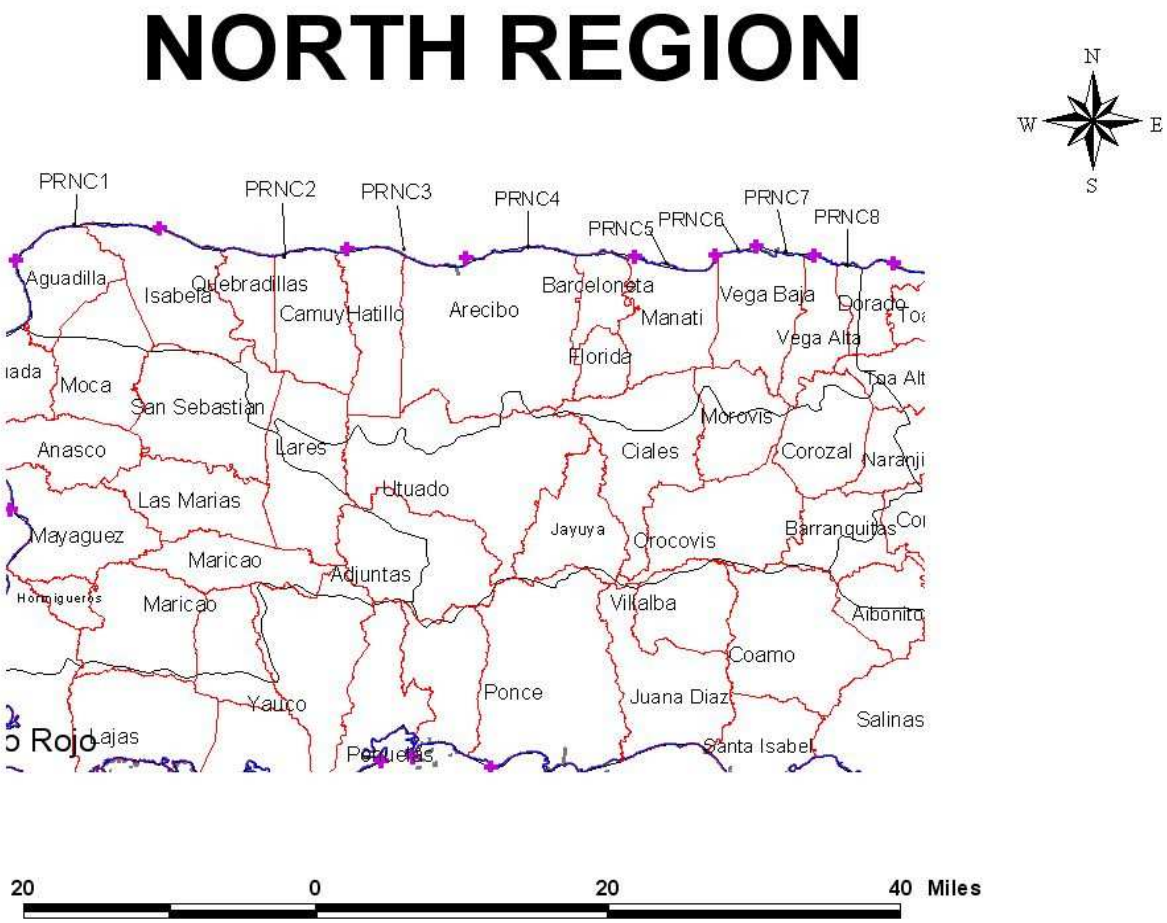


Figure 10: North Region Coastal – Shoreline

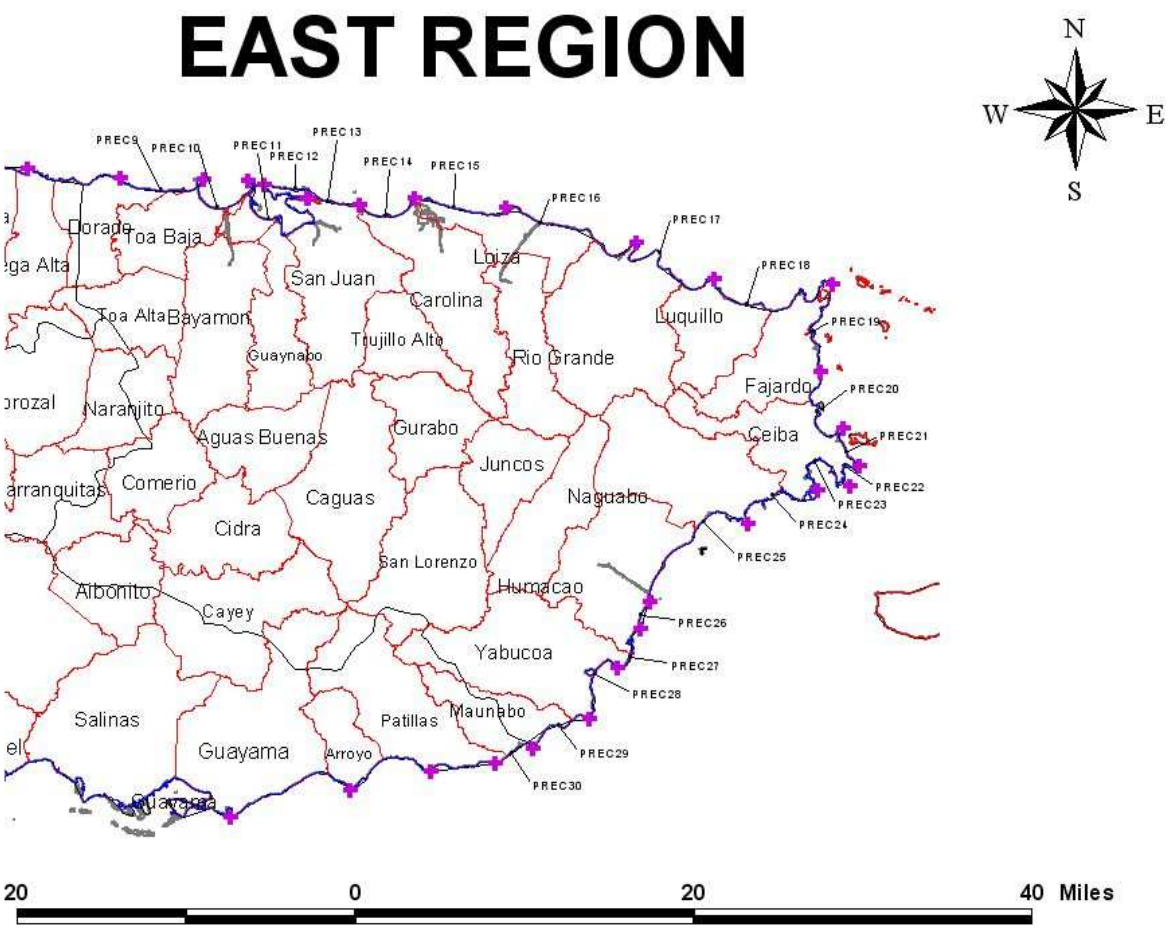


Figure 11: East Region Coastal – Shoreline

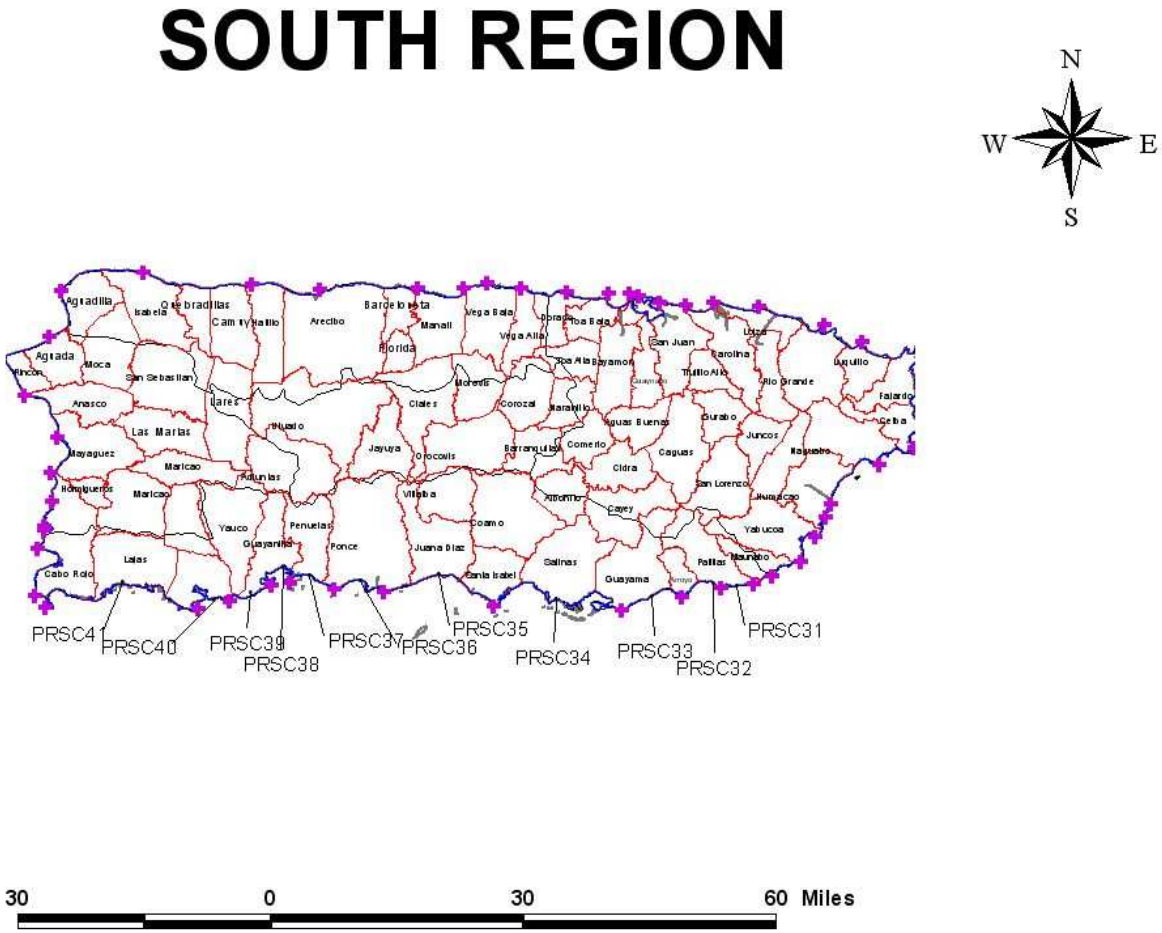


Figure 12: South Region Coastal – Shoreline

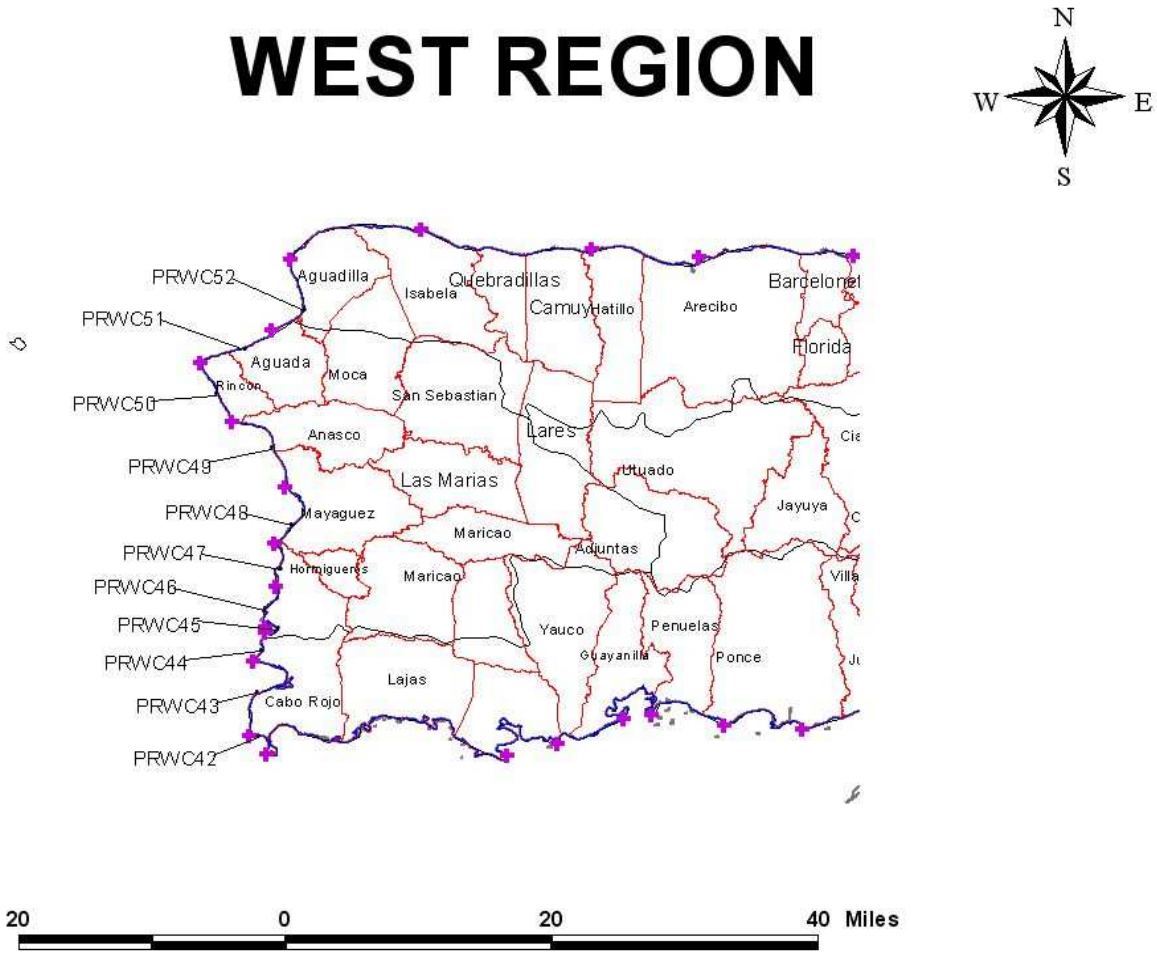


Figure 13: West Region Coastal – Shoreline

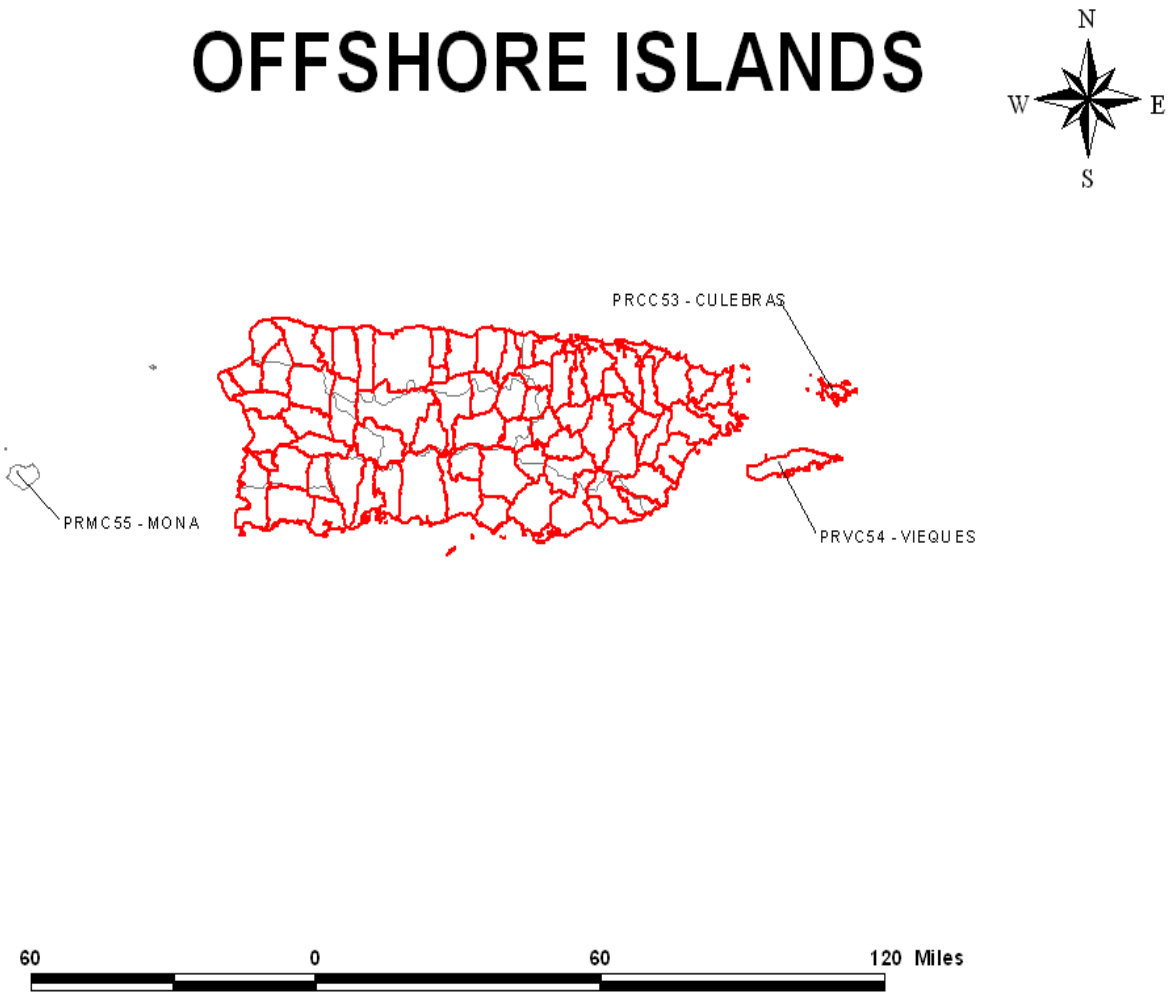


Figure 14: Offshore Islands

Monitoring Program

The PREQB monitoring activities for this reporting cycle included routine ambient water quality sampling at the various networks and special water quality studies performed in the water bodies of concern. Where available, effluent quality data from the discharge monitoring reports submitted by NPDES permitted point sources were used as contributing sources that may impact the use support potential of the water bodies.

The PREQB generates data from six (6) routine monitoring networks that provide physical, chemical and biological water quality data from the different water bodies. These are:

- ***Surface Water Monitoring Network:*** Operated by the USGS under a cooperative agreement with Puerto Rico, this network includes water quality-sampling stations in the 22 major river basins in the north, south, east, and west hydrographic regions of Puerto Rico. The USGS collects samples on a quarterly basis and analyzes for the following parameters:

Flow	Fecal Coliforms
Specific Conductance	Total Phosphorus
Temperature	Organic Nitrogen
Alkalinity	Ammonia Nitrogen
Dissolved Oxygen	Nitrate + Nitrite
Turbidity	Suspended Solids
pH	Chemical Oxygen Demand
Hardness	

Analyses for the detection of cyanide and methylene blue active substances (MBAS), as well as the other following parameters, are performed twice a year:

Arsenic	Mercury	Iron
Cadmium	Selenium	Zinc
Lead	Silver	Copper

Additional samples are collected for dissolved solids analyses, which include:

Calcium	Potassium
Carbonate	Silica
Chlorides	Sodium
Fluorides	Sulfate
Magnesium	

Samples are collected and analyzed for the following pesticides at selected stations once a year:

Aldrin	Endrin	Methyltrithion
Chlordane	Ethion	Mirex
DDD	Heptachlor	Naphtalene Polychlor
DDE	Lindane	Parathion
DDT	Malathion	Perthane
Diazinon	Methoxyclor	Total Trithion
Endosulfan	Methylparathion	Toxaphene

- ***Clean Lakes Monitoring Network:*** Operated by PREQB, this network monitors water quality in the 19 major lakes (reservoirs) that are mostly used as raw sources of drinking water and recreational activities, including fishing. Samples taken at these lakes are analyzed for the following parameters:

Ammonia Nitrogen	Dissolved Oxygen (profile)
Chlorophyll "a"	Mercury
Fecal Coliforms	Organic Nitrogen
Hardness	Total Phosphorous
Nitrate + Nitrite	Turbidity
pH	Pesticides (organochlorides)
Temperature (profile)	

All parameters will be collected once in each of three (3) sampling cycles (rainy season, dry season, and midpoint between these two periods).

- ***Non Point Sources Network:*** Operated by PREQB, this network limited to Río Grande de Loíza, Río De La Plata and Río Grande de Arecibo basins. A total of five (5) stations were established in Río Grande de Loíza, six (6) in Río De La Plata and nine (9) in Río Grande de Arecibo. The parameters sampled include:

Temperature	Nitrate + Nitrite as N
pH	Ammonia as N
Dissolved Oxygen	TSS
TDS	Chlorophyll "a"
Total Phosphorous	Fecal Coliforms
Orthophosphates	Pesticides (organochlorides)
Settleable Solids	

- ***Groundwater Monitoring Network:*** This network is limited to approximately 70 drinking water wells located in different municipalities throughout Puerto Rico and are sampled at least one time per year, sampling once for each of the following: pathogens, nitrates, metals, VOC's, SVOC's and pesticides.

- ***Coastal Monitoring Network:*** Operated by PREQB, this network includes monitoring stations all around the coastal perimeter of Puerto Rico. The Coastal Monitoring Network Stations are sampled for the following parameters:

Bacteria	Ammonia as N	Cadmium	Mercury
pH	Oil and Grease	Chromium	Nickel
Temperature	Nitrate + Nitrite as N	Copper	Selenium
Turbidity	Dissolved Oxygen	Lead	Zinc
Salinity			

Those monitoring stations are sampled in accordance with the following frequencies: 22 stations monthly, 10 stations annually, and 66 stations bimonthly frequency. (Table 11)

Table 11: Puerto Rico Coastal Permanent Network Water Quality Monitoring Stations

STATION ID	*FREQUENCY OF MONITORING*
MAC-043	6/BT, 1/PCM
SBZ-002	6/BT
SBZ-003	6/BT
SBZ-004	6/BT, 1/PCM
SBZ-005	6/BT
MAC-044	6/BT
MAC-086	1/BTPCM
SBZ-006	6/BT
MAC-047	6/BTPC, 1/M
SBZ-007	6/BT
MAC-049	1/BTPCM
SBZ-008	6/BT
SBZ-009	6/BT
MAC-055	6/BTPC, 1/M

STATION ID	*FREQUENCY OF MONITORING*
SBZ-010	6/BT
MAC-087	6/BT, 1/PCM
MAC-088	6/BT, 1/PCM
SZB-013	6/BT
SBZ-014	6/BT
MAC-061	6/BTPC, 1/M
MAC-077	6/BTPC, 1/M
SBZ-016	6/BT
MAC-063	6/BTPC, 1/M
SBZ-019	6/BT
SBZ-018	6/BT
MAC-072	12BT, 1PCM
MAC-071	12BT, 1PCM
MAC-070	12BT, 1PCM
B-1	12BT, 1PCM
MAC-074	12BT, 1PCM
EB-04	12BT
MAC-075	12BT, 1PCM
EB-14	12BT
EB-17	12BT
MAC-076	12BT, 1PCM
EB-23	12BT
EB-29	12BT
EB-31	12BT
003C	12BT, 1PCM
EB-35	12BT
EB-38	12BT
B-2	12BT, 1PCM
EB-40	12BT
EB-41	12BT
EB-42	12BT
004C	12BT, 1PCM
B-3	12BT, 1PCM
SBZ-024	6/BT
SBZ-025	6/BT
SBZ-026	6/BT
SBZ-027	6/BT
SBZ-028	6/BT
SBZ-030	6/BT
MAC-009	6/BT, 1/PCM
MAC-010	6/BTPC, 1/M
MAC-078	6/BTPC, O&G, 1/M
MAC-079	6/BTPC, 1/M
MAC-080	6/BTPC, 1/M
SBZ-033	6/BT
SBZ-034	6/BT
MAC-081	6/BTPC, 1/M
MAC-011	1/BTPCM
MAC-012	6/BTPC, 1/M
MAC-013	6/BTPC, O&G, 1/M

STATION ID	FREQUENCY OF MONITORING
SBZ-037	6/BT
SBZ-038	6/BT
MAC-082	6/BTPC, 1/M
SBZ-040	6/BT
MAC-083	6/BT, 1/PCM
MAC-017	6/BTPC, 1/M
MAC-016	1/BTPCM, O&G
MAC-018	1/BTPCM
MAC-019	6/BTPC, 1/M
SBZ-042	6BT
MAC-020	6/BTPC, 1/M
MAC-022	6/BTPC, O&G, 1/M
MAC-023	6/BTPC, 1/M
MAC-084	6/BT, 1/PCM
MAC-024	1/BTPCM, O&G
MAC-025	1/BTPCM, O&G
MAC-027	1/BTPCM
MAC-089	1/BTPCM
MAC-028	6/BTPC, 1/M
MAC-030	1/BTPCM
MAC-085	6/BT, 1/PCM
MAC-034	1/BTPCM
SBZ-045	6/BT
SBZ-046	6BT
SBZ-047	6BT
SBZ-048	6BT
MAC-037	6BT, 1/PCM
SBZ-050	6BT
SBZ-051	6BT
SBZ-052	6BT
MAC-038	6/BTPC, 1/M
MAC-040	6/BTPC, O&G,1/M
MAC-041	6/BT, 1/PCM
SBZ-054	6BT
SBZ-055	6BT

B – Microbiology analysis (Fecal Coliforms and Enterococcus)
T – Temperature (in the field)
PC – Physical and Chemicals Parameters: Salinity, pH, Dissolved Oxygen, Turbidity, NO_2 + NO_3, NH_3 and O&G (Oil & Grease)
M – Metals

- ***Beach monitoring and Notification Program Network***: Operated by PREQB, this network includes 34 stations distributed over 23 beaches in Puerto Rico. The Beach Monitoring and Notification Program network stations are sampled biweekly for bacteria (Fecal Coliforms, and Enterococcus).

In addition, PREQB may perform special sampling activities whenever necessary to investigate fish kills, hydrocarbons leaks and spills, and illegal discharges to storm sewers and water bodies in order to obtain water quality data to assess the impact and attempt to establish responsible parties.

All sampling and analytical activities are subjected to a Water Quality Assurance Program Plan, coordinated through the Quality Assurance Control Officer of the Water Quality Area and the Division of Environmental Science and Assessment of EPA Region II.

Each monitoring initiative is supported by the corresponding Quality Assurance Project Plan (QAPP), which must comply with the Water Program's Quality Assurance Management Plan (QAMP).

All samples are collected, preserved, transported and analyzed in accordance with the protocols established in the corresponding Quality Assurance Project Plan. The purpose and goals of PREQB's fixed monitoring station programs are:

1. Provide current data on the quality of the various water bodies throughout Puerto Rico.
2. Provide information on specific pollutants of concern and uses that may be impaired in the different water bodies monitored
3. Provide information on possible sources responsible for water quality impairment.
4. Provide information to determine the compliance with the water quality standards applicable to the different designated uses as established in the PRWQSR.
5. Determine if the pollution control measures being implemented throughout Puerto Rico are effective in protecting the quality of the different water bodies.

The field and analytical data generated are evaluated for compliance with quality control and quality assurance protocols, prior to entry into the EPA Store and Retrieval (STORET) database. These data are also maintained in databases at PREQB. The data generated from the stations sampled by the PREQB are available in the STORET system.

Data generated from the rivers and stream stations sampled and analyzed by the USGS are not available through STORET; however, the data is available through Internet (www.usgs.gov) or hardcopy files from the Caribbean Field Office.

Water's Quality External Data

In developing Section 303(d) lists, PREQB is required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information for which water quality problems have been reported by governmental agencies, members of the public or academic institutions. In addition to these categories, Puerto Rico is required to consider any other readily available data and information, but may decide to rely or not rely on particular matters. The list of sources PREQB has actively solicited data from includes government agencies and academic institutions these can be found in the Table 12 below. EQB requested recent (three years or less) chemical and biological data on water bodies along with information pertaining to the quality control procedure and protocols that were used to generate the data.

Table 12: Government Agencies and Academic Institutions contacted by EQB

NAME	POSITION	AGENCY
Monique Morales Quiles	Environmental Specialist	Permits and Regulation Administration
Agrim. Héctor del Río	Chairman	Associated General Contractors of America Puerto Rico Chapter

NAME	POSITION	AGENCY
Esther A. Astacio	Compliance Manager Drinking Water Compliance and Control Division	Puerto Rico Aqueduct and Sewer Authority
Biol. Miguel A. del Valle	Environmental Projects Manager Environmental Studies Office	Puerto Rico Highway and Transportation Authority
Adaliz Martínez	Environmental Analyst Planning Division	Solid Waste Management Authority
María de Lourdes Alvarez	Environmental Educator Planning Division	Solid Waste Management Authority
Ruberto Berríos	Manager Water Quality Department	Puerto Rico Electric Power Authority
Milagros Rodríguez	Manager Environmental Affair Office	Puerto Rico Ports Authority
Luis Encarnación	Acting Director	Jobos Bay National Estuarine Reserve
Eng. Antonio A. Medina Delgado	Chairman	College of Engineers and Land Surveyors of Puerto Rico
Mr. Edwin Hernández	Land Preservation Office	Department of Agriculture
Raúl Santini	Coordinator Zone Coast Division	Department of Natural and Environmental Resources
Ernesto L. Díaz	Director Coastal Zone Program	Department of Natural and Environmental Resources
José A. Rivera		Caribbean Environmental Protection Agency
John Kushuara	Division of Environmental Science and Assessment Monitoring and Assessment Branch	US Environmental Protection Agency
Dr. Jorge Bauzá	Environmental Scientific	San Juan Estuary Bay
Rafael Morales Martínez	Coordinator Flood Unit	Puerto Rico Planning Board
Wilfredo Mass	Planning Analyst Flood Unit	Puerto Rico Planning Board
Rose Ortiz	Planning Analyst Zone Coast Division	Puerto Rico Planning Board
Erick Hawk	Section 7 Coordinator Southeast Regional Office	National Marine Fisheries Services
Prof. Lourdes Echevarría García	Director-College of Sciences	Pontifical Catholic University of Puerto Rico
Dra. María A. Rodríguez Martínez	College of Sciences	Pontifical Catholic University of Puerto Rico
Dra. Sandra Molina	Coordinator Department of Environmental Sciences	Pontifical Catholic University of Puerto Rico
Eng. Warner Palermo	Chairman	Puerto Rico Water & Environmental Association
Dra. Graciela I. Ramírez Toro	Director of CECIA	Interamerican University of Puerto Rico
Dr. Miguel Muñoz	Acting Director Department of Agronomy and Soils	University of Puerto Rico—Mayagüez Campus
Dra. Nilda E. Aponte	Director Department of Marine Sciences	University of Puerto Rico – Mayagüez Campus
Dr. Luis R. Perez Alegría	Professor Department of Agricultural and Bio-Systems Engineering	University of Puerto Rico– Mayagüez Campus

NAME	POSITION	AGENCY
Dr. Jorge Rivera Santos	Director Water Resources Institute	University of Puerto Rico–- Mayagüez Campus
Ruperto Chaparro	Director Sea Grant College Program	University of Puerto Rico – Mayagüez Campus
Dra. Ana Navarro	Water Quality - Marine Outreach Program Sea Grant College Program	University of Puerto Rico– Mayagüez Campus
Gloriselle Negrón Ríos	Environmental Health Specialist	Agriculture Extension Services
Dr. Rafael F. Dávila López	Agricultural and Civil Engineer Engineering Office	Agriculture Extension Services
Juan A. Martínez	Director	Natural Resources Conservation Service (NRCS) Caribbean Area
Damaris Medina	State Engineer	Natural Resources Conservation Service (NRCS) Caribbean Area
Marisol Morales	Biologist	Natural Resources Conservation Service (NRCS) Caribbean Area
Edwin Muñiz	Supervisor PR Field Office	US Fish and Wildlife Service
Dr. Angel Rivera Collazo	Dean School of Science and Technology	Turabo University
Dr. Carlos M. Padín Bibiloni	Dean School of Environmental Affairs	Metropolitan University of Puerto Rico
Ing. José Borrageros	Director Department of Civil and Environmental Engineering	Polytechnic University of Puerto Rico

As result of the water quality data request, the following agencies and/or institutions responded and submitted data. Each bullet summarizes which data was used (number of stations and parameters). Also, the reasons for which the data cannot be used.

- Sr. James Kurtenback-EPA
  - ✓ PR Stream Survey Project
  - ✓ The monitoring network consist of 50 monitoring stations (See Figure 15)
  - ✓ Submitted nutrients and turbidity data

- Sra. Yazmin Laguer-EPA CEPD
  - ✓ DMR data (from the past three years)

- San Juan Bay Estuary System Program

  - ✓ The monitoring networks consist of 23 monitoring stations in the San Juan Bay Estuary System. (See Figure 16).
  - ✓ 15 parameters are monitored

- Miyoko Sacashita, Center Biological Diversity, San Francisco, CA

  - ✓ No data was included, only referenced documents, therefore, was not used.
  - ✓ The recommendations are related to include as category 5 all coastal waters due to dissolved carbon dioxide.

- NRCS- Bahía de Jobos (Letter from Mr. Juan Martínez)

  - ✓ Internet available data
  - ✓ Monitoring network consist of 4 monitoring stations located in each of 27 reserve.
  - ✓ Temperature, pH, salinity, Dissolved Oxygen and turbidity data

- PR Port Authority- Mrs. Milagros Rodríguez Castro

  - ✓ Laguna Torrecilla - Runway 26 Safety Area and Taxiway Sierra Embankment Project
  - ✓ pH, Temperature, Dissolved Oxygen, Oil and Grease, Suspended Solid, Turbidity, Color, Odor, Sulfates, and Surfactants data

- Pontificia Universidad Católica de Puerto Rico –Sra. Hilda Santiago

  - ✓ Submitted water quality data from Non-PRASA Wells located in the facility
  - ✓ The data subject was not used because it could not be determined the exact location of the well. We will be working with them to use the data generated in the next cycle.

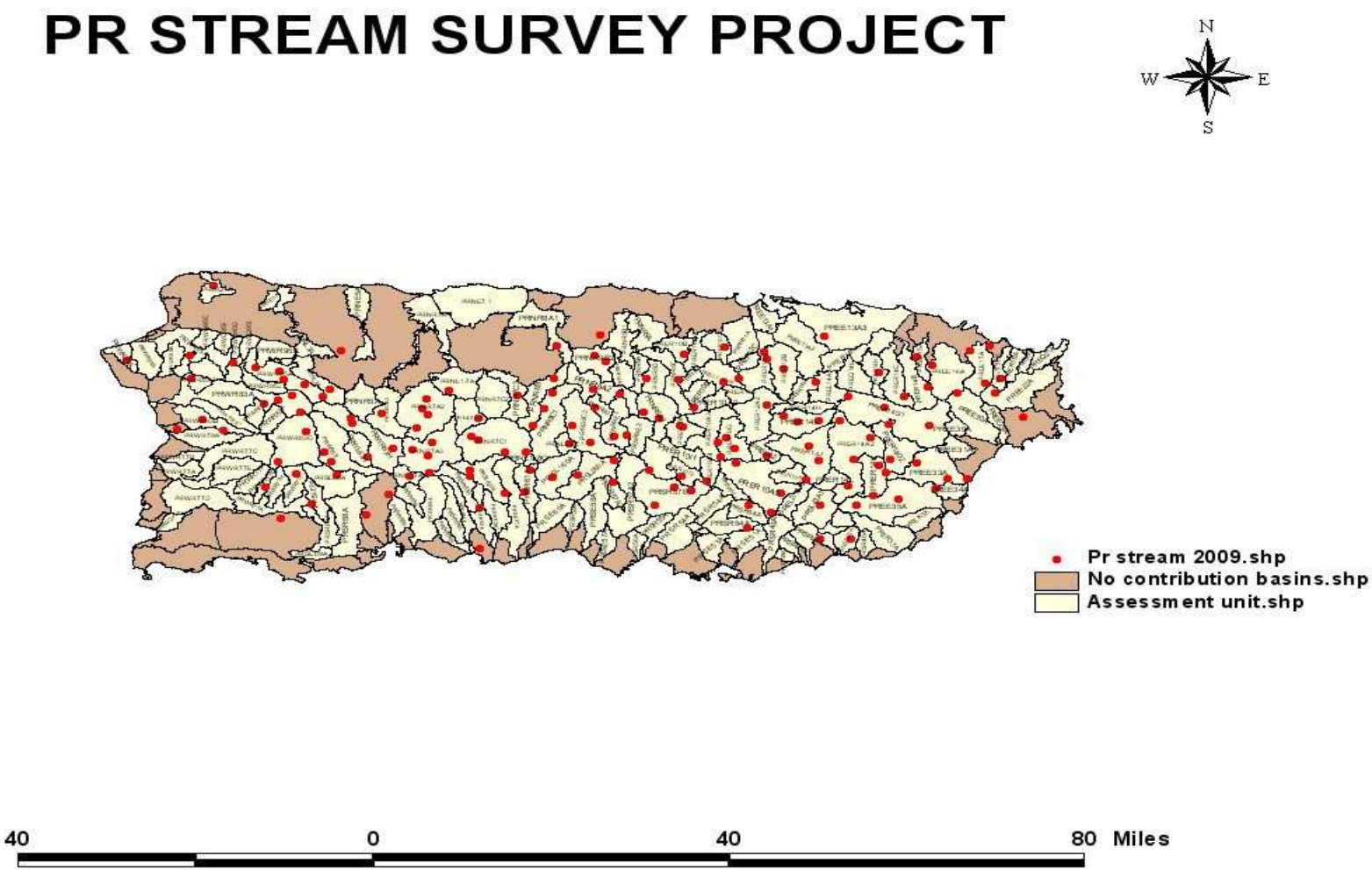


Figure 15: PR Stream Survey Project Monitoring Stations

Figure 16: San Juan Estuary Bay System Monitoring Stations

Unmonitored waters

To address the unmonitored waters in order to make a use support determination, PREQB will developed a monitoring strategy for the different designated uses based in a combination of physical, chemical and bacteriological measures. PREQB is working in the establishment of monitoring stations on waterbodies of exceptional quality or high ecological value or recreational, Class SA waters as defined in the PRWQSR, that includes bioluminescent lagoons and bays such as La Parguera and Monsio José on the Southern Coast, and Bahía Mosquito in Vieques municipality.

One hundred percent (100%) of the funds available under Section (604(b) in the American Recovery and reinvestment Act of 2009 (ARRA funds), allocated to the Commonwealth of Puerto Rico, will be used to perform synoptic sampling studies in non-monitored streams in the Eastern, Southern, and Western Hydrological Regions of the Island. All the data generated by those synoptic studies will be available to be used in the next cycle of the 305(b)/303(d) Integrated Report. Those studies are:

1. Perform a synoptic sampling study during wet/dry seasons of unmonitored streams in the Southern and Western Hydrological Regions – The parameters to be analyzed will be: Fecal Coliforms, Total Coliforms, pH, Temperature, Dissolved Oxygen, Specific Conductance, Flow, Surfactants, and Nutrients.
2. In the Eastern Hydrological Regions Eastern Hydrological Region perform a synoptic sampling study during wet/dry seasons that includes the parameters of: Fecal Coliforms, Total Coliforms, pH, Temperature, Dissolved Oxygen, Specific Conductance, Flow, Surfactants, and Nutrients
3. Perform a synoptic sampling study during wet/dry seasons for Fecal Coliforms, Total Coliforms, pH, Temperature, Dissolved Oxygen, Specific Conductance, Flow, Surfactants, Trace Metals, Persistent Pesticides, and Nutrients within the Río Grande de Añasco, Río Culebrinas, and Río Guanajibo Basins (priority watersheds in the Western Region). This study will include the sampling of ten wells located in the above-mentioned basins for pH, Temperature, Dissolved Oxygen, Specific Conductance, and Persistent Pesticides. These three basins comprise most of the area where the agricultural activity is most intensive in the western region of Puerto Rico. The sampling network to be used for Culebrinas and Añasco will be the same as the one used in the previous synoptic study for these two basins. The network to be established in the Rio Guanajibo basin will be consistent with the new basin segmentation system used in the Añasco and Culebrinas basins, thus sampling stations will be located at the base of each assessment unit (sub-basin) in order to assess the complete basin following the current segmentation system used to develop the 303(d)/305(b) Integrated Report.

Designated Uses, and Applicable Water Quality Standards

The Puerto Rico Water Quality Standards Regulation (PRWQSR, as amended) established, as goals, the need to preserve, maintain and enhance the quality of the waters of Puerto Rico to assure that they are compatible with the social and economic needs of Puerto Rico and comply with the requirements of the Federal Clean Water Act. The current PRWQSR in effect is that promulgated in March 2003. At the present time this regulation is undergoing public participation process for the corresponding revision prior to submittal to EPA for review and approval. The purposes set forth in the current PRWQSR are:

1. Designate the use for which the quality of the waters of Puerto Rico shall be maintained and protected;
2. Prescribe the water quality standards required to sustain the designated uses;
3. Identify other rules and regulations applicable to sources of pollution that may affect the quality of waters subject to the PRWQSR; and,

4. Prescribe additional measures necessary for implementing, achieving and maintaining the prescribed water quality.

The PRWQSR establishes the designated uses to be maintained and protected for all waters in the archipelago of Puerto Rico. These uses include:

1. Protection and propagation of fish, shellfish and wildlife;
2. Direct and indirect contact recreation; and
3. Raw source of drinking water.

The PRWQSR also includes the corresponding standards to protect each of the designated uses. All waters reported in the IR were evaluated, based on availability of water quality data and/or other available information to determine if they comply with the different applicable water quality standards and whether or not the designated uses were attained. The designated uses and water body classification established in the PRWQSR are as follows:

CLASS SA - Coastal and estuarine waters of high quality and/or exceptional ecological or recreational values whose existing characteristics should not be altered, except by natural causes, in order to preserve the existing natural phenomena.

CLASS SB - Coastal and estuarine waters designated for primary and secondary contact recreation, and propagation and preservation of desirable species.

CLASS SC – Class SC includes the segments of the coastal waters identified below. The classification of these waters shall be applied from the zone subject to the ebb and flow of tides (mean sea level) to 10.3 nautical miles seaward.

- ✓ **Mayagüez Bay –** from Punta Guanajibo to Punta Algarrobo.
- ✓ **Yabucoa Port**
- ✓ **Guayanilla and Tallaboa Bays –** from Cayo Parguera to Puerto Verraco.
- ✓ **Ponce Port** – from Punta Carenero to Punta Cuchara.
- ✓ **San Juan Port** – from the mouth of Río Bayamón to Punta El Morro.

CLASS SD - Surface waters designated as to raw source of public water supply, propagation and preservation of desirable species, and for primary and secondary contact recreation.

CLASS SE - Surface waters and wetlands of exceptional ecological value, whose existing characteristics should not be altered in order to preserve the existing natural phenomena.

CLASS SG1 - Ground waters designated as sources of drinking water supply and for agricultural uses, including irrigation. Also, included under this class are those ground waters that flow into waters, which support ecological communities of exceptional ecological value in accordance with Sections 2.1.1 and 2.2.2 of the PRWQSR.

CLASS SG2 - Ground waters which, due to the high total dissolved solids concentration (concentrations greater than 10,000 mg/l), are not fit as sources of drinking water supply even after treatment. There are no water quality standards for this use.

The tables13 and 14 summarize the existing applicable water quality standards used to perform the assessment for the 2010 IR. Here are shown the maximum allowable concentrations for specific substances in coastal and estuarine waters, surface waters, and ground waters:

Table 13: Specific Water Quality Standards for Selected Parameters (as established in the PRWQSR)

PARAMETER	COASTAL WATERS (ug/l)	RIVERS AND STREAM (ug/l)	GROUNDWATERS (ug/l)
Arsenic (As)*,+	1.4 (AL)	0.18(HH)	50.0(DW)
Cadmium (Cd)+,%	9.3 (AL)	Note 1 (AL)	5.0 (DW)
Chromium III (Cr)+	-	Note 2 (AL)	-
Chromium VI	-	11 (AL)	-
Copper (Cu)+	3.1(AL)	Note 3 (AL)	1300 (DW)
Cyanide (CN^-)+	1.0 (AL)	5.2(AL)	200 (DW)
Fluoride (F^-)#	-	700.0 (DW)	-
Lead (Pb)+,%	8.1 (AL)	Note 4 (AL)	15.0 (DW)
Mercury (Hg)+	0.051(HH, AL)	0.050 (HH, AL)	2.0 (DW)
Nickel (Ni)+	8.2 (AL)	Note 5 (AL)	-
Nitrate + Nitrite (as N)	-	10,000.0 (DW)	-
Nitrogen (NO_3, $N0_2$, NH_3)	5,000.0	-	-
Selenium (Se)+	71.0 (AL)	5.0 (AL)*	50.0 (DW)
Silver (Ag)+	2.0 (AL)	Note 6 (AL)	-
Sulfide (Undissociated H_2S)	2.0 (AL)	2.0 (AL)	-
Zinc (Zn)+	81.0 (AL)	Note 7 (AL)	-

AL - Standard based on protection of the water body for the propagation and preservation of desirable species dependant on water quality.
DW - Standard based on protection of the water body for use as a raw source of drinking water supply.
HH - Standard based on protection of the water body or existing aquatic life for reasons of human health.

Note 1 - Concentration in ug/l must not exceed the numerical value given by $e^{(0.7852\ [\text{Ln Hardness}]\ -2.715)}$.
Note 2 - Concentration in ug/l must not exceed the numerical value given by $e^{(0.8190\ [\text{Ln Hardness}]\ +0.6848)}$.
Note 3 - Concentration in ug/l must not exceed the numerical value given by $e^{(0.8545\ [\text{Ln Hardness}]\ -1.702\ )}$.
Note 4 - Concentration in ug/l must not exceed the numerical value given by $e^{(1.2730\ [\text{Ln Hardness}]\ -\ 4.705)}$.
Note 5 - Concentration in ug/l must not exceed the numerical value given by $e^{(0.8460\ [\text{Ln Hardness}]\ +\ 0.058)}$.
Note 6 - Concentration in ug/l must not exceed the numerical value given by $e^{(1.72\ [\text{Ln Hardness}]\ -\ 6.52)}$.
Note 7 - Concentration in ug/l must not exceed the numerical value given by $e^{(0.8473\ [\text{Ln Hardness}]\ +\ 0.884)}$.

***** Identifies a substance that may be a carcinogen.
+ Identifies a priority pollutant.
# Identifies a substance whose numeric standard for coastal waters will be evaluated to determine the feasibility of eliminating it.
% In cases where the surface water body is used as a source of drinking water supply, the water quality standard for the indicated substance shall not exceed the drinking water standard upstream from the water intake.

Table 14: Water Quality Standards for Specific Classifications

PARAMETER	SA	SB	SC	SD	SE
Chlorides	Note 1	-	-	250 mg/L	Note 1
Color	Note 1	Shall not be altered except by natural causes	Shall not be altered except by natural causes	15 Pt-Co.	Note 1
Dissolved Oxygen	Note 1	Not less than 5 mg/L	Not less than 4mg/L	Not less than 5 mg/L	Note 1
Enterococcus	Note 1	Note 3	Note 2 and Note 3	-	Note 1
Fecal Coliforms	Note 1	Note 4	Note 4	Note 4	Note 1
Other Pathogenic Organisms	Note 1	-	-	Free of Pathogens	Note 1
pH		7.3-8.5	7.3-8.5	6.0-9.0	Note 1
Sulfates	Note 1	2,800 mg/L	2,800 mg/L	250 mg/L	Note 1

PARAMETER	SA	SB	SC	SD	SE
Surfactants as MBAS	-	500 ug/L	500 ug/L	100 ug/L	Shall not be present
Taste and odor producing substances	-	Shall not be present	Shall not be present	Shall not be present	Note 1
Total Dissolved Solids	Note 1	-	-	500 mg/L	Note 1
Total Ammonia@	-	-	-	1mg/L at specific segments established in the WQSR	-
Total Coliforms	-	-	-	Note 5	Note 1
Total Phosphorous	Note 1	-	-	1 mg/L*	Note 1
Turbidity	Note 1	10 NTU	10 NTU	50 NTU	Note 1

***** Applicable in SD waters upstream from reservoirs, in segment with water in takes or estuarine waters.
@ Total Ammonia standard shall not exceed 1 mg/l upstream from the points given by coordinates for the following segments:

SEGMENT	COORDINATES	SEGMENT	COORDINATES
Río Cibuco	18°21'13" 66°20'07"	Río Cagüitas	18°15'11" 66°01'26"
Río Hondo	18°26'13" 66°09'36"	Río Bairoa	18°15'28" 66°02'13"
Río Guaynabo	18°22'32" 66°07'59"	Río Chico	17°59'16" 66°00'18°
Río Bayamón	18°24'39" 66°09'09"	Río Coamo	18°03'52" 66°22'10"
Río Piedras	18°24'34" 66°04'10"	Río Guayanilla	18°00'50" 66°47'04"
Quebrada Blasina	18°23'27" 65°58'28"	Río Guanajibo	18°07'18" 67°03'56"

Note 1 - No parameter, whether or not considered in this classification, shall be altered in concentration, except by natural causes. Substances reactive with methylene blue shall not be present.

Note 2 – Water Quality Standard Regulations, Federal Register, Vol. 69, No. 16, Monday, January 26, 2004, Rules and Regulations, Page 3514.
Note 3- In waters intensely used for primary contact recreation, like special bathing zones (beaches) the Enterococcus density in terms of geometric mean of at least five representative samples taken sequentially shall not exceed 35 col/100mL. No single sample should exceed the upper confidence limit of 75% using 0.7 as the log standard deviation, until sufficient site data exist to establish a site-specific log standard deviation
Note 4- The fecal Coliforms geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 200 col/100mL, and not more than 20 percent of the samples shall exceed 400 col/100mL.
Note 5- The Coliforms geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 10,000 col/100mL of total Coliforms or 200 col/100mL of fecal Coliforms. Not more than 20 percent of the samples shall exceed 400 col/100mL of fecal Coliforms.

Assessment Categories

The current assessment of the water quality in Puerto Rico was performed taking into consideration the five (5) attainment categories currently required to be used for the 305(b)/303(d) Integrated Report. These attainment categories are:

Category 1: Waters that are attaining the applicable water quality standards for all designated uses.

Category 2: Waters that are attaining some of the designated uses, but no data is available to make attainment determinations for the remaining designated uses.

Category 3: Waters for which the information available is insufficient to determine if any designated uses are being attained.

Category 4: Waters in which particular designated uses are impaired or threatened and it is expected that they will meet the water quality standards with the implementation of the adequate and corresponding control measures without the development of TMDLs.

- ✓ **4a** – a state developed TMDL has been approved by EPA or a TMDL has been established by EPA for any segment/pollutant combination.
- ✓ **4b** – other required control measures are expected to result in the attainment of an applicable water quality standard in a reasonable period of time.
- ✓ **4c** – the non-attainment of any applicable water quality standard for the segment is the result of pollution and is not caused by a pollutant.

Category 5: Waters where at least one water quality standard was not attained (impaired or non-support assessment units). The unattainment of water quality standards requires the development and implementation of a TMDL. Waters identified as impaired are included in the 303(d) List.

Water Quality Assessment by Designated Uses

The surface waters (rivers, lakes, lagoons, estuaries and coasts) for which data are available were assessed for the following designated uses in accordance with the requirements of the Clean Water Act and the PRWQSR: primary contact recreation (swimming), secondary contact recreation, aquatic life and raw source of drinking water supply.

1. Primary Contact Recreation (swimming)

   a) Inland Waters
   For primary contact recreation the use support evaluation was based on the geometric mean of a series of representative samples (at least five) of Fecal Coliforms. When the geometric mean was less or equal to 200 colonies/100mL and the 20% of the individual samples did not exceed the value of 400 colonies/100mL the AU was classified support for swimming. If the segment failed to meet any of the above mentioned criteria, the AU was considered as non-support.

   b) Coastal Waters

   For primary contact recreation the use support evaluation was based on the geometric mean of a series of representative samples (at least five) of Fecal Coliforms. When the geometric mean was less or equal to 200 colonies/100mL and the 20% of the individual samples did not exceed the value of 400 colonies/100mL the AU was classified support for swimming. If the segment failed to meet any of the above mentioned criteria, the AU was considered as non-support. In waters intensely used for primary contact recreation, like special bathing zones (beaches) the Enterococcus density in term s of geometric mean of at least five representative sample taken sequentially shall not exceed 35/100mL. No single sample should exceed the upper confidence limit of 75% using 0.7 as the log standard deviation, until sufficient site data exist to establish a site-specific log standard deviation.

2. Secondary Contact Recreation:

   a) Inland Waters

   For secondary contact recreation the use support evaluation was based on the geometric mean of a series of representative samples (at least five) of Fecal Coliforms. When the geometric mean was less or equal to 2,000 colonies/100mL and the 20% of the individual

samples did not exceed the value of 4,000 colonies/100mL the AU was classified support for swimming. If the segment failed to meet any of the above mentioned criteria, the AU was considered as non-support.

b) Coastal Waters

Coastal segments designated for this use under the PRWQSR are currently under Federal promulgation as Primary Contact Recreation. All such segments were evaluated on the basis of Primary Contact Recreation, this being the most restrictive use.

The coastal waters Class SC will be assessed as Class SB. The applicable standard for these waters are: The geometric mean of a series of representative samples (at least five) of Fecal Coliforms a geometric mean was less or equal to 200 colonies/100mL and the 20% of the individual samples did not exceed the value of 400 colonies/100mL the AU was classified support for swimming. If the segment failed to meet any of the above mentioned criteria, the AU was considered as non-support. In waters intensely used for primary contact recreation, like special bathing zones (beaches) the Enterococcus density in term s of geometric mean of at least five representative sample taken sequentially shall not exceed 35/100mL. No single sample should exceed the upper confidence limit of 75% using 0.7 as the log standard deviation, until sufficient site data exist to establish a site-specific log standard deviation.

For secondary contact recreation the use support evaluation was based on the geometric mean of a series of representative samples (at least five) of Fecal Coliforms. When the geometric mean was less or equal to 2,000 colonies/100mL and the 20% of the individual samples did not exceed the value of 4,000 colonies/100mL the AU was classified support for swimming. If the segment failed to meet any of the above mentioned criteria, the AU was considered as non-support.

3. Aquatic Life Use Support (ALUS) for rivers, lakes, estuaries and coasts:

The aquatic life use support was determined on the basis of physical and chemical data obtained from the monitoring stations. At the present time PREQB's efforts to implement the EPA developed Rapid Bioassessment Protocol (RBP) have not been successful. We have continued to participate with EPA in seeking different alternatives to determine (1) if lower resolution of taxonomic identification provides useful relationships and (2) if the RBP are applicable or not to the Caribbean waters.

Currently, the ALUS is based on the physical /chemical data collected on semi-annual frequency grab sampling incursions during key periods (high and low flows) for all parameters applicable to this use as indicated in the PRWQSR.

In all cases, each parameter considered was evaluated strictly in accordance with the applicable standard. The toxic parameters taken into consideration were:

Ammonia (NH_3)	Mercury (Hg)	Selenium (Se)
Arsenic (As)	Silver (Ag)	Surfactants
Cadmium (Cd)	Total Chromium (Cr)	Copper (Cu)
Cyanides (CN)	Lead (Pb)	

For these toxic parameters, a single violation of the standard was enough to classify the segment as non-support for the aquatic life use.

The conventional parameters used for the assessment of aquatic life use support were:

Dissolved oxygen (DO)	Temperature
Turbidity	pH

4. Raw Source of Drinking Water (rivers and lakes):

The assessment of the drinking water use was based on monitored contaminants listed in the PRWQSR and the data obtained from the Source Water Assessment Program (SWAP). The additional criterion used to assess raw source of drinking water use was the presence of a water intake in the assessment unit. To assess the RSDW use, we considered compliance of water quality standards for the various toxic parameters indicated below:

Cadmium (Cd)	Nitrates + Nitrites (NO_3 + NO_2)
Copper (Cu)	Selenium (Se)
Cyanides (CN)	Silver (Ag)
Fluoride	Total Chromium (Cr)
Lead (Pb)	Total Phosphorus (P)
Mercury (Hg)	

In all cases, each parameter considered was evaluated strictly in accordance with the applicable standard. For toxic parameters, a single violation of the standard was enough to classify the segment non-support for Raw Sources of Drinking Water.

Assessment Results

Following you will find the assessment tables for this 2010 cycle. (Tables 15 to 33). For this assessment PREQB considered the most recent two consecutive years (2008-2009) of available water quality data for each AU. In addition, PREQB has solicited data from government agencies and academic institutions for the same period (2008-2009). The following do not reflect impaired waters from previous cycles. For a complete list of impaired waters of Puerto Rico, which includes causes of impairments from previous cycles that have not been delisted, please refer to Appendix I- 2010 Cycle 303(d) List.

Table 15: Size of Waters Assigned to Reporting Categories

WATERBODY TYPE	CATEGORY							TOTAL IN STATE	TOTAL ASSESSED
	1	2	3	4a	4b	4c	5		
Rivers and Streams - miles	481.5	0	1,494.6	586.7	0	429.6	2,053.0	5,045.4	5,045.4
Reservoirs - acres	35	0	0	0	0	0	7,288	7,323	7,323
Estuaries - acres	141.3	0	3,086.4	0	0	179.3	23.29	3,430.3	3,430.3
Coastal Waters - miles	72.87	252.58	65.01	0	0	0	156.17	546.63	546.63

Total of assessed miles without monitoring station 2,176.1
Total of assessed miles with monitoring station 2,869.3
TOTAL 5,045.4

Rivers and Streams

Table 16: Size of waters Impaired by Causes (Monitored Miles for Rivers and Streams)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (miles)
Fecal Coliforms (1700)	1,396.0
Arsenic (0510)	1,996.5
Turbidity (2500)	1,393.9
Low Dissolved Oxygen (1200)	305.9
Surfactants (0400)	641.4
Copper (0530)	535.6
Thermal Modifications (1400)	188.9
Cyanide (0720)	466.3
Ammonia (0600)	121.4
Pesticides (0200)	0
Phosphorus (0910)	76.3
Lead (0550)	226.9
Mercury (0560)	142.6
pH (1000)	43.5

Table 17: Size of Waters Impaired by Sources (Assessed and Monitored Rivers and Streams)

SOURCES OF IMPAIRMENTS	SIZE OF WATER IMPAIRED
Onsite Wastewater Systems (6500)	4,569.0
Confined Animal Feeding Operations (1640)	2,854.3
Urban Runoff/Storm Sewers (4000)	2,759.9
Minor Industrial Point Source (0120)	2,754.1
Landfills (6300)	1,981.2
Agriculture (1300)	2,226.3
Collection System Failure (0500)	2,118.2
Minor Municipal Point Source (0220)	829.7
Major Municipal Point Source (0210)	1,310.0
Surface Mining (5100)	524.2
Package Plants (Small Flows) (0230)	330.2
Major Industrial Point Source (0110)	146.9
Land Development (3200)	433.2

Table 18: Rivers and Streams Assessment (Monitored and Unmonitored)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
QUEBRADA DE LOS CEDROS	QUEBRADA DE LOS CEDROS PRNQ1A	12	ED-PR09GRAD-027	**4c**	**4c**	**4c**	**4c**	**A**	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
QUEBRADA DEL TORO	QUEBRADA DEL TORO PRNQ2A	1.0		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater systems (6500)	
RIO GUAJATACA	RIO GUAJATACA PRNR3A1	9.9	NS 50011400	**1**	**1**	**5**	**5**		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Landfills (6300) Minor Industrial Point Source (0120)	Arsenic (0510) Low Dissolved Oxygen (1200)
	RIO GUAJATACA PRNR3A2	22	NS 50010500	**5**	**1**	**5**	**5**		Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700)
	QUEBRADA LAS SEQUIAS PRNQ3B	3.5		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
QUEBRADA BELLACA	QUEBRADA BELLACA PRNQ4A	1.7		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
RIO CAMUY	RIO CAMUY PRNR5A	48.6		**3**	**3**	**3**	**3**	**O**	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
QUEBRADA SECA	QUEBRADA SECA PRNQ6A	2.0		**3**	**3**	**3**	**3**	**O**	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO PRNR7A1	31.4	NS 50029000 50027250 A1-B	**5**	**1**	**5**	**5**		Collection System Failure (0500) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Urban Runoff/Storm Sewers (4000) Major Industrial Point Source (0110) Agriculture (1300)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500)
	RIO GRANDE DE ARECIBO PRNR7A2	122.8	NS 50025000 A3-A A3-B ED-PR09GRAD-020, 056	**5**	**1**	**5**	**5**	**K**	Confined Animal Feeding Operations (1640) Agriculture (1300) Minor Municipal Point Source (0220) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500) Landfills (6300) Land Development (3200)	Arsenic (0510) Fecal Coliforms (1700)
	TUNEL PRNR7A3	28.9	NS 50020500 ED-PR09GRAD-036, 052	**5**	**1**	**5**	**5**	**K**	Confined Animal Feeding Operations (1640) Agriculture (1300) Minor Municipal Point Source (0220) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO CAONILLAS PRNR7C1	87	NS 50026050 A4-A A4-B ED-PR09GRAD-012	**5**	**1**	**5**	**5**	**K**	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Landfills (6300) Land Development (3200) Major Municipal Point Sources (0210) Surface Mining (5100)	Arsenic (0510) Fecal Coliforms (1700)
	RIO LIMON PRNR7C2	40.7	NS A1-A	**2**	**2**	**5**	**1**		Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230) Agriculture (1300) Minor Industrial Point Source (0120)	Low Dissolved Oxygen (1200)
	RIO YUNES PRNR7C3	32.7	NS A2-A A2-B ED-PR09GRAD-024	**1**	**1**	**1**	**1**	**K**		
	RIO TANAMA PRNR7B1	16.2		**N/A**	**N/A**	**3**	**3**	**O**	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
	RIO TANAMA PRNR7B2	43.5	NS 50028000 A5-A2	**5**	**1**	**5**	**5**		Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Land Development (3200)	Arsenic (0510) Fecal Coliforms (1700) pH (1000)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO GRANDE DE MANATÍ	RIO GRANDE DE MANATÍ PRNR8A1	31	NS 50038100	**5**	**5**	**5**	**5**		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Collection System Failure (0500) Landfills (6300)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)
	RIO GRANDE DE MANATÍ PRNR8A2	38.1	NS 50035500 50031200 ED-PR09GRAD-014	**5**	**1**	**5**	**5**	**K**	Confined Animal Feeding Operations (1640) Collection System Failure (0500) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)
	RIO GRANDE DE MANATÍ PRNR8A3	27		**3**	**3**	**3**	**3**	**O**	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Landfills (6300) Onsite Wastewater Systems (6500)	
	RIO CIALITO PRNR8B	25.8	NS 50035950	**5**	**1**	**5**	**5**		Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Agriculture (1300) Confined Animal Feeding Operations (1640) Collection System Failure (0500)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Copper (0530) Surfactants (0400)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO TORO NEGRO PRNR8C1	41.5	ED-PR09GRAD-040	2	2	1	1	K		
	RIO BAUTA PRNR8C2	27.6	ED-PR09GRAD-030, 058	2	2	1	1	K		
	RIO SANA MUERTOS PRNR8D	16		3	3	3	3	O	Onsite Wastewater Systems (6500) Agriculture (1300)	
	RIO OROCOVIS PRNR8E1	19.8	NS 50030700 ED-PR09GRAD-003	5	5	5	5	K	Minor Industrial Point Source (0120) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Landfills (6300) Collection System Failure (0500)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)
	RIO BOTIJAS PRNR8E2	19.1		3	3	3	3	O	Minor Municipal Point Source (0220) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
RIO CIBUCO	RIO CIBUCO PRNR9A	31.1	NS 50038320 50039500	4a	4a	5	5	B	Major Municipal Point Source (0210) Landfills (6300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Agriculture (1300) Collection System Failure (0500)	Arsenic (0510) Turbidity (2500) Surfactants (0400)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO INDIO PRNR9B1	12.5		4a	4a	3	3	B. O	Minor Industrial Point Source (0120) Collection System Failure (0500) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Urban Runoff/Storm Sewers (4000) Landfills (6300)	
	RIO MOROVIS PRNR9B2	25.5	ED-PR09GRAD-001, 017	4a	4a	1	1	B, K	Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Package Plant (Small Flow) (0230) Collection System Failure (0500) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Urban Runoff/Storm Sewers (4000) Landfills (6300)	
	RIO UNIBON PRNR9B3	17.4		4a	4a	3	3	B, O	Minor Municipal Point Source (0220) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Collection System Failure (0500)	
	RIO MAVILLAS PRNR9C	34.0		4a	4a	3	3	B, O	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Collection System Failure (0500)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO DE LOS NEGROS PRNR9D	24.1	ED-PR09GRAD-049	**4a**	**4a**	**1**	**1**	**B, K**	Minor Industrial Point Source (0120) Major Municipal Point Source (0210) Collection System Failure (0500) Agriculture (1300) Confined Animal Feeding Operations (1640) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
RIO DE LA PLATA	RIO DE LA PLATA PRER10A1	21	NS 50046000	**4a**	**1**	**5**	**5**	**C**	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Minor Municipal Point Source (0220) Major Industrial Point Source (0110) Major Municipal Point Source (0210) Surfaces Mining (5100)	Arsenic (0510) Turbidity (2500) Cyanide (0720)
	RIO DE LA PLATA PRER10A2	14.3		**4a**	**4a**	**3**	**3**	**C, O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO DE LA PLATA PRER10A3	55.7	NS 50044000 LP-5 LP-6 ED-PR09GRAD-026	**4a**	**1**	**5**	**5**	**C, K**	Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Landfills (6300) Agriculture (1300) Land Development (3200)	Arsenic (0510) Turbidity (2500) Low Dissolved Oxygen (1200)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO DE LA PLATA PRER10A4	10.2	NS 50043000 LP-4	4a	1	5	5	C	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Landfills (6300) Agriculture (1300)	Arsenic (0510) Turbidity (2500) Surfactants (0400) Copper (0530)
	RIO DE LA PLATA PRER10A5	92.7		4a	4a	3	3	C, O	Minor Industrial Point Source (0120) Major Municipal Point Source (0210) Minor Municipal Point Source (0220) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban/Runoff/Storm Sewers (4000)	
	RIO LAJAS PRER10B	16.6	ED-PR09GRAD-033	4a	4a	1	1	C, K	Minor Industrial Point Source (0120) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surface Mining (5100) Collection System Failure (0500)	
	RIO BUCARABONES PRER10C	19.2		4a	4a	3	3	C, O	Major Municipal Point Source (0210) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO CAÑAS PRER10D	10.4		4a	4a	3	3	C, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Collection System Failure (0500)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO GUADIANA PRER10E	21.8	NS 50044850	**4a**	**4a**	**5**	**5**	**C**	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Minor Municipal Point Source(0220) Collection System Failure (0500) Land Development (3200) Onsite Wastewater Systems (6500)	Arsenic (0510) Turbidity (2500)
	RIO CUESTA ARRIBA PRER10F	10.6		**4a**	**4a**	**3**	**3**	**C, O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Minor Industrial Point Source (0120)	
	RIO ARROYATA PRER10G	36.8	NS LP-3 ED-PR09GRAD-054	**4a**	**4a**	**1**	**1**	**C, K**	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Agriculture (1300) Collection System Failure (0500) Land Development (3200)	
	RIO HONDO PRER10H	25.6		**4a**	**4a**	**3**	**3**	**C, O**	Minor Industrial Point Source (0120) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Landfills (6300)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO USABON PRER10I1	54.6	ED-PR09GRAD-046	**4a**	**4a**	**1**	**1**	**C, K**	Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Landfills (6300)	
	RIO AIBONITO PRER10I2	18.7		**4a**	**4a**	**3**	**3**	**C, O**	Minor Industrial Point Source (0120) Major Municipal Point Source (0210) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO MATON PRER10J	15.8	NS LP-1 LP-2	**4a**	**1**	**5**	**1**	**C, O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Land Development (3200)	Low Dissolved Oxygen (1200)
	RIO GUAVATE PRER10K	19.8	ED-PR09GRAD-050	**4a**	**4a**	**1**	**1**	**C, K**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO HONDO	RIO HONDO PRER11A	22		**3**	**3**	**3**	**3**	**L, O**	Urban Runoff/Storm Sewers (4000) Collection System Failure (0500) Onsite Wastewater Systems (6500)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO BAYAMÓN	RIO BAYAMÓN PRER12A1	33.6	NS 50048510	**5**	**5**	**5**	**5**		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Collection System Failure (0500)	Arsenic (0510) Turbidity (2500) Copper (0530) Cyanide (0720) Lead (0550) Fecal Coliforms (1700)
	RIO BAYAMÓN PRER12A2	83.7	NS 50047600 ED-PR09GRAD-005	**5**	**1**	**5**	**5**	**K**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Minor Industrial Point Source (0120) Landfills (6300)	Arsenic (0510) Turbidity (2500) Cyanide (0720) Fecal Coliforms (1700)
	RIO GUAYNABO PRER12B	50.7	NS 50047990 ED-PR09GRAD-037	**5**	**5**	**5**	**5**	**K**	Collection System Failure (0500) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Landfills (6300)	Arsenic (0510) Turbidity (2500) Copper (0530) Cyanide (0720) Lead (0550) Fecal Coliforms (1700) Surfactants (0400)
	RIO MINILLAS PRER12C	8.7		**3**	**3**	**3**	**3**	**O**	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA PRER14A1	31	NS 50059100	**5**	**1**	**5**	**5**	**J**	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Major Municipal Point Source (0210) Major Industrial Point Sources (0110)	Arsenic (0510) Turbidity (2500) Copper (0530) Fecal Coliforms (1700) Surfactants (0400) Low Dissolved Oxygen (1200)
	RIO GRANDE DE LOIZA PRER14A2	86.6	NS 50055000 L-2 L-3	**4a**	**4a**	**5**	**5**	**D, H and M**	Onsite Wastewater Systems (6500) Surfaces Mining (5100) Confined Animal Feeding Operations (1640) Collection System Failure (0500) Landfills (6300) Urban Runoff/Storm Sewers (4000) Minor Industrial Point Source (0120) Major Municipal Point Source (0210) Agriculture (1300) Land Development (3200) Package Plant (Small Flow) (0230)	Arsenic (0510) Surfactants (0400)
	RIO CANOVANAS PRER14B	32.6		**3**	**3**	**3**	**3**	**O**	Confined Animal Feeding Operations (1640) Package Plant (Small Flow) (0230) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO CANOVANILLAS PRER14C	27.9		3	3	3	3	O	Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500)	
	QUEBRADA MARACUTO PREQ14D	22.9		3	3	3	3	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	QUEBRADA GRANDE PREQ14E	17.7		3	3	3	3	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plant (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	
	RIO CAÑAS PRER14F	9.4	ED-PR09GRAD-009	4a	4a	1	1	D, K	Confined Animal Feeding Operations (1640) Collection System Failure (0500) Onsite Wastewater Systems (6500)	
	RIO GURABO PRER14G1	124.3	NS 50057025 ED-PR09GRAD-025	4a	4a	5	5	D, H, K	Onsite Wastewater Systems (6500) Landfills (6300) Confined Animal Feeding Operations (1640) Surfaces Mining (5100) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Collection System Failure (0500)	Arsenic (0510) Turbidity (2500) Copper (0530)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO VALENCIANO PRER14G2	42.8	NS L-1 ED-PR09GRAD-018	**4a**	**4a**	**1**	**1**	**D, K**	Minor Industrial Point Source (0120) Package Plant (Small Flow) (0230) Landfills (6300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500) Agriculture (1300)	
	RIO BAIROA PRER14H	16.3	NS 50055410	**4a**	**1**	**5**	**5**	**D, H and M**	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Major Municipal Point Source (0210) Minor Industrial Point Source (0120)	Arsenic (0510) Phosphorus (0900) Surfactants (0400)
	RIO CAGÜITAS PRER14I	33.9	NS 50055250	**4a**	**4a**	**5**	**5**	**D, H and M**	Onsite Wastewater Systems (6500) Surfaces Mining (5100) Confined Animal Feeding Operations (1640) Collection System Failure (0500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Surfactants (0400) Turbidity (2500) Thermal Modifications (1400)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO TURABO PRER14J	54.7	NS L-5 ED-PR09GRAD-034	**4a**	**4a**	**1**	**1**	**D, K**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Agriculture (1300)	
	RIO CAYAGUAS PRER14K	38.5	NS L-4 ED-PR09GRAD-002	**4a**	**4a**	**1**	**1**	**D, K**	Confined Animal Feeding Operations (1640) Agriculture (1300) Onsite Wastewater Systems (6500) Land Development (3200)	
	RIO EMAJAGUA PRER14L	8.5		**4a**	**4a**	**3**	**3**	**D, O**	Onsite Wastewater Systems (6500)	
RIO HERRERA	RIO HERRERA PRER15A	17		**3**	**3**	**3**	**3**	**O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO ESPIRITU SANTO	RIO ESPIRITU SANTO PRER16A	58.4	NS 50063800	**5**	**1**	**5**	**5**		Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Landfills (6300) Collection System Failure (0500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Turdidity (2500)
RIO MAMEYES	RIO MAMEYES PRER17A	38.9		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Landfills (6300)	
QUEBRADA MATA DE PLATANO	QUEBRADA MATA DE PLATANO PREQ18A	4.0		**3**	**3**	**3**	**3**	**O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO SABANA	RIO SABANA PRER19A	33.1		**3**	**3**	**3**	**3**	**O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Minor Industrial Point Sources (0120) Major Municipal Point Sources (0210)	
RIO JUAN MARTÍN	RIO JUAN MARTÍN PRER20A	7.8		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA FAJARDO	QUEBRADA FAJARDO PREQ21A	10.0		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Collection System Failure (0500)	
RIO FAJARDO	RIO FAJARDO PRER22A	59.0	NS 50071000	**5**	**1**	**5**	**5**		Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Urban Runoff/Storm Sewers (4000) Landfills (6300) Minor Industrial Point Source (0120)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Turbidity (2500)
RIO DEMAJAGUA	RIO DEMAJAGUA PRER23A	2.8		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA CEIBA	QUEBRADA CEIBA PREQ24A	5.0		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA AGUAS CLARAS	QUEBRADA AGUAS CLARAS PREQ25A	4.8		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO DAGUAO	RIO DAGUAO PRER26A	13.8		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
QUEBRADA PALMA	QUEBRADA PALMA PREQ27A	11.8		**3**	**3**	**3**	**3**	**O**	Package Plants (Small Flow) (0230) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
QUEBRADA BOTIJAS	QUEBRADA BOTIJAS PREQ28A	7.4		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
RIO SANTIAGO	RIO SANTIAGO PRER29A	15.3		**3**	**3**	**3**	**3**	**O**	Collection System Failure (0500) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Landfills (6300) Confined Animal Feeding Operations (1640) Minor Municipal Point Sources (0220)	
RIO BLANCO	RIO BLANCO PRER30A	45.0		**3**	**3**	**3**	**3**	**O**	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120)	
	QUEBRADA PEÑA POBRE PREQ30B	13.4		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
RIO ANTON RUIZ	RIO ANTON RUIZ PRER31A	20.4		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
QUEBRADA FRONTERA	QUEBRADA FRONTERA PREQ32A	8.5		**3**	**3**	**3**	**3**	**O**	Collection System Failure (0500) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO HUMACAO	RIO HUMACAO PRER33A	55.8	NS 50082000	**5**	**5**	**5**	**5**		Collection System Failure (0500) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400)
RIO CANDELERO	RIO CANDELERO PRER34A	10.4		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
RIO GUAYANES	RIO GUAYANES PRER35A	94.6		**3**	**3**	**3**	**3**	**O**	Minor Industrial Point Sources (0120) Landfills (6300) Onsite Wastewater Systems (6500) Agriculture (1300)	
QUEBRADA EMAJAGUA	QUEBRADA EMAJAGUA PREQ36A	2.5		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
RIO MAUNABO	RIO MAUNABO PRER37A	36.0	NS 50091000	**5**	**1**	**5**	**5**		Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Agriculture (1300) Landfills (6300) Collection System Failure (0500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400) Thermal Modification (1400)
QUEBRADA MANGLILLO	QUEBRADA MANGLILLO PRSQ38A	1.0		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA FLORIDA	QUEBRADA FLORIDA PRSQ39A	3.0		**NE**	**NE**	**NE**	**NE**			
RIO JACABOA	RIO JACABOA PRSR40A	13.0		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
QUEBRADA PALENQUE	QUEBRADA PALENQUE PRSQ41A	1		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO CHICO	RIO CHICO PRSR42A	14.6		**4c**	**4c**	**4c**	**4c**	**A, L, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Agriculture (1300) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210)	
RIO GRANDE DE PATILLAS	RIO GRANDE DE PATILLAS PRSR43A1	4.0		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
	RIO GRANDE DE PATILLAS PRSR43A2	35.9	NS 50092000 ED-PR09GRAD-006	**1**	**1**	**5**	**5**	**I, K**	Onsite Wastewater Systems (6500)	Arsenic (0510)
	RIO MARIN PRSR43B	8.7		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
QUEBRADA YAUREL	QUEBRADA YAUREL PRSQ44A	6.0		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500)	
RIO NIGUAS DE ARROYO	RIO NIGUAS DE ARROYO PRSR45A	21		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Urban Runoff/Storm Sewers (4000) Package Plant (Small Flow) (0230)	
QUEBRADA SALADA	QUEBRADA SALADA PRSQ46A	1.7		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Surface Mining (5100) Confined Animal Feeding Operations (1640)	
QUEBRADA CORAZON	QUEBRADA CORAZON PRSQ47A	9.7		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
QUEBRADA BRANDERI	QUEBRADA BRANDERI PRSQ48A	4.5		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Collection System Failure (0500)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO GUAMANI	RIO GUAMANI PRSR49A	22.0		**4c**	**4c**	**4c**	**4c**	**A, O**	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Urban Runoff/Storm Sewers (4000)	
QUEBRADA MELANIA	QUEBRADA MELANIA PRSQ50A	7.0		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Landfills (6300)	
RIO SECO	RIO SECO PRSR51A	24.7		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Agriculture (1300)	
QUEBRADA AMOROS	QUEBRADA AMOROS PRSQ52A	0.7		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500)	
QUEBRADA AGUAS VERDES	QUEBRADA AGUAS VERDES PRSQ53A	15.0		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
RIO NIGUAS DE SALINAS	RIO NIGUAS DE SALINAS PRSR54A	102.5	ED-PR09GRAD-022	**2**	**2**	**1**	**1**	**K**		
RIO JUEYES	RIO JUEYES PRSR55A	11.0		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Landfills (6300) Confined Animal Feeding Operations (1640) Agriculture (1300)	
RIO CAYURES	RIO CAYURES PRSR56A	5.0		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Agriculture (1300)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO COAMO	RIO COAMO PRSR57A1	7.5		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Landfills (6300) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Agriculture (1300)	
	RIO COAMO PRSR57A2	59.0	NS 50106500	**5**	**1**	**5**	**5**		Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Agriculture (1300) Minor Industrial Point Source (0120) Landfills (6300) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Thermal Modification (1400)
	RIO CUYON PRSR57B	49.2	ED-PR09GRAD-035	**2**	**2**	**1**	**1**	**K**		
RIO DESCALABRADO	RIO DESCALABRADO PRSR58A	18.8		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Confined Animal Feeding Operations (1640)	
RIO CAÑAS	RIO CAÑAS PRSR59A	8.0		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Agriculture (1300)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO JACAGUAS	RIO JACAGUAS PRSR60A1	22.8		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Agriculture (1300) Landfills (6300) Collection System Failure (0500) Minor Industrial Point Source (0120)	
	RIO JACAGUAS PRSR60A2	29.3		**3**	**3**	**3**	**3**	**O**	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Confined Animal Feeding Operations (1640) Landfills (6300)	
RIO INABON	RIO INABON PRSR61A	66.7	ED-PR09GRAD-042	**2**	**2**	**1**	**1**	**K**		
RIO BUCANA-CERRILLOS	RIO BUCANA-CERRILLOS PRSR62A1	27.8	NS 50114000	**1**	**1**	**5**	**5**		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Surfaces Mining (5100)	Arsenic (0510) Cyanide (0720)
	RIO BUCANA-CERRILLOS PRSR62A2	32.6		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Agriculture (1300)	
RIO PORTUGUES	RIO PORTUGUES PRSR63A	54.0	NS 50115000 50116200	**5**	**1**	**5**	**5**		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Minor Industrial Point Source (0120)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO MATILDE -PASTILLO	RIO MATILDE-PASTILLO PRSR64A	51.2		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Landfills (6300) Urban Runoff/Storm Sewers (4000) Agriculture (1300) Major Industrial Point Source (0110) Minor Industrial Point Source (0120) Confined Animal Feeding Operations (1640) Collection System Failure (0500) Package Plants (Small Flow) (0230)	
RIO TALLABOA	RIO TALLABOA PRSR65A	59.6		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Agriculture (1300) Minor Municipal Point Source (0220) Minor Industrial Point Source (0120)	
RIO MACANA	RIO MACANA PRSR66A	21.7		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Agriculture (1300) Minor Industrial Point Source (0120)	
RIO GUAYANILLA	RIO GUAYANILLA PRSR67A	60.0	NS 50124700 ED-PR09GRAD-016	**5**	**1**	**5**	**5**	**K**	Minor Municipal Point Source (0220) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Agriculture (1300) Landfills (6300)	Arsenic (0510) Fecal Coliforms (1700) Phosphorus (0900) Thermal Modifications (1400) Turbidity (2500)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
RIO YAUCO	RIO YAUCO PRSR68A1	61.4		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Collection System Failure (0500) Agriculture (1300)	
	RIO YAUCO PRSR68A2	18.3		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Agriculture (1300) Minor Industrial Point Source (0120)	
RIO LOCO	RIO LOCO PRSR69A1	92.4		**3**	**3**	**3**	**3**	**L, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Landfills (6300) Minor Industrial Point Source (0120) Agriculture (1300) Collection System Failure (0500) Major Municipal Point Sources (0210)	
	RIO LOCO PRSR69A2	19.5		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Agriculture (1300)	
RIO ARROYO CAJUL	RIO ARROYO CAJUL PRSR70A	7.4		**N/E**	**N/E**	**N/E**	**N/E**	**F**	Onsite Wastewater Systems (6500)	
QUEBRADA BOQUERON	QUEBRADA BOQUERON PRWQ71A	11.7		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA ZUMBON	QUEBRADA ZUMBON PRWQ72A	1.7		**4c**	**4c**	**4c**	**4c**	**A, O**	Collection System Failure (0500) Onsite Wastewater Systems (6500)	
QUEBRADA GONZALEZ	QUEBRADA GONZALEZ PRWQ73A	1.8		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500)	
QUEBRADA LOS PAJARITOS	QUEBRADA LOS PAJARITOS PRWQ74A	2.7		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
CAÑO CONDE AVILA	CAÑO CONDE AVILA PRWK75A	4.0		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA IRIZARRY	QUEBRADA IRIZARRY PRWK76A	2.0		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
RIO GUANAJIBO	RIO GUANAJIBO PRWR77A	121.4	NS 50138000 50133600	**5**	**1**	**5**	**5**		Onsite Wastewater Systems (6500) Collection System Failure (0500) Urban Runoff/Storm Sewers (4000) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120)	Ammonia (0600) Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)
	RIO HONDO PRWR77B	17.2		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO ROSARIO PRWR77C	58.3	NS 50136400	**5**	**1**	**5**	**5**		Onsite Wastewater Systems (6500) Landfills (6300) Urban Runoff/Storm Sewers (4000) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Agriculture (1300) Confined Animal Feeding Operations (1640) Collection System Failure (0500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)
	RIO VIEJO PRWR77D	21.1		**3**	**3**	**3**	**3**	**O**	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO DUEY Y RIO HOCONUCO PRWR77E	39.9		**3**	**3**	**3**	**3**	**O**	Agriculture (1300) Onsite Wastewater Systems (6500)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO CAIN PRWR77F	22.4		3	3	3	3	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Minor Industrial Point Source (0120)	
	RIO CUPEYES PRWR77G	8.0		3	3	3	3	O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO CRUCES PRWR77H	13.8		3	3	3	3	O	Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500)	
	RIO GRANDE PRWR77I	22.5		3	3	3	3	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Minor Industrial Point Source (0120)	
CAÑO MERLE	CAÑO MERLE PRWK78A	11.1		4c	4c	4c	4c	A, O	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Surface Mining (5100)	
RIO YAGÜEZ	RIO YAGÜEZ PRWR79A	42.2	NS 50138800	5	1	5	5		Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Agriculture (1300)	Arsenic (0510 Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
QUEBRADA DEL ORO	QUEBRADA DEL ORO PRWQ80A	10.0		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Collection System Failure (0500)	
CAÑO MANI	CAÑO MANI PRWK81A	3.0		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500)	
CAÑO BOQUILLA	CAÑO BOQUILLA PRWK82A	12.3		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Major Industrial Point Source (0110) Landfills (6300)	
RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO PRWR83A	126.0	NS 50146000 50144000 50143000 ED-PR09GRAD-047	**1**	**1**	**5**	**5**	**K**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Minor Industrial Point Source (0120) Confined Animal Feeding Operations (1640) Agriculture (1300) Major Municipal Point Sources (0210)	Arsenic (0510) Turbidity (2500)
	RIO CAÑAS PRWR83B	54.4		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Agriculture (1300)	
	RIO CASEY PRWR83C	38.1		**3**	**3**	**3**	**3**	**O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Agriculture (1300)	
	RIO HUMATA PRWR83D	13.3	ED-PR09GRAD-011	**2**	**2**	**1**	**1**	**K**		

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	RIO ARENAS PRWR83E	18.3		3	3	3	3	O	Minor Municipal Point Sources (0220) Agriculture (1300) Onsite Wastewater Systems (6500) Landfills (6300) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500)	
	RIO MAYAGUECILLO PRWR83F	18.0		3	3	3	3	O	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Agriculture (1300)	
	RIO GUABA PRWR83G	68.1	ED-PR09GRAD-032	2	2	1	1	K		
	RIO BLANCO PRWR83H	79.9	ED-PR09GRAD-015, 043	2	2	1	1	K		
	RIO PRIETO PRWR83I	59.8		3	3	3	3	O	Confined Animal Feeding Operations (1640) Agriculture (1300) Onsite Wastewater Systems (6500) Minor Industrial Point Source (0120)	
QUEBRADA JUSTO	QUEBRADA JUSTO PRWQ84A	1.0		4c	4c	4c	4c	A, O	Onsite Wastewater Systems (6500)	
QUEBRADA ICACOS	QUEBRADA ICACOS PRWQ85A	1.4		4c	4c	4c	4c	A, O	Onsite Wastewater Systems (6500)	
QUEBRADA CAGUABO	QUEBRADA CAGUABO PRWQ86A	1.0		4c	4c	4c	4c	A, O	Onsite Wastewater Systems (6500)	
CAÑO GARCIA	CAÑO GARCIA PRWK87A	2.0		4c	4c	4c	4c	A, O	Onsite Wastewater Systems (6500)	
QUEBRADA GRANDE DE CALVACHE	QUEBRADA GRANDE DE CALVACHE PRWQ88A	14.8		4c	4c	4c	4c	A, O	Onsite Wastewater Systems (6500)	
QUEBRADA LOS RAMOS	QUEBRADA LOS RAMOS PRWQ89A	6.9		4c	4c	4c	4c	A, O	Landfills (6300) Onsite Wastewater Systems (6500)	
QUEBRADA PUNTA ENSENADA	QUEBRADA PUNTA ENSENADA PRWQ90A	5.0		4c	4c	4c	4c	A, O	Onsite Wastewater Systems (6500)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
QUEBRADA PILETAS	QUEBRADA PILETAS PRWQ91A	2.0		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500)	
RIO GRANDE	RIO GRANDE PRWR92A	21.8		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500)	
CAÑO DE SANTI PONCE	CAÑO DE SANTI PONCE PRWK93A	4.8		**4c**	**4c**	**4c**	**4c**	**A, O**	Onsite Wastewater Systems (6500) Collection System Failure (0500)	
RIO GUAYABO	RIO GUAYABO PRWR94A	43.1		**3**	**3**	**3**	**3**	**O**	Package Plants (Small Flow) (0230) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO CULEBRINAS	RIO CULEBRINAS PRWR95A	142.6	NS 50149100 50147600 ED-PR09GRAD-031	**5**	**1**	**5**	**5**	**K**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Minor Municipal Point Source (0220) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Landfills (6300) Agriculture (1300) Confined Animal Feeding Operations (1640) Collection System Failure (0500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550) Mercury (0560) Surfactants (0400) Turbidity (2500)
	RIO CAÑO (RIO CAÑAS) PRWR95B	33.3		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	QUEBRADA GRANDE (SECTOR CUCHILLAS) PRWQ95C	11.4		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Agriculture (1300) Confined Animal Feeding Operations (1640)	
	QUEBRADA LAS MARIAS PRWQ95D	9.8		**3**	**3**	**3**	**3**	**O**	Onsite Wastewater Systems (6500) Agriculture (1300) Confined Animal Feeding Operations (1640)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
	QUEBRADA YAGRUMA PRWQ95E	20.6		3	3	3	3	O	Onsite Wastewater Systems (6500) Agriculture (1300) Confined Animal Feeding Operations (1640)	
	QUEBRADA LA SALLE PRWQ95F	11.8		3	3	3	3	O	Onsite Wastewater Systems (6500) Agriculture (1300) Confined Animal Feeding Operations (1640)	
	QUEBRADA EL SALTO PRWQ95G	7.8		3	3	3	3	O	Onsite Wastewater Systems (6500) Agriculture (1300) Confined Animal Feeding Operations (1640)	
	QUEBRADA GRANDE DE LA MAJAGUA PRWQ95H	5.6		3	3	3	3	O	Onsite Wastewater Systems (6500)	
	QUEBRADA SALADA PRWQ95I	7.9		3	3	3	3	O	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
	RIO SONADOR PRWR95J	37.7		3	3	3	3	O	Onsite Wastewater Systems (6500) Agriculture (1300) Confined Animal Feeding Operations (1640)	
	RIO GUATEMALA PRWR95K	20.3		3	3	3	3	O	Landfills (6300) Confined Animal Feeding Operations (1640) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
CAÑO CORAZONES	CAÑO CORAZONES PRWK96A	1.3		3	3	3	3	O	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	

NOTES: A - Watershed and sub watersheds under Category 4c are water bodies that lack adequate flow, which impaired some of the designated uses
B - Watershed that has and approved TMDL for Río Cibuco the TMDL was approved on September 2002, the pollutant was Fecal Coliforms
C - Watershed that has and approved TMDL for Río de la Plata the TMDL was approved on September 2003, the pollutant was Fecal Coliforms
D - Watershed that has and approved TMDL for Río Grande de Loíza the TMDL was approved on September 2007, the pollutant was Fecal Coliforms
F - 7.4 miles of this water body, Rio Arroyo Cajul, was not evaluated because this watershed was always dry in this cycle
H - Watershed that has approved TMDL from Río Grande de Loíza, a TMDL was approved on August 2007, the pollutant was Dissolved Oxygen
I - During the cycle 2008 by inadvertent error the monitoring station number 50092000 was located at the PRSR43A1 assessment unit instead of the assessment unit PRSR43A2. For this reason erroneously the assessment unit PRSR43A1 was included in the 2008 Cycle – List 303d. Consequently the assessment unit that must be included in the List is PRSR43A2
J – This assessment unit by inadvertent error was assessed as Category 4a during 2008 Cycle, due to the fact that this sub-basins has no approved TMDL
K - External Data provided by the Puerto Rico Streams Survey Project
L - For this assessment unit the monitoring station was eliminated since 2008 cycle
M - Watershed that has an approved TMDL for Río Grande de Loíza, the TMDL was approved on August 2007 the pollutants is Copper
O - This assessment unit was not monitored for 2010 cycle (2008-2009 federal fiscal years).
P - Watershed that has approved TMDL from Río Grande de Loíza, a TMDL was approved on August 2007, the pollutant was Ammonia.
NE – Not evaluated
R1 - Primary Contact Recreation
R2 - Secondary Contact Recreation
AL - Aquatic Life
DW - Raw Source for Drinking Water

Estuaries

Table 19: Size of waters Impaired by Causes (Monitored acres for Estuaries)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Arsenic (0510)	23.29
Fecal Coliforms (1700)	23.29
Low Dissolved Oxygen (1200)	0
Mercury (0560)	0
Pesticides (0200)	0
Surfactants (0400)	0
Turbidity (2500)	23.29

Table 20: Size of Waters Impaired by Sources (Assed and Monitored Estuaries)

SOURCES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Agriculture (1300)	168.6
Confined Animal Feeding Operations (1640)	1,508.3
Landfills (6300)	680.7
Major Municipal Point Source (0210)	791.8
Minor Industrial Point Source (0120)	100.6
Minor Municipal Point Source (0220)	0
Onsite Wastewater Systems (6500)	2,977.9
Urban Runoff/Storm Sewers (4000)	1,893.4
Collection System Failure (0500)	1,459.9
Land Development (3200)	0
Surface Mining (5100)	147.1
Major Industrial Point Sources (0110)	558.2
Highway/Road/Bridge Construction (3100)	0
Upstream Impoundment (7350)	358.1

Table 21: Estuaries Assessment (Except San Juan Estuary System)

BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES 2010				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
				R1	R2	AL	DW			
RIO GUAJATACA PRNR3A	RIO GUAJATACA PRNE3A	30.72		**3**	**3**	**3**	**N/A**	**O**	Urban Runoff/Storm Sewers (4000) Surface Mining (5100)	
QUEBRADA BELLACA PRNR4A	QUEBRADA BELLACA PRNE4A	2.68		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500)	
RIO CAMUY PRNR5A	RIO CAMUY PRNE5A	26.88		**3**	**3**	**3**	**N/A**	**O**	Minor Industrial Point Sources (0120)	
RIO GRANDE DE ARECIBO PRNR7A	RIO GRANDE DE ARECIBO PRNE7A	54.20		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Agriculture (1300)	
CAÑO TIBURONES PRNE7.1	CAÑO TIBURONES PRNE7.1	187.1 acres 38.7miles		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Landfills (6300) Confined Animal Feeding Operations (1640)	
RIO GRANDE DE MANATÍ PRNR8A	RIO GRANDE DE MANATÍ PRNE8A	164.86		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO CIBUCO PRNR9A	RIO CIBUCO PRNE9A	189.69 acres 19.6 miles		**N/A**	**N/A**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Landfills (6300) Major Municipal Point Source (0210) Collection System Failure (0500) Confined Animal Feeding Operations (1640)	
RIO DE LA PLATA PRER10A	RIO DE LA PLATA PREE10A	528.38 acres 24.4miles		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Major Municipal Point Source (0210) Collection System Failure (0500) Confined Animal Feeding Operations (1640)	
RIO GRANDE DE LOIZA PRER14A	RIO GRANDE DE LOIZA PREE14A	116.6 acres 439.04 acres 13.2 miles		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System failure (0500) Confined Animal Feeding Operations (1640)	
RIO HERRERA PRER15A	RIO HERRERA PREE15A	65.28		**3**	**3**	**3**	**N/A**	**O**	Landfills (6300) Onsite Wastewater Systems (6500)	
RIO ESPIRITU SANTO PRER16A	RIO ESPIRITU SANTO PREE16A	316.8 acres 51.71 acres		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Minor Municipal Point Source (0220) Major Industrial Point Source (0110)	
CAÑO RODRÍGUEZ PREE16.1	CAÑO RODRÍGUEZ PREE16.1	69.12		**3**	**3**	**3**	**N/A**	**O**	Upstream Impoundment (7350)	

BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES 2010				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
				R1	R2	AL	DW			
RIO MAMEYES PRER17A	RIO MAMEYES PREE17A	107.13		3	3	3	N/A	O	Onsite Wastewater Systems (6500) Surface Mining (5100)	
RIO SABANA PRER19A	RIO SABANA PREE19A	18.43	ED-PR09GRAD-029	2	2	1	N/A	K	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO JUAN MARTÍN PRER20A	RIO JUAN MARTÍN PREE20A	1.79		3	3	3	N/A	O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO FAJARDO PRER22A	RIO FAJARDO PREE22A	43.52	ED-PR09GRAD-013	2	2	1	N/A	K		
RIO DEMAJAGUA PRER23A	RIO DEMAJAGUA PREE23A	1.79		3	3	3	N/A	O	Onsite Wastewater Systems (6500) Collection System failure (0500)	
QUEBRADA AGUAS CLARAS PRER25A	QUEBRADA AGUAS CLARAS PREE25A	1.53		3	3	3	N/A	O	Upstream Impoundment (7350)	
RIO DAGUAO PRER26A	RIO DAGUAO PREE26A	43.0		3	3	3	N/A	O	Upstream Impoundment (7350)	
QUEBRADA PALMA PRER27A	QUEBRADA PALMA PREE27A	3.2		3	3	3	N/A	O	Upstream Impoundment (7350)	
QUEBRADA BOTIJAS PRER28A	QUEBRADA BOTIJAS PREE28A	12.28		3	3	3	N/A	O	Upstream Impoundment (7350)	
RIO SANTIAGO PRER29A	RIO SANTIAGO PREE29A	16.12		3	3	3	N/A	O	Onsite Wastewater Systems (6500)	
RIO BLANCO PRER30A	RIO BLANCO PREE30A	32.76		3	3	3	N/A	O	Upstream Impoundment (7350)	
RIO ANTON RUIZ PRER31A	RIO ANTON RUIZ PREE31A	82.94		3	3	3	N/A	O	Upstream Impoundment (7350)	
RIO HUMACAO PRER33A	RIO HUMACAO PREE33A	79.36	ED-PR09GRAD-041	2	2	1	N/A	K		
RIO CANDELERO PRER34A	RIO CANDELERO PREE34A	49.92		3	3	3	N/A	O	Onsite Wastewater Systems (6500) Collection System failure (0500)	
RIO GUAYANES PRER35A	RIO GUAYANES PREE35A	23.29	NS 50083500 ED-PR09GRAD-007, 023	5	5	5	N/A	K	Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)
CAÑO SANTIAGO PRER35.1	CAÑO SANTIAGO PREE35.1	73.72 acres 11.9 miles		3	3	3	N/A	O	Agriculture (1300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Major Municipal Point Source (0210) Landfills (6300) Minor Industrial Point Source (0120)	
RIO CHICO PRSR42A	RIO CHICO PRSE42A	5.12		3	3	3	N/A	O	Onsite Wastewater Systems (6500)	

BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES 2010				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
				R1	R2	AL	DW			
RIO GRANDE DE PATILLAS PRSR43A	RIO GRANDE DE PATILLAS PRSE43A	8.70		**3**	**3**	**3**	**N/A**	**O**	Urban Runoff/Storm Sewers (4000) Upstream Impoundment (7350)	
QUEBRADA SALADA PRSR46A	QUEBRADA SALADA PRSE46A	3.84		**4c**	**4c**	**4c**	**N/A**	**A, O**	Onsite Wastewater Systems (6500) Surface Mining (5100) Confined Animal Feeding Operations (1640)	
QUEBRADA CORAZON PRSR47A	QUEBRADA CORAZON PRSE47A	3.45		**4c**	**4c**	**4c**	**N/A**	**A, O**	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640)	
QUEBRADA BRANDERI PRSR48A	QUEBRADA BRANDERI PRSE48A	7.68		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA MELANIA PRSR50A	QUEBRADA MELANIA PRSE50A	7.68		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500)	
RIO SECO PRSR51A	RIO SECO PRSE51A	2.30		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
QUEBRADA AMOROS PRSR52A	QUEBRADA AMOROS PRSE52A	2.68		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
QUEBRADA AGUAS VERDES PRSR53A	QUEBRADA AGUAS VERDES PRSE53A	2.30		**4c**	**4c**	**4c**	**N/A**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Upstream Impoundment (7350)	
RIO NIGUAS DE SALINAS PRSR54A	RIO NIGUAS DE SALINAS PRSE54A	7.04		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
RIO COAMO PRSR57A	RIO COAMO PRSE57A	7.29		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Agriculture (1300)	
RIO DESCALABRADO PRSR58A	RIO DESCALABRADO PRSE58A	3.07		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Agriculture (1300)	
RIO JACAGUAS PRSR60A	RIO JACAGUAS PRSE60A	7.04		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Agriculture (1300)	
RIO INABON PRSR61A	RIO INABON PRSE61A	2.30		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO MATILDE-PASTILLO PRSR64A	RIO MATILDE-PASTILLO PRSE64A	27.64		**4c**	**4c**	**4c**	**N/A**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO TALLABOA PRSR65A	RIO TALLABOA PRSE65A	21.50		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Confined Animal Feeding Operations (1640)	

BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES 2010				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
				R1	R2	AL	DW			
RIO MACANA PRSR66A	RIO MACANA PRSE66A	2.30		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO YAUCO PRSR68A	RIO YAUCO PRSE68A	1.92		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
RIO LOCO PRSR69A	RIO LOCO PRSE69A	5.37		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Surface Mining (5100)	
QUEBRADA BOQUERON PRWR71A	QUEBRADA BOQUERON PRWE71A	6.14		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA ZUMBON PRWR72A	QUEBRADA ZUMBON PRWE72A	1.92		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA GONZALEZ PRWR73A	QUEBRADA GONZALEZ PRWE73A	5.12		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA LOS PAJARITOS PRWR74A	QUEBRADA LOS PAJARITOS PRWE74A	1.92		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500)	
RIO GUANAJIBO PRWR77A	RIO GUANAJIBO PRWE77A	36.86		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Collection System Failure (0500)	
CAÑO MERLE PRWR78A	CAÑO MERLE PRWE78A	101.12		**4c**	**4c**	**4c**	**N/A**	**A, O**	Onsite Wastewater Systems (6500) Collection System Failure (0500)	
RIO YAGÜEZ PRWR79A	RIO YAGÜEZ PRWE79A	12.28		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
CAÑO BOQUILLA PRWR82A	CAÑO BOQUILLA PRWE82A	39.68		**4c**	**4c**	**4c**	**N/A**	**A, O**	Onsite Wastewater Systems (6500)	
RIO GRANDE DE AÑASCO PRWR83A	RIO GRANDE DE AÑASCO PRWE83A	152.06		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500)	
QUEBRADA GRANDE CALVACHE PRWR88A	QUEBRADA GRANDE CALVACHE PRWE88A	1.28		**4c**	**4c**	**4c**	**N/A**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
QUEBRADA LOS RAMOS PRWR89A	QUEBRADA LOS RAMOS PRWE89A	.384		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Collection System Failure (0500)	
RIO GRANDE PRWR92A	RIO GRANDE PRWE92A	1.79		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500)	
CAÑO DE SANTI PONCE PRWR93A	CAÑO DE SANTI PONCE PRWE93A	2.04		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500)	

BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES 2010				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
				R1	R2	AL	DW			
RIO GUAYABO PRWR94A	RIO GUAYABO PRWE94A	18.43		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Confined Animal Feeding Operations (1640)	
RIO CULEBRINAS PRWR95A	RIO CULEBRINAS PRWE95A	86.01		**3**	**3**	**3**	**N/A**	**O**	Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	

NOTES:

A - Watershed and sub watersheds under category 4c are water bodies that lack adequate flow, which impaired some of the designated uses
K- External Data provided by the Puerto Rico Streams Survey Project
O - This assessment unit was not monitored for 2010 cycle (2008-2009 federal fiscal years).
R1 - Primary Contact Recreation
R2 - Secondary Contact Recreation
AL - Aquatic Life
DW - Raw Source for Drinking Water

San Juan Bay Estuary System

Table 22: Size of waters Impaired by Causes San Juan Bay Estuary System

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Arsenic (0510)	2,453.8 acres, 103.8 miles
Fecal Coliforms (1700)	2,453.8 acres, 103.8 miles
Low Dissolved Oxygen (1200)	2,555.8 acres, 120.7 miles
Mercury (0560)	64.6 acres, 55.9 miles
Copper (0530)	64.6 acres, 55.9 miles
Pesticides (0200)	0
Surfactants (0400)	2,453.8 acres, 103.8 miles
Oil and Grease (1900)	2,555.8 acres, 120.7 miles
Phosphorus (0910)	2,491.2 acres, 64.8 miles
Cyanide (0720)	2,453.8 acres, 103.8 miles
Ammonia (0600)	2,453.8 acres, 103.8 miles
pH (1000)	2,389.2 acres, 47.9 miles
Turbidity (2500)	2,555.8 acres, 120.7 miles

Table 23: Size of waters Impaired by Sources San Juan Bay Estuary System

SOURCES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Agriculture (1300)	0
Confined Animal Feeding Operations (1640)	2,453.8 acres, 103.8 miles
Landfills (6300)	64.6 acres, 55.9 miles
Major Municipal Point Source (0210)	102.0 acres, 16.9 miles
Minor Industrial Point Source (0120)	102.0 acres, 16.9 miles
Minor Municipal Point Source (0220)	0
Onsite Wastewater Systems (6500)	2,555.8 acres, 120.7 miles
Collection System Failure (0500)	2,555.8 acres, 120.7 miles
Urban Runoff/Storm Sewers (4000)	2,555.8 acres, 120.7 miles
Land Development (3200)	0
Surface Mining (5100)	0
Major Industrial Point Sources (0110)	166.6 acres, 72.8 miles
Highway/Road/Bridge Construction (3100)	0
Upstream Impoundment (7350)	0
Marinas and Recreational Boating (7900)	102.0 acres, 16.9 miles

Table 24: San Juan Bay Estuary System Assessment

BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES 2010				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
				R1	R2	AL	DW			
ESTUARY SYSTEM	**PREE13A1** Caño Control de La Malaria Bahía de San Juan Caño San Antonio Laguna Del Condado Península La Esperanza	8.0 miles 5.5 miles 3.4 miles 1.85 mi (102 acres)	NS 50049950 070 071 072	**1**	**1**	**5**	**N/A**		Major Industrial Point Sources (0110) Major Municipal Point Sources (0210) Marinas and Recreational Boating (7900) Minor Industrial Point Sources (0120) Onsite Wastewater System (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Oil &Grease (1900) Phosphorus (0910) Turbidity (2500)
ESTUARY SYSTEM	**PREE13A2** Río Piedras Lago Las Curías	55.9 miles 64.6 acres	NS 89027 89028 50049100 50048800	**5**	**5**	**5**	**5**		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Industrial Point Sources (0110) Onsite Wastewater System (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Arsenic (0510) Copper (0530) Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Mercury (0560) Oil &Grease (1900) Surfactants (0400) Turbidity (2500)
ESTUARY SYSTEM	**PREE13A3** Caño Martín Peña Quebrada Juan Méndez Quebrada San Antón Quebrada Blasina Canal Machicote Canal Suárez Laguna San José Laguna Torrecillas Laguna de Piñones Laguna Los Corozos	403.2 acres 47.9 miles 1,129 acres 608.0 acres 249.0 acres	NS 50050300 50049820 E D-PR09GRAD-053 E D -S-1(BG), S-2, S-3, S-4, S-5, S-6	**5**	**5**	**5**	**N/A**	**K, N**	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater System (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Oil &Grease (1900) pH (1000) Phosphorus (0910) Surfactants (0400) Turbidity (2500)

NOTES:

K - External Data provided by the Puerto Rico Streams Survey Project
N - External Data provided by the Laguna Torrecilla – Runway 26 Safety Area and Taxiway Sierra Embankment Project
R1 - Primary Contact Recreation
R2 - Secondary Contact Recreation
AL - Aquatic Life
DW - Raw Source for Drinking Water

Lagoons

Table 25: Size of waters Impaired by Causes (Monitored acres for Lagoons)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED
Arsenic (0510)	554
Fecal Coliforms (1700)	554
Low Dissolved Oxygen (1200)	0
Mercury (0560)	0
Pesticides (0200)	0
Surfactants (0400)	554
Turbidity (2500)	0
pH (1000)	0

Table 26: Size of waters Impaired by Sources (Monitored acres for Lagoons)

SOURCES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED
Agriculture (1300)	0
Confined Animal Feeding Operations (1640)	300
Landfills (6300)	14
Major Municipal Point Source (0210)	0
Minor Industrial Point Source (0120)	0
Minor Municipal Point Source (0220)	0
Onsite Wastewater Systems (6500)	1,961
Urban Runoff/Storm Sewers (4000)	1,352
Marinas and Recreational Boating (7900)	399
High/Road/Bridge Construction (4500)	77
Land Disposal (6000)	77

Table 27: Lagoons Assessment

MUNICIPALITY	WATERBODY NAME	ASSESSMENT UNIT (AU-ID)	MONITORING STATIONS NS = Network	WB SIZE (ACRES)	DESIGNATED USES AND CATEGORIES			NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL			
MAYAGÜEZ	Laguna Joyudas	PRWN0005		339	**3**	**3**	**3**	O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	None Known
VEGA BAJA-MANATÍ	Laguna Tortuguero	PRNN0006	NS 50038200	554	**5**	**1**	**5**		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Arsenic (0510) Surfactants (0400)
DORADO	Laguna Mata Redonda	PRNN0007		15	**3**	**3**	**3**	O	Onsite Wastewater Systems (6500)	None Known
FAJARDO	Laguna Aguas Prietas	PREN0011		128	**1**	**1**	**1**	O	None Known	None Known
FAJARDO	Laguna Grande	PREN0012		216	**3**	**3**	**3**	O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Marinas and Recreational Boating (7900)	None Known
CEIBA	Laguna Ceiba	PREN0013		120	**1**	**1**	**1**	O	None Known	None Known
GUAYAMA	Laguna Pozuelo	PRSN0014		35	**3**	**3**	**3**	O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	None Known
SALINAS	Laguna Mar Negro	PRSN0015		208	**3**	**3**	**3**	O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	None Known
SALINAS	Laguna Punta Arenas	PRSN0016		18	**1**	**1**	**1**	O	None Known	None Known
SALINAS	Laguna Tiburones	PRSN0017		14	**3**	**3**	**3**	O	Landfills (6300)	None Known
PONCE	Laguna Salinas	PRSN0018		77	**3**	**3**	**3**	O	Highway/Road/Bridge Construction (3100) Inappropriate Waste Disposal (6350)	None Known
CABO ROJO	Laguna Salinas I	PRSN0019		294	**3**	**3**	**3**	O	Onsite Wastewater Systems (6500)	None Known
CABO ROJO	Laguna Cabo Rojo 2	PRSN0020		190	**1**	**1**	**1**	O	None Known	None Known

MUNICIPALITY	WATERBODY NAME	ASSESSMENT UNIT (AU-ID)	MONITORING STATIONS NS = Network	WB SIZE (ACRES)	DESIGNATED USES AND CATEGORIES			NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL			
CABO ROJO	Laguna Cabo Rojo 3 (El Faro)	PRSN0021		69	**1**	**1**	**1**	**O**	None Known	None Known
RINCÓN – CABO ROJO	Caño Boquerón	PRSN0022		183	**3**	**3**	**3**	**O**	Marinas and Recreational Boating (7900)	None Known
CABO ROJO	Laguna Guaniquilla	PRSN0023		22	**1**	**1**	**1**	**O**	None Known	None Known
LAJAS	Laguna Cartagena	PRSN0024		300	**3**	**3**	**3**	**O**	Confined Animal Feeding Operations 1640) Onsite Wastewater Systems (6500)	None Known

NOTES:
O - This assessment unit was not monitored for 2010 cycle (2008-2009 federal fiscal years)
R1 - Primary Contact Recreation
R2 - Secondary Contact Recreation
AL - Aquatic Life

Lakes

Table 28: Size of waters Impaired by Causes (Monitored acres for Lakes)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Low Dissolved Oxygen (1200)	7,288.0
Pesticides (0200)	0
Fecal Coliforms (1700)	713.0
Arsenic (0510)	1,713.0
Mercury (0560)	0
Turbidity (2500)	0
Surfactants (0400)	0
Ammonia	713.0
pH	343.0

Table 29: Size of waters Impaired by Sources (Monitored acres for Lakes)

SOURCES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Onsite Wastewater Systems (6500)	6,457.0
Agriculture (1300)	3,645.0
Confined Animal Feeding Operations (1640)	3,870.0
Urban Runoff/Storm Sewers (4000)	1,413.0
Collection System failure (0500)	1,086.0
Minor Industrial Point Source (0120)	1,902.0
Landfills (6300)	560.0
Package Plants (Small Flows) (0230)	0
Major Industrial Point Source (0110)	285.0
Major Municipal Point Source (0210)	0
Minor Municipal Point Source (0200)	285.0
Upstream Impoundment (7350)	700.0

Table 30: Lakes Assessment

BASIN	WATERBODY NAME	WB SIZE (ACRES/MILES)	MONITORING STATION NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				Notes	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
				R1	R2	AL	DW			
RIO GUAJATACA	LAGO GUAJATACA PRNL3A1	1000 acres 2.6 miles	NS 50010720 50010790 50011000	**1**	**1**	**5**	**5**		Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Arsenic (0510) Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO DOS BOCAS PRNL$_1$7A1	634 acres 6.9 miles	NS 50025110 50027090	**1**	**1**	**5**	**1**		Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO CAONILLAS PRNL$_2$7C1	700 acres 11.8 miles	NS 89001 89002 89003	**1**	**1**	**5**	**1**		Agriculture (1300) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO GARZAS PRNL$_3$7A3	108 acres 2.7 miles	NS 50020050	**1**	**1**	**5**	**1**		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO GRANDE DE MANATÍ	LAGO GUINEO PRNL$_1$8C1	54 acres 1.7 miles	NS 89007 89008	**1**	**1**	**5**	**1**		Agriculture (1300)	Low Dissolved Oxygen (1200)
RIO GRANDE DE MANATÍ	LAGO MATRULLAS PRNL$_2$8C1	77 acres 3.0 miles	NS 89009 89010	**1**	**1**	**5**	**1**		Agriculture (1300) Confined Animal Feeding Operations (1640)	Low Dissolved Oxygen (1200)
RIO DE LA PLATA	LAGO DE LA PLATA PREL$_1$10A1	560 acres 15.0 miles	NS 50044400 50044950 ED- PR09GRAD-021	**1**	**1**	**5**	**1**	**K**	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO DE LA PLATA	LAGO CARITE PREL$_2$10A5	333 acres 11.3 miles	NS 50039900 50039950	**1**	**1**	**5**	**1**		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO BAYAMON	LAGO CIDRA PREL12A2	268 acres 8.3 miles	NS 89029 89030 89031 ED- PR09GRAD-010	**1**	**1**	**5**	**1**	**K**	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO GRANDE DE LOIZA	LAGO LOIZA PREL14A1	713 acres 7.2 miles	NS 50057500 50058800 50059000	**5**	**1**	**5**	**5**		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500)
RIO GRANDE DE PATILLAS	LAGO PATILLAS PRSL43A1	312acres	NS 89022 89023 89024 89025	**1**	**1**	**5**	**1**		Agriculture (1300) Onsite Wastewater Systems (6500) Minor Industrial Point Source (0120)	Low Dissolved Oxygen (1200)

BASIN	WATERBODY NAME	WB SIZE (ACRES/MILES)	MONITORING STATION NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				Notes	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
				R1	R2	AL	DW			
QUEBRADA MELANIA	LAGO MELANIA PRSL50A	35acres	NS 89026	**1**	**1**	**1**	**1**			
RIO JACAGUAS	LAGO GUAYABAL $PRSL_1$60A	373 acres 5.9 miles	NS 89011 89012 89013	**1**	**1**	**5**	**1**		Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO JACAGUAS	LAGO TOA VACA $PRSL_2$60A	836 acres 31.5 miles	NS 89014 89015 89016	**1**	**1**	**5**	**1**		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO BUCANA-CERRILLOS	LAGO CERRILLOS PRSL62A	700 acres	NS 89032 89033 89034 ED- PR09GRAD-028	**1**	**1**	**5**	**1**	**K**	Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
RIO YAUCO	LAGO LUCHETTI PRSL68A1	266 acres 14.0 miles	NS 89017 89018 89019	**1**	**1**	**5**	**1**		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) PH (1000)
RIO LOCO	LAGO LOCO PRSL69A	69 acres 1.5 miles	NS 89020 89021	**1**	**1**	**5**	**1**		Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO GRANDE DE AÑASCO	LAGO GUAYO PRWL83H	285 acres 12.7 miles	NS 89004 89005 89006	**1**	**1**	**5**	**1**		Agriculture (1300) Major Industrial Point Sources (0110) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)

NOTES:
K - External Data provided by the Puerto Rico Streams Survey Project
R1 - Primary Contact Recreation
R2 - Secondary Contact Recreation
AL - Aquatic Life
DW - Raw Source for Drinking Water

Coastal Shoreline

Table 31: Size of waters Impaired by Causes (Monitored Miles for Coastal Waters)

CAUSES OF IMPAIRMENT	COASTAL WATERS IMPAIRED (size in miles)
pH (1000)	46.56
Low Dissolved Oxygen (1200)	125.27
Thermal Modifications (1400)	7.00
Fecal Coliforms (1700)	43.87
Enterococcus (1700)	52.72
Turbidity (2500)	40.96

Table 32: Size of Waters Impaired by Sources (Assessed and Monitored Coastal Waters)

SOURCES OF IMPAIRMENT	COASTAL WATERS IMPAIRED (size in miles)
Major Industrial Point Sources (0110)	104.36
Major Municipal Point Sources (0210)	76.95
Minor Municipal Point Sources (0220)	98.19
Collection System Failure (0500)	39.80
Agriculture (1050)	40.96
Highway/Road/Bridge Construction (3100)	7.50
Land Development (3200)	58.34
Urban Runoff/Storm Sewers (4000)	376.64
Surface Mining (5100)	7.50
Onsite Wastewater Systems (6500)	432.29
Landfill (6300)	7.00
Hazardous Wastes (6600)	67.60
Upstream Impoundment (7350)	134.71
Flow Regulations and Modifications (7400)	67.60
Marinas and Recreational Boating (7900)	204.40
Debris and bottom deposits (8520)	67.60
Unknown Sources (9000)	13.87

Table 33: Coastal Shoreline Waters Assessment (monitored and unmonitored waters)

New Assessment Unit ID (AU)	Old Assessment Units ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations and External Data 2010	2010 Assessment Designated Uses and Categories			Overall	Notes	Sources of Pollution	Causes of Impairment
					R_1	R_2	AL				
PRNC01 (Punta Borinquén to Punta Sardina)	PRNS0001d_00 (SBZ-003)	2.30	11.75	SBZ-003, SBZ-004, SBZ-005, MAC-044	1	1	2	2		Land Development (3200) Onsite Wastewater Systems (6500)	
	PRNS0001d_02 (A)	3.40									
	PRNS0001d_03 (SBZ-004)	1.90									
	PRNS0001d_04 (SBZ-005)	2.30									
	PRNS0001e_00 cut 1 (MAC-044)	1.85									
PRNC02 (Punta Sardina to Punta Manglillo)	PRNS0001e_00 cut 2●	1.15	14.10	MAC-086, SBZ-006, MAC-047	1	1	5	5		Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
	PRNS0001f_00 (A)	1.90									
	PRNS0001g_00 (MAC-086)	3.00									
	PRNS0001h_01 (A)	4.10									
	PRNS0001h_02 (SBZ-006)	1.80									
	PRNS0001i_00 cut 1 (MAC-047)	2.15									

New Assessment Unit ID (AU)	Old Assessment Units ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations and External Data 2010	2010 Assessment Designated Uses and Categories			Overall	Notes	Sources of Pollution	Causes of Impairment
					R_1	R_2	AL				
PRNC03 (Punta Manglillo to Punta Morrillos)	PRNS0001i_00 cut 2●	0.85	9.65	SBZ-007	1	1	2	2		Collection System Failure (0500) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
	PRNS0001j_00 (SBZ-007)	1.40									
	PRNS0001k_00 (A)	4.40									
	PRNS0001l_00 (A)	3.00									
PRNC04 (Punta Morrillos to Punta Manatí)	PRNS0001m_00 (MAC-049)	1.90	13.66	MAC-049, SBZ-008, SBZ-009, MAC-055	1	1	5	5		Collection System Failure (0500) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200)
	PRNS0001n-01● (A)	5.10									
	PRNS0001n_02 (SBZ-008)	2.70									
	PRNS0001n_03 (SBZ-009)	1.50									
	PRNS0001o_00 cut 1 (MAC-055)	2.46									
PRNC05 (Punta Manatí to Punta Chivato)	PRNS0001o_00 cut 2●	0.54	7.46	SBZ-010	1	1	2	2		Unknown Source (9000)	
	PRNS0001p_01 (A)	1.60									
	PRNS0001p_02 (SBZ-010)	3.00									
	PRNS0001p_03 cut 1 (A)	2.32									

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					R_1	R_2	AL				
PRNC06 (Punta Chivato to Punta Puerto Nuevo)	PRNS0001p_03 cut 2 (A)	1.08	3.23	MAC-087, RW-23	1	1	2	2		Land Development (3200) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
	PRNS0001q_00 cut 1 (MAC-087, RW-23)	2.15									
PRNC07 (Punta Puerto Nuevo to Punta Cerro Gordo)	PRNS0001q_00 cut 2●	0.85	5.05	MAC-088, RW-17	1	1	2	2		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
	PRNS0001r_00 (A)	2.30									
	PRNS0001s_00 (MAC-088, RW-17)	1.90									
PRNC08 (Punta Cerro Gordo to Punta Boca Juana)	PRES0002a_01 (SBZ-013)	2.80	7.32	SBZ-013, SBZ-014, RW-18, MAC-061	1	1	1	1			
	PRES0002a_02 (SBZ-014, RW-18)	1.90									
	PRES0002b_00 cut 1 (MAC-061)	2.62									
PREC09 (Punta Boca Juana to Punta Salinas)	PRES0002b_00 cut 2●	0.38	5.78	MAC-077, RW-19	1	1	1	1	*A*		
	PRES0002c_00 (A)	3.30									
	PRES0002d_00 (MAC-077, RW-19)	2.00									
	PRES0002e_00 cut 1●	0.10									

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					R_1	R_2	*AL*				
PREC10B (Punta Salinas to Rio Bayamon Mouth)	PRES0002e_00 cut 2 (SBZ-016)	0.10	2.91	SBZ-016, MAC-063	5	1	1	5		Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700)
	PRES0002f_00 cut 1 (MAC-063)	2.81									
PREC10C (Rio Bayamon Mouth to Isla de Cabras)	PRES0002f_00 cut 2	0.19	6.63	No Stations	3	1	3	*3*		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
	PRES0002g_01 cut 1 (A)	6.44									
PREC11 (Isla de Cabras to Punta del Morro)	PRES0002g_01 cut 1● (A)	0.46	7.79		3	3	3	3	***B, E***	Major Industrial Point Sources (0110) Major Municipal Point Sources (0210) Minor Municipal Point Sources (0220) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
	PRES0002g_02 (500499920 USGS)	4.08									
	PRES0002k_00 cut 2 (A)	1.85									
	PRES0002l_00 (A)	1.40									
PREC12 (Punta del Morro to West side of Condado Bridge)	PRES0002ll_00 (A)	2.30	3.50	SBZ-018, SBZ-019, RW-20	1	1	2	2		Urban Runoff/Storm Sewers (4000)	
	PRES0002m_01● (SBZ-018)	0.50									
	PRES0002m_02 (SBZ-019, RW-20)	0.50									
	PRES0002m_03 cut 1● (A)	0.20									

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					R_1	R_2	AL				
PREC13 (East side of Condado Bridge to Punta Las Marías)	PRES0002m_03 cut 2 (B-1)	0.70	4.31	B-1, MAC-074, EB-04, MAC-075, EB-14, EB-17, MAC-076, EB-23, 003C, EB-29, EB-31,B-2, EB-35, EB-38	1	1	2	2		Urban Runoff/Storm Sewers (4000)	
	PRES0002n_00 (MAC-074, EB-04)	1.20									
	PRES0002o_00 (MAC-075, EB-14, EB-17)	0.30									
	PRES0002p_00 (MAC-076, EB-23)	0.40									
	PRES0002q_00 (003C, EB-29, EB-31)	0.60									
	PRES0002r_00 cut 1 (B-2, EB-35, EB-38)	1.11									
PREC14 (Punta Las Marías to Punta Cangrejos)	PRES0002r_00 cut 2●	0.69	4.19	EB-40, EB-41, EB-42, 004C, B-3, RW-21	1	1	2	2		Urban Runoff/Storm Sewers (4000) Marinas and Recreational Boating (7900)	
	PRES0002s_00 (EB-40, EB-41, EB-42. 004C)	1.30									
	PRES0002t_00 (B-3, RW-21)	2.20									
PREC15 (Punta Cangrejos to Punta Vacía Talega)	PRES0002u_01● (SBZ-024)	2.50	6.23	SBZ-024, SBZ-025, SBZ-026	1	1	2	2		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
	PRES0002u_02 (SBZ-025)	2.20									
	PRES0002u_03 cut 1 (SBZ-026)	1.53									

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					R_1	R_2	AL				
PREC16 (Punta Vacía Talega to Punta Miquillo)	PRES0002u_03 cut 2●	0.57	9.46	SBZ-027, SBZ-028	1	1	2	2		Major Industrial Point Source (0110) Land Development (3200) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
	PRES0002v_00 (A)	3.00									
	PRES0002w_00 (SBZ-027)	1.20									
	PRES0002x_00 (SBZ-028)	3.00									
	PRES0002y_00 cut 1 (A)	1.69									
PREC17 (Punta Miquillo to Punta La Bandera)	PRES0002y_00 cut 2 (A)	5.71	8.41	MAC-009, RW-1	1	1	2	2		Land Development (3200) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
	PRES0002z_00 cut 1 (MAC-009, RW-1)	2.70									
PREC18 (Punta La Bandera to Cabezas de San Juan)	PRES0002z_00 cut 2●	0.30	10.46	SBZ-030, MAC-010, RW-2	1	1	1	1			
	PRES0002z1_01 (SBZ-030)	1.60									
	PRES0002z1_02 (A)	4.60									
	PRES0002z2_00 (MAC-010, RW-2)	3.00									
	PRES0002z3_00 cut 1 (A)	0.96									

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					R_1	R_2	AL				
PREC19 (Cabezas de San Juan to Punta Barrancas)	PRES0002z3_00 cut 2 (A)	3.34	7.08	MAC-078	1	1	5	5		Land Development (3200) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Low Dissolved Oxygen (1200)
	PRES0002z4_00 (A)	1.10									
	PRES0002z5_00 (MAC-078)	1.80									
	PRES0002z6_00 cut 1 (A)	0.84									
PREC20 (Punta Barrancas to Punta Medio Mundo)	PRES0002z6_00 cut 2 (A)	5.33	5.33		3	3	3	3	***E***	Land Development (3200) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
PREC21 (Punta Medio Mundo to Punta Puerca)	PRES0002z6_00 cut 3 (A)	3.00	3.00		1	1	1	1	***E***		
PREC22 (Punta Puerca to Isla Cabras)	PRES0002z6_00 cut 4 (A)	3.30	3.30		1	1	3	3	***E***	Marinas and Recreational Boating (7900)	
PREC23 (Isla Cabras to Punta Cascajo)	PRES0002z6_00 cut 5 (A)	1.23	8.83		1	1	3	3	***E***	Major Industrial Point Source (0110) Marinas and Recreational Boating (7900)	
	PRES0002z7_00 (A)	7.60									
PREC24 (Punta Cascajo to Punta	PRES0002z8_00 cut 1 (A)	9.07	9.07		3	3	3	3	***E***	Major Industrial Point Source (0110)	

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					R_1	R_2	*AL*				
Lima)										Upstream Impoundment (7350)	
PREC25 (Punta Lima to Morro de Humacao)	PRES0002z8_00 cut 2 (A)	0.53	9.83	MAC-079, MAC-080, SBZ-033, SBZ-034, MAC-081, RW-4, MAC-011	1	1	5	5		Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
	PRES0002z9_00 (MAC-079)	1.90									
	PRES0002z10_01 (MAC-080)	0.80									
	PRES0002z10_02 (SBZ-033)	1.50									
	PRES0002z11_00 (SBZ-034)	0.30									
	PRES0002z12_00 (MAC-081, RW-4)	2.40									
	PRES0002z13_00 (A)	0.40									
	PRES0002z14_00 cut 1 (MAC-011)	2.00									
PREC26 (Morro de Humacao to Punta Candelero)	PRES0002z14_00 cut 2●	1.00	1.84		3	3	3	3	***E***	Land Development (3200) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
	PRES0002z15_00 cut 1 (A)	0.84									
PREC27 (Punta	PRES0002z15_00 cut 2 (A)	2.26	3.74		3	3	3	3	***E***	Land Development (3200)	

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					R_1	R_2	AL				
Candelero to Punta Guayanés)	PRES0002z16_00 (A)	1.10								Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
	PRES0002z17_00 cut 1●	0.38									
PREC28C (Punta Guayanés to Punta Quebrada Honda)	PRES0002z17_00 cut 2 (MAC-012)	1.72	4.68	MAC-012, MAC-013, SBZ-037	1	1	5	5		Major Industrial Point Source (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
	PRES0002z18_00 (MAC-013)	2.10									
	PRES0002z19_01 (SBZ-037)	0.50									
	PRES0002z19_02 cut 1	0.36									
PRSC28B (Punta Quebrada Honda to Punta Yeguas)	PRES0002z19_02 cut 2 (SBZ-038)	0.74	0.74	SBZ-038	1	1	2	*2*		Onsite Wastewater Systems (6500)	
PREC29 (Punta Yeguas to Punta Tuna)	PRES0002z20_00 (A)	3.50	4.35		3	3	3	3	***E***	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
	PRES0002z21_00 cut 1●	0.85									
PREC30 (Punta Tuna to Cabo Mala Pascua)	PRES0002z21_ cut 2 (MAC-082)	2.15	2.65	MAC-082	1	1	1	1			
	PRES0002z22_00 (A)	0.50									
PRSC31 (Cabo Mala Pascua to	PRSS0003a_01 (A)	3.60	4.06	No Stations	3	3	3	3	***E***	Urban Runoff/Storm Sewers (4000)	

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					R_1	R_2	AL				
Punta Viento)	PRSS0003a_02 cut 1●	0.46								Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
PRSC32 (Punta Viento to Punta Figuras)	PRSS0003a_02 cut 2 (SBZ-040, RW-6)	2.54	6.16	SBZ-040, RW-6, MAC-083, RW-7	5	1	2	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Enterococcus (1700)
	PRSS0003a_03 (A)	1.00									
	PRSS0003b_00 cut 1 (MAC-083, RW-7)	2.62									
PRSC33 (Punta Figuras to Punta Ola Grande)	PRSS0003b_00 cut 2●	0.38	8.10	MAC-017	1	1	5	5		Major Industrial Point Source (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
	PRSS0003c_00 (A)	5.80									
	PRSS0003d_00 cut 1 (MAC-017)	1.92									
PRSC34 (Punta Ola Grande to Punta Petrona)	PRSS0003d_00 cut 2●	0.08	40.96	MAC-016, MAC-018, MAC-019, SBZ-042 Stations 09, 10, 19 and 20 from National Reserve of Jobos Bay - External Data	5	1	5	5	*D*	Major Industrial Point Sources (0110) Agriculture (1050) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	pH(1000) Low Dissolved Oxygen (1200) Fecal Coliforms, Enterococcus (1700) Turbidity (2500)
	PRSS0003e_00 (MAC-016)	1.20									
	PRSS0003f_00 (Station 20 - Estuarine Reserve of Jobos Bay)	4.60									
	PRSS0003g_00 (A)	2.70									
	PRSS0003h_00 (MAC-018)	3.00									
	PRSS0003i_00 (A)	0.90									
	PRSS0003j_00 (MAC-019)	3.00									
		0.40									

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					R_1	R_2	AL				
	PRSS0003k_00 (Station 19 - Estuarine Reserve of Jobos Bay))										
	PRSS0003l_01 (Stations 19 and 10-Estuarine Reserve of Jobos Bay))	18.50									
	PRSS0003l_02 (SBZ-042)	0.90									
	PRSS0003l_03 cut 1 (A)	5.68									
PRSC35 (Punta Petrona to Punta Cabullones)	PRSS0003l_03 cut 2 (A)	0.92	16.19	MAC-020	1	1	5	5		Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200)
	PRSS0003m_00 (MAC-020)	3.00									
	PRSS0003n_00 cut 1 (A)	12.27									
PRSC36B (Punta Cabullones to Punta Carenero)	PRSS0003n_00 cut 2 (A)	2.53	2.53	No Stations	3	1	3	3		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
PRSC36B (Punta Carenero to Punta Cuchara)	PRSS0003p_00 (MAC-022)	2.20	6.70	MAC-022, MAC-023	1	1	5	5		Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Low Dissolved Oxygen (1200)
	PRSS0003q_00 (MAC-023)	2.20									
	PRSS0003r_00 (A)	2.30									

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					R_1	R_2	AL				
PRSC37B (Punta Cuchara to Cayo Parguera)	PRSS0003s_00 (MAC-084)	1.90	3.30	MAC-084	1	1	2	2		Highway/Road/Bridge Construction (3100) Land Development (3200) Urban Runoff/Storm Sewers (4000) Surface Mining (5100) Upstream Impoundment (7350)	
	PRSS0003t_00 (A)	1.40									
PRSC37BC (Cayo Parguera to Punta Guayanilla)	PRSS0003u_00 (MAC-024)	2.10	4.20	MAC-024, MAC-025	1	1	2	2		Major Industrial Point Sources (0110) Highway/Road/Bridge Construction (3100) Land Development (3200) Urban Runoff/Storm Sewers (4000) Surface Mining (5100) Upstream Impoundment (7350)	
	PRSS0003v_00 (MAC-025)	2.10									
PRSC38 (Punta Guayanilla to Punta Verraco)	PRSS0003w_00 (A)	2.30	13.20	MAC-027, MAC-089, MAC-028	1	1	5	5		Major Municipal Point Sources (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Marinas and Recreational Boating (7900)	Low Dissolved Oxygen (1200)
	PRSS0003x_00 (MAC-027)	2.50									
	PRSS0003y_00 (MAC-089)	1.60									
	PRSS0003z_00 (MAC-028)	2.10									
	PRSS0003z1_00 (A)	3.80									
	PRSS0003z2_00 (A)	0.90									

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					R_1	R_2	*AL*				
PRSC39 (Punta Verraco to Punta Ballena)	PRSS0003z3_00 (MACC-030)	3.00	6.41	MAC-030	2	2	2	2		Unknown Source (9000)	
	PRSS0003z4_00 cut 1 (A)	3.41									
PRSC40 (Punta Ballena to Punta Brea)	RSS0003z4_00 cut 2 (A)	0.69	13.26	MAC-085, RW-9, MAC-034	1	1	2	2		Minor Municipal Point Source (0220) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
	PRSS0003z5_00 (MAC-085, RW-9)	3.00									
	PRSS0003z6_00 (A)	0.30									
	PRSS0003z7_00 (MAC-034)	2.70									
	PRSS0003z8_00 (A)	3.50									
	PRSS0003z9_01 cut 1 (A)	3.07									
PRSC41B1 (Punta Brea to Bahia Fosforescente La Parguera)	PRSS0003z9_01 cut 2 (A)	1.63	10.93	SBZ-045, RW-10,	1	1	2	2		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
	PRSS0003z9_02 (SBZ-045, RW-10)	3.00									
	PRSS0003z9_03 (A)	6.30									
PRSC41A1 (Bahia Fosforescente La Parguera)	PRSS0003z10_00 (A)	2.00	2.00	No Stations	1	1	1	*1*			
PRSC41B2 (Bahia Fosforescente La Parguera to Punta Cueva de Ayala)	PRSS0003z11_00 (SBZ-046)	2.70	7.00	SBZ-046	1	1	5	*5*		Urban Runoff/Storm Sewers (4000) Landfill (6300) Onsite Wastewater Systems (6500) Marinas and Recreational	Thermal Modifications (1400)
	PRSS0003z12_00 (A)	1.50									

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					R_1	R_2	*AL*				
	PRSS0003z13_00 (A)	2.80								Boating (7900)	
PRSC41A2 (Bahia Monsio José)	PRSS0003z14_00 (A)	1.80	3.72	No Stations	1	1	1	*1*			
	PRSS0003z15_01 cut 1 (A)	1.92									
PRSC41B3 (Bahia Monsio José to Faro de Cabo Rojo)	PRSS0003z15_01 cut 2 (A)	13.45	13.45	No Stations	1	1	1	*1*			
PRWC42 (Faro de Cabo Rojo to Punta Águila)	PRSS0003z15_01 cut 3 (A)	2.23	2.89		1	1	1	1	***E***		
	PRSS0003z15_02 cut 1●	0.66									
PRWC43 (Punta Águila to Punta Guaniquilla)	PRSS0003z15_02 cut 2 (SBZ-047, RW-12)	1.84	9.54	SBZ-047, RW-12, SBZ-048, RW-14, MAC-037, RW-13	1	1	2	2		Collection System Failure (0500) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
	PRSS0003z15_03 (SBZ-048, RW-14)	2.00									
	PRSS0003z16_00 (MAC-037, RW-13)	3.00									
	PRSS0003z17_01 (A)	2.40									
	PRSS0003z17_02 cut 1● (A)	0.30									

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					R_1	R_2	AL				
PRWC44 (Punta Guaniquilla to Punta La Mela)	PRSS0003z17_02 cut 2 (SBZ-050, RW-8)	1.80	2.50	SBZ-050, RW-8, SBZ-051	1	1	2	2		Onsite Wastewater Systems (6500)	
	PRSS0003z17_03 (SBZ-051)	0.70									
PRWC45 (Punta La Mela to Punta Carenero)	PRWS0004a_01 (A)	2.80	2.95		3	3	3	3	***E***	Collection System Failure (0500) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
	PRWS0004a_02 cut 1●	0.15									
PRWC46 (Punta Carenero to front of Cayo Ratones)	PRWS0004a_02 cut 2 (SBZ-052)	2.85	4.00	SBZ-052	1	1	2	2		Collection System Failure (0500) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
	PRWS0004a_03 cut 1 (A)	1.15									
PRWC47 (In front of Cayo Ratones to Punta Guanajibo)	PRWS0004a_03 cut 2 (A)	3.85	3.85		3	3	3	3	***E***	Onsite Wastewater Systems (6500)	
PRWC48 (Punta Guanajibo to Punta Algarrobo)	PRWS0004b_00 (A)	1.20	5.60	MAC-038, MAC-040	5	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Enterococcus (1700) pH (1000)
	PRWS0004c_00 (MAC-038)	2.50									
	PRWS0004d_00 (MAC-040)	1.90									

New Assessment Unit ID (AU)	Old Assessment Units ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations and External Data 2010	2010 Assessment Designated Uses and Categories			Overall	Notes	Sources of Pollution	Causes of Impairment
					R_1	R_2	AL				
PRWV49 (Punta Algarrobo to Punta Cadena)	PRWS0004e_00 (A)	2.60	6.98	MAC-041, RW-15	1	1	2	2		Major Municipal Point Sources (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
	PRWS0004f_00 (MAC-041, RW-15)	3.00									
	PRWS0004g_01 (A)	1.00									
	PRWS0004g_02 cut 1●	0.38									
PRWC50 (Punta Cadena to Punta Higüero)	PRWS0004g_02 cut 2 (SBZ-054, RW-5)	1.92	4.98	SBZ-054, RW-5, SBZ-055	1	1	2	2		Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
	PRWS0004g_03 (SBZ-055)	2.30									
	PRWS0004g_04 cut 1●	0.76									
PRWC51 (Punta Higüero to Punta del Boquerón)	PRWS0004g_04 cut 2 (RW-22)	6.14	6.14	RW-22	1	1	2	2		Onsite Wastewater Systems (6500)	
PRWC52 (Punta del Boquerón to Punta Borinquén)	PRNS0001a_00 (A)	0.90	6.80	MAC-043, SBZ-022, RW-16	1	1	2	2		Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
	PRNS0001b_00 (MAC-043)	3.00									
	PRNS0001c_00 (SBZ-002, RW-16)	2.90									

New Assessment Unit ID (AU)	Old Assessment Units ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations and External Data 2010	2010 Assessment Designated Uses and Categories			Overall	Notes	Sources of Pollution	Causes of Impairment
					R_1	R_2	AL				
PRCC53 (Culebra Island)	PRES0306a_00 (A)	1.00	32.70	RW-3	1	1	2	2		Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
	PRES0303b_00 (RW-3)	31.70									
PRVC54A (Bahia Mosquito)	PRES0307c_00 (A)	3.00	3.00	No Stations	1	1	1	*1*			
PRVC54 (Vieques Island)	PRES0307a_00 (A)	1.00	70.60	RW-24	1	1	2	2		Minor Municipal Point Source (0220) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Hazardous Wastes (6600) Flow Regulations/Modifications (7400) Marinas and Recreational Boating (7900) Debris and bottom deposits (8520)	
	PRES0307b_00 (A)	43.40									
	PRES0307d_00 (RW-24)	3.60									
	PRES0307e_00 (A)	0.60									
	PRES0307f_00 (A)	19.00									
PRMC55 (Mona Island)	PRWS0308_00 (A)	18.60	18.60		1	1	1	1	***E***		

Notes:

● – The monitoring stations in the Old Assessment Units are distributed in accordance with the New Assessment Units.
R_1 - Primary Contact Recreation
R_2 - Secondary Contact Recreation
AL - Aquatic Life
A - As part of the 2008 Cycle 303(d) List for Coastal Waters, were included the Assessment Units PRES0003b_00 for Rio De La Plata Mouth and PRSS0002b_00 for Rio La Plata Mouth. These Assessment Units IDs do not exist and the waterbodies indicated are the same. Therefore, for the waterbody Rio De La Plata Mouth the correct Assessment Unit ID is PRES0002b_00.
B - The United States Geological Survey (USGS) eliminated the Monitoring Station 500499920 for 2010 cycle.
D - The Monitoring Stations 09, 10, 19 and 20 provided water quality data from the National Reserve of Jobos Bay.
E - This Assessment Unit was not monitored for 2010 cycle (2008-2009 federal fiscal years).

PART C. CWA Section 314 (Clean Lakes Program)

The Clean Lakes Monitoring Network operated by PREQB monitors the water quality in the 19 major lakes (reservoirs) that are mostly used as raw sources of drinking water. These same waters bodies are used for recreational activities, including fishing. Samples taken at these lakes are analyzed for the following parameters: ammonia nitrogen, chlorophyll "a", fecal coliforms, hardness, nitrate + nitrite, pH, temperature (profile), dissolved oxygen (profile), mercury, organic nitrogen, total phosphorous, turbidity, pesticides (organochlorides). All parameters will be collected once in each of three (3) sampling cycles (rainy season, dry season, and midpoint between these two periods).

Each monitoring initiative is supported by the corresponding Quality Assurance Project Plan (QAPP), which must comply with the Water Program's Quality Assurance Management Plan (QAMP). The field and analytical data generated are evaluated for compliance with quality control and quality assurance protocols, prior to entry into the EPA Store and Retrieval (STORET) database. These data are also maintained in databases at PREQB.

All samples are collected, preserved, transported and analyzed in accordance with the protocols established in the corresponding Quality Assurance Project Plan. Nevertheless, for this cycle we confronted problems with trip blanks, resulting in data invalidation. Consequently, results for total phosphorous data can't be used. PREQB is working evaluating the possible causes of this problem in order to implement the corresponding corrective measures.

In the absence of more recent data we assumed the trophic status of the lakes/reservoirs to be the same as it was during the previous cycle. (Tables 34 to 38)

Table 34: Trophic Status of Significant Lakes/Reservoirs

DESCRIPTION	NUMBER OF LAKES/RESERVOIRS	ACRES OF LAKES/RESERVOIRS
Total in State	19	7,323
Assessed	19	7,323
Oligotrophic	0	0
Mesotrophic	12	4,954
Eutrophic	6	2,369

Table 35 OPSI/CEPIS * Criteria for the Determination of the Trophic Status

TROPHIC STATUS	P CONCENTRATION (mg/L)
Oligotrophic	< 0.03
Mesotrophic	0.03 – 0.05
Eutrophic	> 0.05

*** OPSI/CEPIS** = "Oficina Panamericana de la Salud e Ingeniería / Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente".

Table 36: Puerto Rico Lakes Trophic Status

LAKE	TROPHIC STATUS[1] [P mg/L][2]			TRENDS
	OCT .99- SEPT.01	OCT.01-SEPT.03	OCT.03-SEPT-05[3]	
Las Curia	(.22) E	(.16) E	(<. 05) M	IMPROVED
Cidra	(.33) E	(.09) E	(<. 05) M	IMPROVED
Patillas	(.21) E	(.05) M	(<. 05) M	STABLE
Melanía	(.63) E	(.24) M	(<. 05) M [3]	IMPROVED
Guayabal	(.18) E	(.42) E	(<. 05) M	IMPROVED
Luchetti	(.16) E	(.21) E	(.05) M	IMPROVED
Loco	(.16) E	(.60) E	(.12) E	STABLE
Caonillas	(.31) E	(.23) E	(.05) M	IMPROVED
Guayo	(.29) E	(.24) E	(.07) E	STABLE
Matrullas	(.22) E	(.25) E	(.05) M	IMPROVED
Toa Vaca	(.14) E	(.19) E	(<. 05) M	IMPROVED
Cerrillos	(.19) E	0 O	(.05) M	DEGRADED
Guineo	-	-	(<. 05) M	-
Guajataca	(.30) M	(.01) O	(<. 05) M	DEGRADED
Dos Bocas	(.30) M	(.08) E	(.30) E	STABLE
Carite	(<. 20) O	(.030) M	(<. 05) M	STABLE
Garzas	(<. 20) O	(<. 2) O	(1.14) E [3]	DEGRADED
Loíza	(.38) E	(.09) E	(3.09) E [3]	STABLE
La Plata	(.70) E	(.01) O	(1.03) E	DEGRADED

(1) LAKES TROPHIC STATUS:

Oligotrophic (O) - Low levels of nutrients in lakes, poor primary production and sunlight.
Mesotrophic (M) - Moderate levels of nutrients in lakes, primary production and moderate penetration of sunlight.
Eutrophic (E) - High levels of nutrients, high primary production, dense aquatic plants growth, low sunlight penetration.

(2) Phosphorous value corresponds at the average data during two year period and do not represent a violation to the PR Quality Standard Regulation which is 1 mg/L.

(3) For these lakes one (1) data result were consider.

Table 37: Trend Analyses for Selected Parameters in Puerto Rico Lakes

LAKES	LAKE SIZE (Acres)	DO mg/l	P (TOTAL) mg/l	FECAL COLIFORMS col/100mL
Caonillas	700	Stable	Improved	Stable
Guayo	285	Improved	Stable	Stable
Matrullas	77	Stabled	Improved	Stable
Guayabal	373	Improved	Improved	Stable
Toa Vaca	836	Stable	Improved	Degraded
Luchetti	266	Degraded	Improved	Improved
Loco	69	Improved	Stable	Improved
Patillas	312	Degraded	Stable	Stable

LAKES	LAKE SIZE (Acres)	DO mg/l	P (TOTAL) mg/l	FECAL COLIFORMS col/100mL
Curia	55	Stable	Improved	Degraded
Cidra	268	Stable	Improved	Improved
Cerrillos	700	Stable	Improved	Degraded
Loíza	713	Improved	Stable	Improved
Guajataca	1000	Degraded	Improved	Degraded
Dos Bocas	634	Improved	Stable	Degraded
Carite	333	Degraded	Stable	Improved
La Plata	560	Stable	Degraded	Degraded
Garzas	108	Improved	Degraded	Degraded
Melanía	35	Improved	Improved	Degraded
Guineo	54	Stable	_	Improved

Note: The values included in the column of P (Total) is the same as it was during the previous cycle.

Table 38: Trends in Significant Public Lakes Category

PARAMETER	IMPROVED (ACRES)	DEGRADED (ACRES)	STABLE (ACRES)
DO	2,217	1,911	3,250
Phosphorous	4,310	668	2,346
Fecal Coliforms	1,703	4,301	1,374

Note: These trends analyses were based on OPSI/CEPIS criteria, not on the PRWQSR criteria. Also, the information related to Phosphorus corresponded is the same as it was during the previous cycle.

PART D. 303(d) List

Listing Criteria

The Puerto Rico 2010 List of Impaired Waters (303(d) List) is based on the water quality data generated through the water quality monitoring networks, evaluations of non-point sources in accordance with Section 319 of the Clean Water Act and special water quality studies. In the case of the 2010 303(d) List, we considered the most recent two consecutive years of available water quality data for each parameter in each AU. In this cycle, the AU was assessed on the basis of multiple categories for each use. This approach allows the identification of previously listed 303(d) segments within the new AU.

Where applicable, the new AU that has included in it previously 303(d) listed segments or newly listed segments will include these segments specifically identified as Category 5, along with the parameters that were the driving cause for listing. In the case of basins for which TMDLs have been developed, the segments will continue to be listed for those parameters that were not addressed in the TMDL. Those parameters addressed in the TMDL are de-listed from the respective segments.

For the 2010 cycle, PREQB used the 2003 amended PR Water Quality Standards Regulation (amended PRWQSR) and the EPA promulgation, where applicable. The waters considered to be impaired have been included in Category 5. The PREQB 2010 CWA 303(d) List is included as Appendix I of the IR.

If any of the parameters listed in the 2008 and 2006 cycle violated the applicable water quality standard at least once, the parameter continued to appear as an impairment cause and the segment continued to be listed in Category 5. For a complete list of impaired waters of Puerto Rico, which includes the causes of impairments from previous cycles that have not been delisted, please refers to Appendix I- 2010 Cycle 303(d) List.

Delisting Criteria

If any of the parameters listed in the 2008 cycle violated the applicable water standard at least once, the parameter continued to appear as an impairment cause and the segment continued to be listed in Category 5. If, on the other hand, a previously listed parameter complied fully with the applicable water quality standard during the 2008 cycle and during the 2010 cycle, that specific parameter will be delisted from Category 5. See Table 39

Also, PREQB will remove a specific parameter from the list when the Total Maximum Daily Load for the corresponding assessment unit has been approved by EPA.

Table 39: Assessment Unit Parameter Combination to be delisting from 2010 Cycle 303(d) List

BASIN	WATERBODY NAME	PARAMETER	REASON FOR DELISTING
RIO GUAJATACA	RIO GUAJATACA PRNR3A2	COPPER	WATER QUALITY IMPROVEMENT
	RIO GUAJATACA PRNR3A2	LEAD	WATER QUALITY IMPROVEMENT
	RIO GUAJATACA PRNR3A2	SURFACTANTS	WATER QUALITY IMPROVEMENT

BASIN	WATERBODY NAME	PARAMETER	REASON FOR DELISTING
RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO PRNR7A1	COPPER	WATER QUALITY IMPROVEMENT
	RIO GRANDE DE ARECIBO PRNR7A1	LEAD	WATER QUALITY IMPROVEMENT
	RIO GRANDE DE ARECIBO PRNR7A1	SURFACTANTS	WATER QUALITY IMPROVEMENT
	RIO GRANDE DE ARECIBO PRNR7A2	LEAD	WATER QUALITY IMPROVEMENT
	RIO GRANDE DE ARECIBO PRNR7A2	COPPER	WATER QUALITY IMPROVEMENT
	RIO GRANDE DE ARECIBO PRNR7A2	SURFACTANTS	WATER QUALITY IMPROVEMENT
	RIO TANAMA PRNR7B2	MERCURY	WATER QUALITY IMPROVEMENT
	RIO TANAMA PRNR7B2	COPPER	WATER QUALITY IMPROVEMENT
	RIO CAONILLAS PRNR7C1	COPPER	WATER QUALITY IMPROVEMENT
	RIO CAONILLAS PRNR7C1	SURFACTANTS	WATER QUALITY IMPROVEMENT
	RIO LIMON PRNR7C2	FECAL COLIFORM	WATER QUALITY IMPROVEMENT
	RIO YUNES PRNR7C3	FECAL COLIFORM	WATER QUALITY IMPROVEMENT
RIO GRANDE DE MANATÍ	RIO GRANDE DE MANATÍ PRNR8A2	MERCURY	WATER QUALITY IMPROVEMENT
	RIO OROCOVIS PRNR8E1	MERCURY	WATER QUALITY IMPROVEMENT
	RIO OROCOVIS PRNR8E1	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIO CIBUCO	RIO CIBUCO PRNR9A	COPPER	WATER QUALITY IMPROVEMENT
	RIO CIBUCO PRNR9A	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
RIO DE LA PLATA	RIO DE LA PLATA PRER10A1	SURFACTANTS	WATER QUALITY IMPROVEMENT
	RIO DE LA PLATA PRER10A3	COPPER	WATER QUALITY IMPROVEMENT
	RIO DE LA PLATA PRER10A3	SELENIUM	WATER QUALITY IMPROVEMENT
RIO BAYAMON	RIO BAYAMON PRER12A2	SURFACTANTS	WATER QUALITY IMPROVEMENT
	RIO BAYAMON PRER12B	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA PRER14A2	LOW DISSOLVED OXYGEN	TMDL
	RIO GURABO PRER14G1	LOW DISSOLVED OXYGEN	TMDL
	RIO GURABO PRER14G1	LEAD	WATER QUALITY IMPROVEMENT

BASIN	WATERBODY NAME	PARAMETER	REASON FOR DELISTING
	RIO GURABO PRER14G1	SURFACTANTS	WATER QUALITY IMPROVEMENT
	RIO BAIROA PRER14H	COPPER	TMDL
	RIO BAIROA PRER14H	AMMONIA	TMDL
	RIO BAIROA PRER14H	LEAD	WATER QUALITY IMPROVEMENT
	RIO BAIROA PRER14H	LOW DISSOLVED OXYGEN	TMDL
	RIO BAIROA PRER14H	TURBIDITY	WATER QUALITY IMPROVEMENT
	RIO CAGÜITAS PRER14I	LOW DISSOLVED OXYGEN	TMDL
	RIO CAGÜITAS PRER14I	COPPER	TMDL
	RIO CAGÜITAS PRER14I	AMMONIA	TMDL
RIO ESPIRITU SANTO	RIO ESPIRITU SANTO PRER16A	LEAD	WATER QUALITY IMPROVEMENT
	RIO ESPIRITU SANTO PRER16A	SELENIUM	WATER QUALITY IMPROVEMENT
RIO FAJARDO	RIO FAJARDO PRER22A	LEAD	WATER QUALITY IMPROVEMENT
	RIO FAJARDO PRER22A	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
	RIO FAJARDO PRER22A	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIO MAUNABO	RIO MAUNABO PRER37A	COPPER	WATER QUALITY IMPROVEMENT
	RIO MAUNABO PRER37A	AMMONIA	AMMONIA STANDARD IS NOT APPLICABLE FOR THIS SEGMENT
RIO GRANDE DE PATILLAS	RIO GRANDE DE PATILLAS PRSR43A2	TURBIDITY	WATER QUALITY IMPROVEMENT
RIO COAMO	RIO COAMO PRSR57A2	TURBIDITY	WATER QUALITY IMPROVEMENT
RIO PORTUGUES	RIO PORTUGUES PRSR63A	COPPER	WATER QUALITY IMPROVEMENT
RIO GUANAJIBO	RIO ROSARIO PRWR77C	COPPER	WATER QUALITY IMPROVEMENT
	RIO ROSARIO PRWR77C	LEAD	WATER QUALITY IMPROVEMENT
RIO YAGÜEZ	RIO YAGÜEZ PRWR79A	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO PRWR83A	CADMIUM	WATER QUALITY IMPROVEMENT
	RIO GRANDE DE AÑASCO PRWR83A	COPPER	WATER QUALITY IMPROVEMENT
	RIO GRANDE DE AÑASCO PRWR83A	LEAD	WATER QUALITY IMPROVEMENT
	RIO GRANDE DE AÑASCO PRWR83A	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT

BASIN	WATERBODY NAME	PARAMETER	REASON FOR DELISTING
	RIO GRANDE DE AÑASCO PRWR83A	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIO GUAYANES	RIO GUAYANES PREE35A	CADMIUM	WATER QUALITY IMPROVEMENT
	RIO GUAYANES PREE35A	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
RIO GRANDE DE ARECIBO	LAGO DOS BOCAS PRNL17A1	FECAL COLIFORM	WATER QUALITY IMPROVEMENT
RIO DE LA PLATA	LAGO DE LA PLATA PREL110A1	pH	WATER QUALITY IMPROVEMENT
RIO GRANDE DE AÑASCO	LAGO GUAYO PRWL83H	pH	WATER QUALITY IMPROVEMENT
QUEBRADA MELANIA	LAGO MELANIA PRSL50A	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
SAN JUAN BAY ESTUARY SYSTEM	PREE13A3	CADMIUM	WATER QUALITY IMPROVEMENT
	PREE13A3	COPPER	WATER QUALITY IMPROVEMENT
	PREE13A3	LEAD	WATER QUALITY IMPROVEMENT
	PREE13A3	MERCURY	WATER QUALITY IMPROVEMENT
COASTAL SHORELINE			
COASTAL SHORELINE	PRSC40 PUNTA BALLENA TO PUNTA BREA (OLD AU ID PRSS0003Z5_00)	ENTEROCOCCUS	WATER QUALITY IMPROVEMENT

Priority Ranking and TMDL Development Status

In October of 1998, the PREQB in collaboration with the Natural Resources Conservation Service (NRCS) and EPA developed the document Puerto Rico Unified Watershed Assessment and Restoration Activities. As result of this initiative, eighteen (18) main basins were identified as high priority where the PREQB would implement restoration activities. These basins are identified below according to the corresponding regions identified previously: (See table 40)

Table 40: Priority Basins

BASIN	REGION
Quebrada Blasina	East
Río Bayamón	East
Río Blanco	East
Río Grande de Loíza	East
Río Hondo	East
Río La Plata	East
Río Piedras	East
Río Cibuco	North
Río Grande de Arecibo	North
Río Grande de Manatí	North
Río Guajataca	North
Río Coamo	South
Río Grande de Patillas	South
Río Guayanilla	South
Río Culebrinas	West
Río Grande de Añasco	West
Río Guanajibo	West
Río Yagüez	West

The criteria used to establish the priority ranking and selection of basins appear in the document "Puerto Rico Unified Watershed Assessment and Restoration Activities (PRUWA) and were discussed in the Integrated Report of 2004. (See Table 41)

In FY-02 303 (d) List, the PREQB established a priority ranking to determine the sequence of development for restoration activities, including the development and implementation of the total maximum daily loads (TMDL). This priority ranking considered the priority of basins restoration and established three levels of priority:

- ✓ High Priority: basins including in the PRUWA as basins of priority due to the high pollution level related to all the designated uses.
- ✓ Intermediate Priority: basins that were not including in the PRUWA and have 50% or more of its waters as impaired for some designated use.
- ✓ Low Priority: basins that were not including in the PRUWA and have less than 50% of its waters as impaired for some designated use.

According, to the priority ranking established the PREQB in collaboration with EPA and other federal and state agencies worked together in order to develop and implement the TMDL for those watersheds. The table 42 presents a summary of the TMDL development status in Puerto Rico.

Table 41: Assessment units by Priority Ranking

BASIN	WATERBODY NAME	PRIORITY RANKING
RIO GUAJATACA	RIO GUAJATACA PRNR3A1	H
	RIO GUAJATACA PRNR3A2	H
	QUEBRADA LAS SEQUIAS PRNQ3B	H
RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO PRNR7A1	H
	RIO GRANDE DE ARECIBO PRNR7A2	H
	TUNEL PRNR7A3	H
	RIO CAONILLAS PRNR7C1	H
	RIO LIMON PRNR7C2	H
	RIO YUNES PRNR7C3	H
	RIO TANAMA PRNR7B2	H
RIO GRANDE DE MANATÍ	RIO GRANDE DE MANATÍ PRNR8A1	H
	RIO GRANDE DE MANATÍ PRNR8A2	H
	RIO GRANDE DE MANATÍ PRNR8A3	H
	RIO CIALITO PRNR8B	H
	RIO TORO NEGRO PRNR8C1	H
	RIO BAUTA PRNR8C2	H
	RIO SANA MUERTOS PRNR8D	H
	RIO OROCOVIS PRNR8E1	H
	RIO BOTIJAS PRNR8E2	H
RIO CIBUCO	RIO CIBUCO PRNR9A	H
	RIO INDIO PRNR9B1	H
	RIO DE LOS NEGROS PRNR9D	H
RIO DE LA PLATA	RIO DE LA PLATA PRER10A1	H

BASIN	WATERBODY NAME	PRIORITY RANKING
	RIO DE LA PLATA PRER10A3	H
	RIO DE LA PLATA PRER10A4	H
	RIO DE LA PLATA PRER10A5	H
	RIO LAJAS PRER10B	H
	RIO BUCARABONES PRER10C	H
	RIO GUADIANA PRER10E	H
	RIO ARROYATA PRER10G	H
	RIO MATON PRER10J	H
RIO HONDO	RIO HONDO PRER11A	H
RIO BAYAMÓN	RIO BAYAMÓN PRER12A1	H
	RIO BAYAMÓN PRER12A2	H
	RIO GUAYNABO PRER12B	H
RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA PRER14A1	H
	RIO GRANDE DE LOIZA PRER14A2	H
	RIO CANOVANAS PRER14B	H
	RIO CANOVANILLAS PRER14C	H
	QUEBRADA MARACUTO PREQ14D	H
	QUEBRADA GRANDE PREQ14E	H
	RIO CAÑAS PRER14F	H
	RIO GURABO PRER14G1	H
	RIO VALENCIANO PRER14G2	H
	RIO BAIROA PRER14H	H
	RIO CAGÜITAS PRER14I	H
	RIO TURABO PRER14J	H

BASIN	WATERBODY NAME	PRIORITY RANKING
	RIO CAYAGUAS PRER14K	H
	RIO EMAJAGUA PRER14L	H
RIO HERRERA	RIO HERRERA PRER15A	I
RIO ESPIRITU SANTO	RIO ESPIRITU SANTO PRER16A	I
RIO MAMEYES	RIO MAMEYES PRER17A	I
QUEBRADA MATA DE PLATANO	QUEBRADA MATA DE PLATANO PREQ18A	I
RIO SABANA	RIO SABANA PRER19A	I
RIO JUAN MARTÍN	RIO JUAN MARTÍN PRER20A	I
QUEBRADA FAJARDO	QUEBRADA FAJARDO PREQ21A	I
RIO FAJARDO	RIO FAJARDO PRER22A	I
RIO DEMAJAGUA	RIO DEMAJAGUA PRER23A	I
QUEBRADA CEIBA	QUEBRADA CEIBA PREQ24A	I
QUEBRADA AGUAS CLARAS	QUEBRADA AGUAS CLARAS PREQ25A	I
RIO DAGUAO	RIO DAGUAO PRER26A	I
QUEBRADA PALMA	QUEBRADA PALMA PREQ27A	I
QUEBRADA BOTIJAS	QUEBRADA BOTIJAS PREQ28A	I
RIO SANTIAGO	RIO SANTIAGO PRER29A	I
RIO BLANCO	RIO BLANCO PRER30A	H
	QUEBRADA PEÑA POBRE PREQ30B	H
RIO ANTON RUIZ	RIO ANTON RUIZ PRER31A	I
QUEBRADA FRONTERA	QUEBRADA FRONTERA PREQ32A	I
RIO HUMACAO	RIO HUMACAO PRER33A	I
RIO CANDELERO	RIO CANDELERO PRER34A	I

BASIN	WATERBODY NAME	PRIORITY RANKING
RIO GUAYANES	RIO GUAYANES PRER35A	I
QUEBRADA EMAJAGUA	QUEBRADA EMAJAGUA PREQ36A	I
RIO MAUNABO	RIO MAUNABO PRER37A	I
RIO CHICO	RIO CHICO PRSR42A	I
RIO GRANDE DE PATILLAS	RIO GRANDE DE PATILLAS PRSR43A1	H
	RIO GRANDE DE PATILLAS PRSR43A2	H
QUEBRADA MELANIA	QUEBRADA MELANIA PRSQ50A	I
QUEBRADA AMOROS	QUEBRADA AMOROS PRSQ52A	I
RIO NIGUAS DE SALINAS	RIO NIGUAS DE SALINAS PRSR54A	I
RIO COAMO	RIO COAMO PRSR57A2	H
	RIO CUYON PRSR57B	H
RIO BUCANA-CERRILLOS	RIO BUCANA-CERRILLOS PRSR62A1	I
RIO PORTUGUES	RIO PORTUGUES PRSR63A	I
RIO GUAYANILLA	RIO GUAYANILLA PRSR67A	H
RIO LOCO	RIO LOCO PRSR69A1	I
	RIO LOCO PRSR69A2	I
QUEBRADA BOQUERON	QUEBRADA BOQUERON PRWQ71A	I
RIO GUANAJIBO	RIO GUANAJIBO PRWR77A	H
	RIO ROSARIO PRWR77C	H
	RIO DUEY Y RIO HOCONUCO PRWR77E	H
RIO YAGÜEZ	RIO YAGÜEZ PRWR79A	H
RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO PRWR83A	H
	RIO CAÑAS PRWR83B	H
	RIO CASEY PRWR83C	H

BASIN	WATERBODY NAME	PRIORITY RANKING
	RIO HUMATA PRWR83D	H
	RIO MAYAGUECILLO PRWR83F	H
	RIO GUABA PRWR83G	H
	RIO BLANCO PRWR83H	H
	RIO PRIETO PRWR83I	H
QUEBRADA GRANDE DE CALVACHE	QUEBRADA GRANDE DE CALVACHE PRWQ88A	I
QUEBRADA LOS RAMOS	QUEBRADA LOS RAMOS PRWQ89A	I
RIO GUAYABO	RIO GUAYABO PRWR94A	I
RIO CULEBRINAS	RIO CULEBRINAS PRWR95A	H
	RIO CAÑO (RIO CAÑAS) PRWR95B	H
	QUEBRADA GRANDE (SECTOR CUCHILLAS) PRWQ95C	H
	QUEBRADA LAS MARIAS PRWQ95D	H
	QUEBRADA LA SALLE PRWQ95F	H
	QUEBRADA EL SALTO PRWQ95G	H
	QUEBRADA GRANDE DE LA MAJAGUA PRWQ95H	H
	QUEBRADA SALADA PRWQ95I	H
	RIO SONADOR PRWR95J	H
	RIO GUATEMALA PRWR95K	H

Notes: H – High Priority
I – Intermediate Priority
L – Low Priority

Table 42: TMDL Development Status

SEGMENT/POLLUTANT	SEGMENT ID	PROJECT STATUS	PROJECTED TMDL SUBMITTAL DATE
1. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83A	IN DRAFT	FY10
2. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83B	IN DRAFT	FY10
3. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83C	IN DRAFT	FY10
4. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83D	IN DRAFT	FY10
5. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83E	IN DRAFT	FY10
6. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83F	IN DRAFT	FY10
7. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83G	IN DRAFT	FY10
8. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83H	IN DRAFT	FY10
9. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83I	IN DRAFT	FY10
10. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7A1	IN DRAFT	FY10
11. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7A2	IN DRAFT	FY10
12. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7A3	IN DRAFT	FY10
13. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7B1	IN DRAFT	FY10
14. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7B2	IN DRAFT	FY10
15. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7C1	IN DRAFT	FY10
16. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7C2	IN DRAFT	FY10
17. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7C3	IN DRAFT	FY10
18. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8A1	IN DRAFT	FY10
19. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8A2	IN DRAFT	FY10
20. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8A3	IN DRAFT	FY10
21. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8B	IN DRAFT	FY10
22. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8C1	IN DRAFT	FY10
23. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8C2	IN DRAFT	FY10
24. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8D	IN DRAFT	FY10
25. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8E1	IN DRAFT	FY10

SEGMENT/POLLUTANT	SEGMENT ID	PROJECT STATUS	PROJECTED TMDL SUBMITTAL DATE
26. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8E2	IN DRAFT	FY10
27. RIO GRANDE DE LOIZA/BIOCHEMICAL OXYGEN DEMAND	PRER14A2	Approved by EPA	
28. RIO GRANDE DE LOIZA/BIOCHEMICAL OXYGEN DEMAND	PRER14G1	Approved by EPA	
29. RIO GRANDE DE LOIZA/TOTAL AMMONIA	PRER14H	Approved by EPA	
30. RIO GRANDE DE LOIZA/BIOCHEMICAL OXYGEN DEMAND	PRER14H	Approved by EPA	
31. RIO GRANDE DE LOIZA/COPPER	PRER14H	Approved by EPA	
32. RIO GRANDE DE LOIZA/COPPER	PRER14I	Approved by EPA	
33. RIO GRANDE DE LOIZA/TOTAL AMMONIA	PRER14I	Approved by EPA	
34. RIO GRANDE DE LOIZA/BIOCHEMICAL OXYGEN DEMAND	PRER14I	Approved by EPA	
35. RIO BAYAMON/FECAL COLIFORM	PRER12A1	TO BE DEVELOPED	
36. RIO BAYAMON/FECAL COLIFORM	PRER12A2	TO BE DEVELOPED	
37. RIO BAYAMON/FECAL COLIFORM	PRER12B	TO BE DEVELOPED	
38. RIO HONDO/FECAL COLIFORM	PRER11A	TO BE DEVELOPED	

Also, in coordination with the EPA contractor we are ready to develop Fecal Coliforms TMDL for the rest of the island during FY-11.

PART E. Ground Water Monitoring and Assessment

Groundwater use in Puerto Rico includes human consumption as drinking water, industrial use in many processes, including manufacturing and pharmaceutical applications, as well as agricultural multiple agricultural activities. In some communities, groundwater represents the sole source of drinking water.

The Puerto Rico Environmental Quality Board (PREQB) is the designated state agency responsible for protection of the quality of all waters in the Commonwealth of Puerto Rico, including ground waters. To fulfill this responsibility, specifically with respect of groundwater, PREQB implements various strategies and programs which essentially seek to protect the quality of the available resource. These include no regulatory programs such as the Groundwater Monitoring Network, the Wellhead Protection Program (WHPP). In addition to these non-regulatory protection programs, PREQB implements various regulatory programs that specifically seek the protection of groundwater quality and groundwater pollution prevention and control. These programs include the Underground Injection Control Program, the Underground Storage Tank Program, both of which are federal regulatory programs that have been delegated by EPA to PREQB. In addition, PREQB also implements the non-delegated the Leaking Underground Storage Tank Program to address clean-up actions required as result of spills in facilities operating underground storage tanks.

Groundwater Monitoring Network

The PREQB's Groundwater Monitoring Network consists of selected drinking water wells operated by the Puerto Rico Aqueduct and Sewer Authority (PRASA), from which samples are taken from the well prior to treatment thus representing ambient monitoring data from the aquifer. A total of sixty-two (62) wells are monitored to perform the groundwater assessment. Under this monitoring network the PREQB conducts sampling and analyses once per year for: nitrates, VOC's, pathogens, chlorides, total dissolved solids and pesticides. The selection of the wells for the network within municipalities was based on the following: location (site), population served and risk of contamination. The municipalities in which the drinking water wells of the network are located were selected based on the following criteria established in the PREQB Ground Water Protection Plan:

- Ground water dependence
- Hydrogeologic characteristics
- Presence of potential pollution sources
- Critical or ecological sensitive areas
- Presence of pollutants

Table 43 includes the names and location of the selected wells.

Table 43: Identification of Wells used as part of the Groundwater Monitoring Network

WELL NAME	MUNICIPALITY	SAMPLING YEAR
Saltillo Vaca	Adjuntas	2007, 2008
Garrochales 3 (Viejo)	Arecibo	2008
Matadero IV	Arecibo	2008
Ojo de Agua 1(Urbano)	Arecibo	2008
Belinda	Arroyo	2008
Pozo I (Arroyo, Urbano I))	Arroyo	2008
Cruce Dávila	Barceloneta	2008
Pajonal I (San Agustín)	Barceloneta	2008
Pajonal II (Cortés)	Barceloneta	2008
Cabo Rojo I	Cabo Rojo	2008
Cabo Rojo II	Cabo Rojo	2008
Piedra Gorda	Camuy	2008
Beatriz III	Cayey	2008
Búngalo	Cayey	2007
Florida #5 (La Ceiba)	Florida	2008
Florida #9 (Parque Ceiba)	Florida	2008
La Joya (Santa Rita)	Guánica	2008
Los Caños	Guánica	2008
Guayanilla Viejo	Guayanilla	2008
Los Sitios	Guayanilla	2008
Quebrada Nuevo	Guayanilla	2008
Mamey	Gurabo	2008
Campo Alegre I	Hatillo	2008
Campo Alegre III	Hatillo	2008
Hormigueros III	Hormigueros	2008
Amelia II	Juana Díaz	2008
Experimental (Juana Díaz)	Juana Díaz	2008
Río Cañas	Juana Díaz	2008
Manatí 2	Manatí	2008
Tiburones II	Manatí	2008
Viskase III	Manatí	2008
Bordaleza	Maunabo	2008
Calzada	Maunabo	2008
Bateyes	Mayagüez	2008
Marini	Mayagüez	2008
Jacaboas I	Patillas	2008
Jacaboas II	Patillas	2007
Jacaboas III	Patillas	2008
Alambra II	Ponce	2008
Calvache II	Rincón	2008
Puente II	Rincón	2008
Albergue Olimpico	Salinas	2008
Coco IV	Salinas	2008
Godreau II	Salinas	2008
Las Mareas	Salinas	2007, 2008
Las Monjas (Coquí 2)	Salinas	2008
Urbano II	Salinas	2008
Cain Alto (Capriles)	San Germán	2008
Duey II (San Agustín)	San Germán	2008
Esmeralda II	Santa Isabel	2008

WELL NAME	MUNICIPALITY	SAMPLING YEAR
Ollas	Santa Isabel	2008
Paso Seco V	Santa Isabel	2007, 2008
Paso Seco VI	Santa Isabel	2008
Playita Cortada	Santa Isabel	2008
Campanilla VIII	Toa Baja	2009
Monserrate	Vega Alta	2008
Pugnado II	Vega Baja	2008
Vega Baja III	Vega Baja	2008
Guayanés	Yabucoa	2007, 2008
La Grúa	Yabucoa	2008
Barinas	Yauco	2007
Rio Loco	Yauco	2008

The ambient groundwater quality data compiled by PREQB during this reporting cycle indicates the presence bacteria at some of the aquifer stations monitored. As part of the Wellhead Protection Program the Contingency Plan are been implemented in which PREQB are performing an investigation between the different sources of pollution to determine responsibilities and requires corrective actions. Table 44 below shows a summary of the water quality assessment for drinking groundwater public supply.

Table 44 Water Quality Assessment for Groundwater Systems

POLLUTANT TYPE	NUMBER OF WELLS FOR WHICH DATA WHERE REPORTED		NUMBER OF WELLS IMPACTED BY MCL EXCEEDANCE		SUSPECTED POLLUTANT SOURCE
	2007	2008	2007	2008	
Total Dissolved Solids	0	23	0	0	N/A
Pesticides	7	51	0	0	N/A
Volatile Organic Compounds	4	32	0	0	N/A
Chlorides	7	55	0	0	N/A
Fecal Coliforms	7	51	7	40	Septic Systems and Animal Feedlots

PART F. Wetlands

Wetlands are the coastal ecosystems that are most abundant in Puerto Rico. One of the classifications that are made of wetlands groups them into three types: marine, estuarine and freshwater. The most frequent are the estuarine and freshwater wetlands, each of which comprises about 36% of the total area of wetlands. Examples of estuarine wetlands are those close to coastal rivers, salt flats and mangroves. Freshwater wetlands include swamps, ponds, marshes and humid grasslands. The marine wetlands represent 27% of the total. Sea grass beds are included in this category. Estuarine and freshwater wetlands are most abundant in the eastern, 2/3 of the north coast of Puerto Rico, and all along the south coast, although examples are found on all coasts of the main island. Vieques and Culebra have no freshwater wetlands. In total, Puerto Rico has 87,255 ha. of coastal wetlands (Puerto Rico Coastal and Estuarine Land Conservation Plan draft, September 2009, Puerto Rico Coastal Zone Management Program Department of Natural and Environmental Resources)

Public policy on wetlands in Puerto Rico, defines wetlands as those saturated by surface and groundwater systems, in an interval and duration, sufficient to support vegetation typically adapted to saturated soil conditions, flooding or engulf. For the protection of wetlands, there are no specific parameters of water quality, however in the Puerto Rico Water Quality Standards Regulation, as amendment in April 2010, in order to be consistent with the anti-degradation policy, classification SE of waters: "surface water and wetlands with exceptional ecological value, which existing features can't be altered in order to preserve existing natural phenomena". No parameters for this classification may exceed water quality standard, for which reason; this provision provides the mechanism to protect wetland areas. In Puerto Rico the protection and conservation of wetlands is the result of the efforts of several local and federal agencies, namely Department of Environment and Natural Resources (DNRA), Environmental Quality Board (EQB), Corps of Engineers (COE), U.S. Fish and Wildlife Service (FWS) and the Environmental Protection Agency (EPA), as well as, community groups and environmental organizations.

The factors that most influence coastal wetlands are: drainage, channelization and filling, disposal of industrial, agricultural and domestic waste, civil constructions, tourism expansion, storms and hurricanes, global climate change. The value of wetlands in Puerto Rico for the wildlife is well documented. For example, the salt flats of Cabo Rojo, on the southwest coast, provide areas for rest and feeding of hundreds of migratory birds en route between North and South America. This area is one of the most valuable wetlands of the island. Before the drainage of coastal wetlands for agricultural purposes, freshwater marshes such as the Laguna Cartagena, Guánica Lagoon and swamp supplied water-logged habitat for hundreds of species of resident and migratory birds. The wetlands of the highlands of central area are the last refuge of the Puerto Rican parrot, an endangered species. Even wetlands of metropolitan San Juan (Laguna La Torrecilla, Torrecilla Baja, Laguna de Piñones to Vacía Talega) provide excellent habitats for wildlife, fish hatcheries maintain high economic value and provide recreational and educational opportunities to population.

Thirty-eight species of vertebrates, mollusks and crustaceans and 46 species of birds, some rare or endangered species, such as the ladybug, the gannet, the Dominican duck, duck and pigeon-headed Warbler have been seen in these areas. Beaches, also associated with these urban wetlands provide nesting sites for Hawksbill turtles and leatherback shell, both endangered species (Del Llano et al, 1986). In Puerto Rico each acre impacted is mitigated by .79 acres instead of 1.01 acres as required by public policy of zero losses, indeed the practice adopted by proponents of creating wetlands followed by the improvement, restoration and preservation, represents a threat to these systems by the time it takes to reach its former productivity and functionality (Perez, 2003).

In 1997, DNRA adopted the Wetland Management Plan with the objective of developing and implementing various management measures for the protection of these ecological systems. Management measures included in the Plan were the adoption of standardized procedures for evaluating urban development in wetland areas, public education and ensure the activities implemented in these areas. After evaluation of the different uses and activities that may cause impact to wetlands the Plan identified twelve (12) wetland areas in critical condition. These are:

Martín Peña
Piñones
Espíritu Santo River
Antón Ruiz River
Puerto Jobos
Caña Gorda
La Parguera
Caño Boquerón
Cibuco River
Flamenco
Puerto Mosquito

PART G. Public Participation

According to EPA requirements of involving the public and other stakeholders in the development of the Section 303(d) List (40 CFR 130.7(a)) PREQB has held a public hearing on February 16, 2010.

The public hearing was appropriated noticed in two (2) local newspapers of island wide circulation (Copy enclosed). Also, 303(d) List was circulated among PREQB's offices including the regional offices and other agencies.

The Public participation element serves to encourage the involvement of universities, private institutions, agencies, communities and general public in water quality issues.

The determination of the Governing Board of PREQB was established in resolution number R-10-10-2, copy enclosed in Appendix III.

APENDIX I - 2010 Cycle 303(d) List

Evaluation and Strategic Planning Area
Puerto Rico Environmental Quality Board

Table 45: Size of waters Impaired by Causes all cycles (Monitored Miles for Rivers and Streams)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (miles)
Fecal Coliforms (1700)	3,044.5
Arsenic (0510)	3,290.8
Turbidity (2500)	2,521.9
Low Dissolved Oxygen (1200)	1,499.7
Surfactants (0400)	1,829.3
Copper (0530)	1,603.4
Thermal Modifications (1400)	431.7
Cyanide (0720)	2,976.2
Ammonia (0600)	338.5
Pesticides (0200)	209.4
Phosphorus (0910)	212.3
Lead (0550)	1,059.5
Mercury (0560)	324.0
pH (1000)	136.0
Cadmium (0520)	51.4
Others Inorganic (0800)	22.0
Selenium (0570)	22.0
Silver (no code)	14.6

Table 46: 2010 Cycle 303(d) List – List of Rivers and Streams

Note: The 2010 303(d) List is comprised of the causes of impairments listed in 2010, 2008, 2006 and 2004 cycles.

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
RIO GUAJATACA	RIO GUAJATACA PRNR3A1	9.9	NS 50011400	**5**	**1**	**5**	**5**		Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Arsenic (0510) Low Dissolved Oxygen (1200)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Low Dissolved Oxygen (1200) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700)
	RIO GUAJATACA PRNR3A2	22	NS 50010500	**5**	**5**	**5**	**5**		Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500 Cyanide (0720))	Arsenic (0510) Fecal Coliforms (1700)
	QUEBRADA LAS SEQUIAS PRNQ3B	3.5		**3**	**3**	**5**	**5**	**O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Arsenic (0510) Cyanide (0720) Low Dissolved Oxygen (1200)	Arsenic (0510) Fecal Coliforms (1700)
RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO PRNR7A1	31.4	NS 50029000 50027250 A1-B	**5**	**1**	**5**	**5**		Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Industrial Point Source (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO GRANDE DE ARECIBO PRNR7A2	122.8	NS 50025000 A3-A A3-B ED-PR09GRAD-056.020	5	5	5	5	K	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Land Development (3200) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700) Pesticides (0200) Thermal Modifications (1400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700)
	TUNEL PRNR7A3	28.9	NS 50020500 ED-PR09GRAD-036, 052	5	1	5	5		Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO CAONILLAS PRNR7C1	87	NS 50026050 A4-A A4-B ED - PR09GRAD-012	5	1	5	5	K	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Land Development (3200) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surface Mining (5100) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700)	Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700)
	RIO LIMON PRNR7C2	40.7	NS A1-A	5	1	5	1		Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plants (Small Flows) (0230)	Low Dissolved Oxygen (1200)			
	RIO TANAMA PRNR7B2	43.5	NS 50028000 A5-A (A5-A2)	5	1	5	5		Agriculture (1300) Land Development (3200) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Arsenic (0510) Fecal Coliforms (1700) pH (1000)	Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Cyanide (0720)	Fecal Coliforms (1700)
RIO GRANDE DE MANATÍ	RIO GRANDE DE MANATÍ PRNR8A1	31	NS +50038100	5	5	5	5		Collection System Failure(0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Arsenic (0510) Turbidity (2500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO GRANDE DE MANATÍ PRNR8A2	38.1	NS 50035500 50031200 ED-PR09GRAD-014	5	1	5	5	K	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510 Copper (0530) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Copper (0530) Surfactants (0400) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700)
	RIO GRANDE DE MANATÍ PRNR8A3	27		5	1	5	5	O	Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Copper (0530) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Mercury (0560)
	RIO CIALITO PRNR8B	25.8	NS 50035950	5	5	5	5		Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Cyanide (0720)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700)
	RIO TORO NEGRO PRNR8C1	41.5	ED-PR09GRAD-040	5	1	5	5		Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)		Arsenic (0510) Copper (0530) Fecal Coliforms (1700)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700)
	RIO BAUTA PRNR8C2	27.6	ED-PR09GRAD-030, 058	2	2	5	5		Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)		Arsenic (0510) Copper (0530)		

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO SANA MUERTOS PRNR8D	16		5	1	5	5	O	Agriculture (1300) Onsite Wastewater Systems (6500)		Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Turbidity (2500)		
	RIO OROCOVIS PRNR8E1	19.8	NS 50030700 ED-PR09GRAD-003	5	5	5	5	K	Collection System Failure (0500) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700)
	RIO BOTIJAS PRNR8E2	19.1		5	5	5	5	O	Confined Animal Feeding Operations (1640) Minor Industrial point Source (0120) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)		
RIO CIBUCO	RIO CIBUCO PRNR9A	31.1	NS 50038320 50039500	4a	4a	5	5	B	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500)	Arsenic (0510) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510)
	RIO INDIO PRNR9B1	12.5		4a	4a	5	5	B, O	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Arsenic (0510) Copper (0530) Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Copper (0530)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO DE LOS NEGROS PRNR9D	24.1	ED-PR09GRAD-049	**4a**	**4a**	**5**	**5**	**B and K**	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Surfactants (0400)
RIO DE LA PLATA	RIO DE LA PLATA PRER10A1	21	NS 50046000	**4a**	**1**	**5**	**5**	**C**	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Industrial Point Source (0110) Major Municipal Point Source (0210) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Surfaces Mining (5100)	Arsenic (0510) Cyanide (0720) Turbidity (2500)	Arsenic (0510) Low Dissolved Oxygen (1200) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Low Dissolved Oxygen (1200)	Arsenic (0510)
	RIO DE LA PLATA PRER10A3	55.7	NS 50044000 LP-5 LP-6 ED-PR09GRAD-026	**4a**	**1**	**5**	**5**	**C and K**	Agriculture (1300) Confined Animal Feeding Operations (1640) Land Development (3200) Landfills (6300) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500)	Arsenic (0510) Low Dissolved Oxygen (1200) Turbidity (2500)	Arsenic (0510) Low Dissolved Oxygen (1200) pH (1000) Cyanide (0720)	Arsenic (0510) Cyanide (0720)	Arsenic (0510)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO DE LA PLATA PRER10A4	10.2	NS 50043000 LP-4	4a	1	5	5	C	Agriculture (1300) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Arsenic (0510) Copper (0530) Surfactants (0400) Turbidity (2500)	Arsenic (0510)) Thermal Modifications (1400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Copper (0530)
	RIO DE LA PLATA PRER10A5	92.7		4a	4a	5	5	C, O	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban/Runoff/Storm Sewers (4000)			Arsenic (0510) Cyanide (0720) Surfactants (0400) Turbidity (2500)	Copper (0530)
	RIO LAJAS PRER10B	16.6	ED-PR09GRAD-033	4a	4a	5	5	C and K	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surface Mining (5100)			Arsenic (0510) Cyanide (0720) Low Dissolved Oxygen (1200) Surfactants (0400)	
	RIO BUCARABONES PRER10C	19.2		4a	4a	5	5	C, O	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500)			Arsenic (0510) Cyanide (0720) Low Dissolved Oxygen (1200) Surfactants (0400)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO GUADIANA PRER10E	21.8	NS 50044850	**4a**	**4a**	**5**	**5**	**C**	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Land Development (3200) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)	Arsenic (0510) Turbidity (2500)	Arsenic (0510) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Cyanide (0720)	Arsenic (0510)
	RIO ARROYATA PRER10G	36.8	NS LP-3 ED-PR09GRAD-054	**4a**	**4a**	**5**	**1**	**C and K**	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Land Development (3200) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)		pH (1000)		
	RIO MATON PRER10J	15.8	NS LP-1 LP-2	**4a**	**1**	**5**	**1**	**C**	Confined Animal Feeding Operations (1640) Land Development (3200) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)		**Turbidity (2500)** Cyanide (0720) Arsenic (0510) Surfactants (0400)	Copper (0530)
RIO HONDO	RIO HONDO PRER11A	22		**5**	**5**	**5**	**5**	**L, O**	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Se elimino estación de monitoria	Arsenic (0510) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Other Inorganic (0800) Selenium (0570) Surfactants (0400)	Ammonia (0600) Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
RIO BAYAMÓN	RIO BAYAMÓN PRER12A1	33.6	NS 50048510	**5**	**5**	**5**	**5**		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Copper (0530) Cyanide (0720) Fecal Coliforms (1700) Lead (0550) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Surfactants (0400)
	RIO BAYAMÓN PRER12A2	83.7	NS 50047600 ED-PR09GRAD-005	**5**	**1**	**5**	**5**	**K**	Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700)
	RIO GUAYNABO PRER12B	50.7	NS 50047990 ED-PR09GRAD-037	**5**	**5**	**5**	**5**	**K**	Collection System Failure(0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Copper (0530) Cyanide (0720) Fecal Coliforms (1700) Lead (0550) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Mercury (0560) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Copper (0530) Cyanide (0720) Fecal Coliforms (1700)
RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA PRER14A1	31	NS 50059100	**5**	**5**	**5**	**5**	**J**	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Industrial Point Source (0110) Major Municipal Point Source (0210) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO GRANDE DE LOIZA PRER14A2	86.6	NS 50055000 L-2 L-3	4a	4a	5	5	D, H and M	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Land Development (3200) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plant (Small Flows) (0230) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Surfactants (0400)	Arsenic (0510) Copper (0530) Pesticides (0200) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Ammonia (0600)
	RIO CANOVANAS PRER14B	32.6		5	1	5	5	G, O	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plant (Small Flows) (0230) Urban Runoff/Storm Sewers (4000)			Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	
	RIO CANOVANILLAS PRER14C	27.9		5	5	5	5	G, O	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	
	QUEBRADA MARACUTO PREQ14D	22.9		3	3	5	5	G, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Arsenic (0510) Cyanide (0720)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	QUEBRADA GRANDE PREQ14E	17.7		3	3	5	5	G, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plant (Small Flows) (0230) Urban Runoff/Storm Sewers (4000)			Arsenic (0510) Cyanide (0720) Surfactants (0400)	
	RIO CAÑAS PRER14F	9.4	ED-PR09GRAD-009	4a	4a	5	5	D ,G, and K	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Arsenic (0510) Cyanide (0720)	
	RIO GURABO PRER14G1	124.3	NS 50057025 (50057000) ED-PR09GRAD-025	4a	4a	5	5	D and H	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100)	Arsenic (0510) Copper (0530) Turbidity (2500)	Arsenic (0510) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530)
	RIO VALENCIANO PRER14G2	42.8	NS L-1 ED-PR09GRAD-018	4a	4a	5	5	D and K	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plant (Small Flows) (0230) Urban Runoff/Storm Sewers (4000)		Copper (0530)	Arsenic (0510) Cyanide (0720) Surfactants (0400) Turbidity (2500)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO BAIROA PRER14H	16.3	NS 50055410	4a	4a	5	5	D, H, M, and P	Collection System Failure (0500) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Phosphorus (0910) Surfactants (0400)	Arsenic (0510) Cyanide (0720) Phosphorus (0910) Surfactants (0400)	Arsenic (0510) Cyanide (0720) Surfactants (0400)	Arsenic (0510) Cyanide (0720)
	RIO CAGÜITAS PRER14I	33.9	NS 50055250	4a	4a	5	5	D, H, M, and P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Surfactants (0400) Thermal Modifications (1400) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Lead (0550) Surfactants (0400) Thermal Modifications (1400) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Surfactants (0400)	Arsenic (0510) Cyanide (0720) Lead (0550)
	RIO TURABO PRER14J	54.70	NS L-5 ED-PR09GRAD-034	4a	4a	5	5	D and K	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Arsenic (0510) Cyanide (0720) Surfactants (0400) Turbidity (2500)	
	RIO CAYAGUAS PRER14K	38.5	NS L-4 ED-PR09GRAD-002	4a	4a	5	5	D and K	Agriculture (1300) Confined Animal Feeding Operations (1640) Land Development (3200) Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)	Arsenic (0510) Copper (0530) Cyanide (0720) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO EMAJAGUA PRER14L	8.5		4a	4a	5	5	D, G, O	Onsite Wastewater Systems (6500)			Arsenic (0510) Cyanide (0720) Surfactants (0400)	
RIO HERRERA	RIO HERRERA PRER15A	17		5	5	5	3	G, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
RIO ESPIRITU SANTO	RIO ESPIRITU SANTO PRER16A	58.4	NS 50063800	5	1	5	5		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Turbidity (2500)	Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Cyanide (0720)	Copper (0530) Fecal Coliforms (1700)
RIO MAMEYES	RIO MAMEYES PRER17A	38.9		5	5	5	3	G, O	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
QUEBRADA MATA DE PLATANO	QUEBRADA MATA DE PLATANO PREQ18A	4.0		5	5	5	3	G, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
RIO SABANA	RIO SABANA PRER19A	33.1		5	5	5	3	G, O	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Major Municipal Point Sources (0210)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
RIO JUAN MARTÍN	RIO JUAN MARTÍN PRER20A	7.8		5	1	3	3	G, O	Onsite Wastewater Systems (6500)			Fecal Coliforms (1700)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
QUEBRADA FAJARDO	QUEBRADA FAJARDO PREQ21A	10.0		**5**	**5**	**5**	**3**	**G, O**	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
RIO FAJARDO	RIO FAJARDO PRER22A	59.0	NS 50071000	**5**	**1**	**5**	**5**		Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Copper (0530) Fecal Coliforms (1700)
RIO DEMAJAGUA	RIO DEMAJAGUA PRER23A	2.8		**5**	**5**	**3**	**3**	**G, O**	Onsite Wastewater Systems (6500)			Fecal Coliforms (1700)	
QUEBRADA CEIBA	QUEBRADA CEIBA PREQ24A	5.0		**5**	**5**	**5**	**3**	**G, O**	Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
QUEBRADA AGUAS CLARAS	QUEBRADA AGUAS CLARAS PREQ25A	4.8		**5**	**5**	**5**	**3**	**G, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Thermal Modifications (1400)	
RIO DAGUAO	RIO DAGUAO PRER26A	13.8		**5**	**5**	**5**	**3**	**G, O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
QUEBRADA PALMA	QUEBRADA PALMA PREQ27A	11.8		**5**	**1**	**3**	**3**	**G, O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plants (Small Flows) (0230)			Fecal Coliforms (1700)	
QUEBRADA BOTIJAS	QUEBRADA BOTIJAS PREQ28A	7.4		**5**	**5**	**5**	**3**	**G, O**	Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
RIO SANTIAGO	RIO SANTIAGO PRER29A	15.3		**5**	**1**	**3**	**3**	**G, O**	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Fecal Coliforms (1700)	
RIO BLANCO	RIO BLANCO PRER30A	45.0		**5**	**5**	**5**	**3**	**G, O**	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
	QUEBRADA PEÑA POBRE PREQ30B	13.4		**5**	**5**	**5**	**3**	**G, O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
RIO ANTON RUIZ	RIO ANTON RUIZ PRER31A	20.4		**5**	**5**	**3**	**3**	**G, O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700)	
QUEBRADA FRONTERA	QUEBRADA FRONTERA PREQ32A	8.5		**5**	**5**	**5**	**3**	**G, O**	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
RIO HUMACAO	RIO HUMACAO PRER33A	55.8	NS 50082000	**5**	**5**	**5**	**5**		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550) Mercury (0560) Surfactants (0400) Thermal Modifications (1400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700)
RIO CANDELERO	RIO CANDELERO PRER34A	10.4		**5**	**5**	**3**	**3**	**G, O**	Onsite Wastewater Systems (6500)			Fecal Coliforms (1700)	
RIO GUAYANES	RIO GUAYANES PRER35A	94.6		**5**	**5**	**5**	**5**	**G, O**	Agriculture (1300) Landfills (6300) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)			Arsenic (0510) Copper (0530) Cyanide (0720) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700)
QUEBRADA EMAJAGUA	QUEBRADA EMAJAGUA PREQ36A	2.5		**5**	**1**	**3**	**3**	**G, O**	Onsite Wastewater Systems (6500)			Fecal Coliforms (1700)	
RIO MAUNABO	RIO MAUNABO PRER37A	36.0	NS 50091000	**5**	**5**	**5**	**5**		Agriculture (1300) Collection System Failure (0500) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400) Thermal Modifications (1400)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
RIO CHICO	RIO CHICO PRSR42A	14.6		**5**	**5**	**5**	**5**	**A, L, O**	Agriculture (1300) Confined Animal Feeding Operations (1640) Major Municipal Point source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Ammonia (0600) Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Phosphorus (0910) Surfactants (0400)	Ammonia (0600) Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Mercury (0560) Phosphorous (0910) Silver (no code) Surfactants (0400)
RIO GRANDE DE PATILLAS	RIO GRANDE DE PATILLAS PRSR43A1	4.0		**5**	**1**	**5**	**5**	**I, O**	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700)		
	RIO GRANDE DE PATILLAS PRSR43A2	35.9	NS 50092000 ED-PR09GRAD-006	**5**	**1**	**5**	**5**	**I and K**	Onsite Wastewater Systems (6500)	Arsenic (0510)	Arsenic (0510) Fecal Coliforms (1700) Cyanide (0720)	Arsenic (0510) Cyanide (0720)	Fecal Coliforms (1700)
QUEBRADA MELANIA	QUEBRADA MELANIA PRSQ50A	7.0		**3**	**3**	**5**	**3**	**A, O**	Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Low Dissolved Oxygen (1200)		
QUEBRADA AMOROS	QUEBRADA AMOROS PRSQ52A	0.7		**3**	**3**	**5**	**3**	**A, O**	Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)		
RIO NIGUAS DE SALINAS	RIO NIGUAS DE SALINAS PRSR54A	102.5	ED-PR09GRAD-022	**5**	**5**	**5**	**1**	**A and K**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)		Fecal Coliforms (1700) Low Dissolved Oxygen (1200)		

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
RIO COAMO	RIO COAMO PRSR57A2	59.0	NS 50106500	**5**	**5**	**5**	**5**		Agriculture (1300) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Thermal Modifications (1400)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Thermal modifications (1400)	Arsenic (0510) Fecal Coliforms (1700)
	RIO CUYON PRSR57B	49.2	ED-PR09GRAD-035	**5**	**5**	**5**	**5**	**K**	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plans Small Flow (0230) Urban Runoff/Storm Sewers (4000)			Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Thermal Modifications (1400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700)
RIO BUCANA-CERRILLOS	RIO BUCANA-CERRILLOS PRSR62A1	27.8	NS 50114000	**5**	**1**	**5**	**5**		Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Cyanide (0720)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	Arsenic (0510)
RIO PORTUGUES	RIO PORTUGUES PRSR63A	54.0	NS 50115000 50116200	**5**	**5**	**5**	**5**		Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
RIO GUAYANILLA	RIO GUAYANILLA PRSR67A	60.0	NS 50124700 ED-PR09GRAD-016	**5**	**5**	**5**	**5**	**K**	Agriculture (1300) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Phosphorus (0910) Thermal Modifications (1400) Turbidity (2500)	Ammonia (0600) Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Phosphorus (0910) Surfactants (0400) Thermal Modifications (1400)	Ammonia (0600) Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400) Thermal Modification (1400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700)
RIO LOCO	RIO LOCO PRSR69A1	92.4		**5**	**5**	**5**	**5**	**L, O**	Agriculture (1300) Collection System Failure (0500) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Lead (0550)
	RIO LOCO PRSR69A2	19.5		**5**	**1**	**3**	**3**	**G, O**	Agriculture (1300) Onsite Wastewater Systems (6500)		Fecal Coliforms (1700)		
QUEBRADA BOQUERON	QUEBRADA BOQUERON PRWQ71A	11.7		**5**	**5**	**3**	**3**	**G, O**	Onsite Wastewater Systems (6500)		Fecal Coliforms (1700)		
RIO GUANAJIBO	RIO GUANAJIBO PRWR77A	121.4	NS 50138000 50133600	**5**	**5**	**5**	**5**		Collection System Failure (0500) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Ammonia (0600) Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Phosphorus (0910) Turbidity (2500) Cyanide (0720) Lead (0550)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500) Cyanide (0720) Lead (0550)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO ROSARIO PRWR77C	58.3	NS 50136400	5	5	5	5		Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)
	RIO DUEY Y RIO HOCONUCO PRWR77E	39.9		5	5	5	5	O	Agriculture (1300) Onsite Wastewater Systems (6500)			Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700)
RIO YAGÜEZ	RIO YAGÜEZ PRWR79A	42.2	NS 50138800	5	1	5	5		Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700)
RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO PRWR83A	126.0	NS 50146000 50144000 50143000 ED-PR09GRAD-047	5	5	5	5	K	Agriculture (1300) Confined Animal Feeding Operations (1640) Mayor Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700)
	RIO CAÑAS PRWR83B	54.4		5	1	3	3	O	Agriculture (1300) Onsite Wastewater Systems (6500)		Fecal Coliforms (1700)		

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	RIO CASEY PRWR83C	38.1		5	1	5	5	O	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Cadmium (0520) Copper (0530) Fecal Coliforms (1700) Lead (0550)
	RIO HUMATA PRWR83D	13.3	ED-PR09GRAD-011	5	1	5	5	K	Agriculture (1300) Onsite Wastewater Systems (6500)			Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Cadmium (0520)) Copper (0530) Fecal Coliforms (1700) Lead (0550)
	RIO MAYAGUECILLO PRWR83F	18.0		5	1	5	5	O	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700)		
	RIO GUABA PRWR83G	68.1	ED-PR09GRAD-032	1	1	5	5	K	Agriculture (1300) Onsite Wastewater Systems (6500)		Arsenic (0510)		
	RIO BLANCO PRWR83H	79.9	ED-PR09GRAD-015, 043	5	1	5	5	K	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)			Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550)
	RIO PRIETO PRWR83I	59.8		5	1	5	5	O	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550)
QUEBRADA GRANDE DE CALVACHE	QUEBRADA GRANDE DE CALVACHE PRWQ88A	14.8		5	5	5	3	A, O	Onsite Wastewater Systems (6500)		Fecal Coliforms (1700) Low Dissolved Oxygen (1200)		

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
QUEBRADA LOS RAMOS	QUEBRADA LOS RAMOS PRWQ89A	6.9		**3**	**3**	**5**	**3**	**A, O**	Landfills (6300) Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)		
RIO GUAYABO	RIO GUAYABO PRWR94A	43.1		**5**	**1**	**5**	**1**	**O**	Onsite Wastewater Systems (6500) Package Plant Small Flows (0230) Urban Runoff/Storm Sewers (4000)		Fecal Coliforms (1700) Low Dissolved Oxygen (1200)		
RIO CULEBRINAS	RIO CULEBRINAS PRWR95A	142.6	NS 50149100 50147600 ED-PR09GRAD-031	**5**	**5**	**5**	**5**	**K**	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550) Mercury (0560) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Lead (0550) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Mercury (0560)
	RIO CAÑO (RIO CAÑAS) PRWR95B	33.3		**5**	**5**	**5**	**5**	**O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Lead (0550) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Mercury (0560)
	QUEBRADA GRANDE (SECTOR CUCHILLAS) PRWQ95C	11.4		**5**	**1**	**5**	**5**	**O**	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700)		
	QUEBRADA LAS MARIAS PRWQ95D	9.8		**5**	**5**	**5**	**5**	**O**	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700)		

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
	QUEBRADA LA SALLE PRWQ95F	11.8		5	5	5	5	O	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700)		
	QUEBRADA EL SALTO PRWQ95G	7.8		5	5	5	5	O	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700)		
	QUEBRADA GRANDE DE LA MAJAGUA PRWQ95H	5.6		5	1	5	5	O	Onsite Wastewater Systems (6500)			Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700)
	QUEBRADA SALADA PRWQ95I	7.9		5	5	5	5	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700)
	RIO SONADOR PRWR95J	37.7		5	1	5	5	O	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700)
	RIO GUATEMALA PRWR95K	20.3		5	1	5	5	O	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Arsenic (0510) Fecal Coliforms (1700)		

NOTES: **A** - Watershed and sub watersheds under Category 4c are waterbodies that lack adequate flow, which impaired some of the designated uses.
B - Watershed that has an approved TMDL for Río Cibuco, the TMDL was approved on September 2002, the pollutant was fecal coliform
C - Watershed that has an approved TMDL for Río de la Plata, the TMDL was approved on September 2003, the pollutant was fecal coliform
D - Watershed that has an approved TMDL. Río Grande de Loíza, the TMDL was approved on September 2007, the pollutant was fecal coliform
E - This segment was inadvertently omitted from the 305b/303d 2006 cycle integrated report
F - 7.4 miles of this water body, Río Arroyo Cajul, was not evaluated because this watershed was always dry in this cycle
G - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2008-303(d) list.
H – Watershed that has an approved TMDL for Río Grande de Loíza a TMDL was approved on August 2007, the pollutant was Dissolved Oxygen
I – During the Cycle 2008 by an inadvertent error the monitoring station number 50092000 was located at the PRSR43A1 assessment unit instead of the assessment unit PRSR43A2. For this reason erroneously the assessment unit PRSR43A1 was included in the 2008 Cycle - List 303 (d) 2008. Consequently the assessment unit that must be included in the List is PRSR43A2.
J – This watershed by an inadvertent error was assessed as Category 4a during 2008 Cycle, due to the fact that this sub-basins has no approved TMDL

K – External Data provided by the Puerto Rico Streams Survey Project
L – For this assessment unit the monitoring station was eliminated since 2008 cycle.
M - Watershed that has an approved TMDL. Río Grande de Loíza, the TMDL was approved on August 2007, the pollutant was copper.
N – If the Monitoring Station column is left blank, the Assessment Unit was not monitored for 2010 cycle
O - This assessment unit was not monitored for 2010 cycle (2008-2009 federal fiscal years).
P - Watershed that has approved TMDL from Río Grande de Loíza, a TMDL was approved on August 2007, the pollutant was Ammonia.
NE – Not evaluated
R1 - Primary Contact Recreation
R2 - Secondary Contact Recreation
AL - Aquatic Life
DW - Raw Source for Drinking Water

Table 47: Size of waters Impaired by Causes (Monitored acres for Estuaries)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Arsenic (0510)	23.29
Fecal Coliforms (1700)	709.2
Low Dissolved Oxygen (1200)	535.2
Mercury (0560)	0
Pesticides (0200)	0
Surfactants (0400)	0
Turbidity (2500)	23.29
Cyanide (0720)	23.29
Cadmium (0520)	23.29

Table 48: 2010 Cycle 303(d) List – List of Estuaries

Note: The 2010 303(d) List is comprised of the causes of impairments listed in 2010, 2008, 2006 and 2004 cycles.

BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	2010 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
RIO HERRERA PRER15A	**RIO HERRERA PREE15A**	65.28		**5**	**5**	**3**	**N/A**	**O**	Landfills (6300) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700)	
RIO ESPIRITU SANTO PRER16A	**RIO ESPIRITU SANTO PREE16A**	316.8 51.71 mi		**5**	**5**	**5**	**N/A**	**O**	Mayor Industrial Point Source (0110) Minor Municipal Point source (0220) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
RIO DEMAJAGUA PRER23A	**RIO DEMAJAGUA PREE23A**	1.79		**5**	**1**	**3**	**N/A**	**O**	Collection System Failure (0500) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700)	
RIO HUMACAO PRER33A	**RIO HUMACAO PREE33A**	79.36	ED-PR09GRAD-041	**5**	**5**	**1**	**N/A**	**K**	Collection System Failure (0500) Landfills (6300) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700)	
RIO CANDELERO PRER34A	**RIO CANDELERO PREE34A**	49.92		**5**	**1**	**5**	**N/A**	**O**	Collection System Failure (0500) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
RIO GUAYANES PRER35A	**RIO GUAYANES PREE35A**	23.29	NS 50083500 ED-PR09GRAD-007, 023	**5**	**5**	**5**	**N/A**	**K**	Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700)
CAÑO SANTIAGO PREK35.1	**CAÑO SANTIAGO PREE35.1**	73.72 11.9 miles		**5**	**5**	**5**	**N/A**	**O**	Agriculture (1300) Landfills (6300) Major Municipal Point Sources (0210) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
RIO MATILDE-PASTILLO PRSR64A	**RIO MATILDE-PASTILLO PRSE64A**	27.64		**5**	**1**	**3**	**N/A**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Fecal Coliforms (1700)		
QUEBRADA GRANDE CALVACHE PRWQ88A	**QUEBRADA GRANDE CALVACHE PRWE88A**	1.28		**5**	**5**	**5**	**N/A**	**A, O**	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Fecal Coliforms (1700) Low Dissolved Oxygen (1200)		
RIO GUAYABO PRWR94A	**RIO GUAYABO PRWE94A**	18.43		**5**	**5**	**5**	**N/A**	**O**	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Fecal Coliforms (1700) Low Dissolved Oxygen (1200)		

NOTES:

A – Watershed and subwatersheds under category 4c are waterbodies that lack adequate flow, which impaired some of the designated uses.
K – External Data provided by the Puerto Rico Streams Survey Project
N – If in Monitoring Station column is blank, the Assessment Unit was not monitored for 2010 cycle
O - This assessment unit was not monitored for 2010 cycle (2008-2009 federal fiscal years)."
R1 - Primary Contact Recreation
R2 - Secondary Contact Recreation
AL - Aquatic Life
DW - Raw Source for Drinking Water

Table 49: Size of waters Impaired by Causes San Juan Bay Estuary System

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED
Arsenic (0510)	2,453.8 acres, 122.6 miles
Fecal Coliforms (1700)	2,453.8 acres, 122.6 miles
Low Dissolved Oxygen (1200)	2,453.8 acres, 122.6 miles
Mercury (0560)	2,453.8 acres, 122.6 miles
Copper (0530)	64.6 acres, 74.7 miles
Surfactants (0400)	2,453.8 acres, 122.6 miles
Oil and Grease (1900)	2,453.8 acres, 122.6 miles
Phosphorus (0910)	2,389.2 acres, 66.7 miles
Cyanide (0720)	2,453.8 acres, 122.6 miles
Ammonia (0600)	2,453.8 acres, 122.6 miles
pH (1000)	2,389.2 acres, 66.7 miles
Turbidity (2500)	2,453.8 acres, 122.6 miles
Lead (0550)	64.6 acres, 74.7 miles
Selenium (0570)	18.8 miles
Thermal Modifications (1400)	18.8 miles

Table 50: 2010 Cycle 303(d) List – List of San Juan Bay Estuary System

Note: The 2010 303(d) List is comprised of the impairments listed in 2010, 2008, 2006 and 2004 cycles

.BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	2010 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
ESTUARY SYSTEM	**PREE13A1** Caño Control de La Malaria Bahía de San Juan Caño San Antonio Laguna Del Condado Península La Esperanza	8.0 mi 5.5 mi 3.4 mi 1.85 mi (102 acres)	NS 50049950 070 071 072 SJBEP- 8 monitoring stations	**5**	**1**	**5**	**N/A**		Major Industrial Point Sources (0110) Major Municipal Point Sources (0210) Marinas and Recreational Boating (7900) Minor Industrial Point Sources (0120) Onsite Wastewater System (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Oil &Grease (1900) Phosphorus (0910) Turbidity (2500)	Fecal Coliform (1700)	Ammonia (0600) Arsenic (0510) Copper (0530) Cyanide (0720) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Mercury (0560) pH (1000) Selenium (0570) Surfactants (0400) Thermal Modifications (1400)	
ESTUARY SYSTEM	**PREE13A2** Río Piedras Lago Las Curías	55.9 mi 64.6 acres	NS 89027 89028 50049100 50048800 SJBEP- 1 monitoring station	**5**	**5**	**5**	**5**		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Industrial Point Sources (0110) Onsite Wastewater System (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Arsenic (0510) Copper (0530) Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Mercury (0560) Oil &Grease (1900) Surfactants (0400) Turbidity (2500)	Ammonia (0600) Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Ammonia (0600) Arsenic (0510) Copper (0530) Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Ammonia (0600) Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) lago Surfactants (0400)
ESTUARY SYSTEM	**PREE13A3** Caño Martín Peña Quebrada Juan Méndez Quebrada San Antón Quebrada Blasina Canal Machicote Canal Suárez Laguna San José Laguna Torrecillas Laguna de Piñones Laguna Los Corozos	403.2acres 47.9 mi 1,129acres 608.0 acres 249.0 acres	NS 50050300 50049820 E D-PR09GRAD-053 E D -S-1(BG), S-2, S-3, S-4, S-5, S-6 SJBEP- 13 monitoring stations	**5**	**5**	**5**	**N/A**	K and N	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater System (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Oil &Grease (1900) pH (1000) Phosphorus (0910) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400)	Ammonia (0600) Arsenic (0510) Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) pH (1000) Surfactants (0400) Turbidity (2500)	Ammonia (0600) Arsenic (0510) Fecal Coliform (1700) Phosphorus (0910) Surfactants (0400)

NOTES:

R1 - Primary Contact Recreation
R2 - Secondary Contact Recreation
AL - Aquatic Life
DW - Raw Source for Drinking Water
K – External Data (E D-PR09GRAD-053) provided by the Puerto Rico Stream Survey Project
N – External Data (E D -S-1 (BG), S-2, S-3, S-4, S-5, S-6) provided by the Laguna Torecillas – Runway 26 Safety Area and Taxiway Sierra Embankment Project

Table 51: Size of waters Impaired by Causes (Monitored acres for Lagoons)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED
Arsenic (0510)	554.0
Fecal Coliforms (1700)	554.0
Low Dissolved Oxygen (1200)	216.0
Mercury (0560)	0
Pesticides (0200)	0
Surfactants (0400)	554.0
Turbidity (2500)	0
pH (1000)	216.0

Table 52: 2010 Cycle 303(d) List – List of Lagoons

Note: The 2010 303(d) List is comprised of the impairments listed in 2010, 2008, 2006 and 2004 cycles

MUNICIPALITY	WATERBODY NAME	ASSESSMENT UNIT (AU-ID)	2010 MONITORING STATIONS NS = Network ED = External Data	WB SIZE (ACRES)	DESIGNATED USES AND CATEGORIES SUMMARY			NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
					R1	R2	AL			2010	2008	2006	2004
VEGA BAJA MANATÍ	Laguna Tortuguero	PRNN0006	NS 50038200	554	**5**	**1**	**5**		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Cyanide (0720)		
FAJARDO	Laguna Grande	PREN0012		216	**3**	**3**	**5**	**O**	Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Low Dissolved Oxygen (1200) pH (1000)		

NOTES:

O – This assessment unit was not monitored for 2010 cycle (2008-2009 federal fiscal years)."
R1 - Primary Contact Recreation
R2 - Secondary Contact Recreation
AL - Aquatic Life

Table 53: Size of waters Impaired by Causes (Monitored acres for Lakes)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Low Dissolved Oxygen (1200)	7,288.0
Pesticides (0200)	2,133.0
Fecal Coliforms (1700)	1,825.0
Arsenic (0510)	2,907.0
Mercury (0560)	1,000.0
Turbidity (2500)	713.0
Surfactants (0400)	634.0
Ammonia	
pH	343.0
Copper (0530)	634.0
Cyanide (0720)	1,194.0
Phosphorus (0910)	1,273

Table 54: 2010 Cycle 303(d) List – List of Lakes

Note: The 2010 303(d) List is comprised of the impairments listed in 2010, 2008, 2006 and 2004 cycles

BASIN	WATERBODY NAME	WB SIZE (ACRES/MILES)	MONITORING STATION NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				Notes	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
RIO GUAJATACA	LAGO GUAJATACA PRNL3A1	1000 ac. 2.6 mi	NS 50010720 50010790 50011000	**1**	**1**	**5**	**5**		Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Arsenic (0510) Low Dissolved Oxygen (1200)	Arsenic (0510) Low Dissolved Oxygen (1200) Mercury (0560)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO DOS BOCAS PRNL$_1$7A1	634 ac. 6.9 mi	NS 50025110 50027090	**1**	**1**	**5**	**5**		Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Arsenic (0510) Copper (0530) Cyanide (0720) Low Dissolved Oxygen (1200) Surfactants (0400)	Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO CAONILLAS PRNL$_2$7C1	700 ac. 11.8 mi	NS 89001 89002 89003	**1**	**1**	**5**	**1**		Agriculture (1300) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO GARZAS PRNL$_3$7A3	108 ac. 2.7 mi	NS 50020050	**1**	**1**	**5**	**1**		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Pesticides (0200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO GRANDE DE MANATÍ	LAGO GUINEO PRNL$_1$8C1	54 ac. 1.7 mi	NS 89007 89008	**1**	**1**	**5**	**1**		Agriculture (1300)	Low Dissolved Oxygen (1200)	Pesticides (0200)	Low Dissolved Oxygen (1200)	
RIO GRANDE DE MANATÍ	LAGO MATRULLAS PRNL$_2$8C1	77 ac. 3.0 mi	NS 89009 89010	**5**	**1**	**5**	**1**		Agriculture (1300) Confined Animal Feeding Operations (1640)	Low Dissolved Oxygen (1200) pH (1000)	Fecal Coliforms (1700)	Fecal Coliforms (1700) pH (1000)	Low Dissolved Oxygen (1200)
RIO DE LA PLATA	LAGO DE LA PLATA PREL$_1$10A1	560 ac. 15.0 mi	NS 50044400 50044950 ED- PR09GRAD-021(NV)	**1**	**1**	**5**	**5**	**K**	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Arsenic (0510) Cyanide (0720) Low Dissolved Oxygen (1200) Phosphorus (0910)	Low Dissolved Oxygen (1200)
RIO DE LA PLATA	LAGO CARITE PREL$_2$10A5	333 ac. 11.3 mi	NS 50039900 50039950	**1**	**1**	**5**	**1**		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)		Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO BAYAMON	LAGO CIDRA PREL12A2	268 ac. 8.3 mi	NS 89029 89030 89031 ED- PR09GRAD-010(NV)	**1**	**1**	**5**	**1**	**K**	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO GRANDE DE LOIZA	LAGO LOIZA PREL14A1	713 ac. 7.2 mi	NS 50057500 50058800 50059000	**5**	**1**	**5**	**5**		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500) Phosphorus (0910)	Phosphorus (0910)	Low Dissolved Oxygen (1200)

BASIN	WATERBODY NAME	WB SIZE (ACRES/MILES)	MONITORING STATION NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				Notes	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2010	2008	2006	2004
RIO GRANDE DE PATILLAS	LAGO PATILLAS PRSL43A1	312ac.	NS 89022 89023 89024 89025	**1**	**1**	**5**	**1**		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
QUEBRADA MELANIA	LAGO MELANIA PRSL50A	35ac.	NS 89026	**1**	**1**	**5**	**1**				Pesticides (0200)		
RIO JACAGUAS	LAGO GUAYABAL $PRSL_1$60A	373 ac. 5.9 mi	NS 89011 89012 89013	**1**	**1**	**5**	**1**		Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO JACAGUAS	LAGO TOA VACA $PRSL_2$60A	836 ac. 31.5 mi	NS 89014 89015 89016	**1**	**1**	**5**	**1**		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)		Low Dissolved Oxygen (1200)
RIO BUCANA-CERRILLOS	LAGO CERRILLOS PRSL62A	700ac.	NS 89032 89033 89034 ED- PR09GRAD-028(no data)	**5**	**1**	**5**	**1**	**K**	Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO YAUCO	LAGO LUCHETTI PRSL68A1	266 ac. 14.0 mi	NS 89017 89018 89019	**5**	**1**	**5**	**1**		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) PH (1000)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Pesticides (0200)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO LOCO	LAGO LOCO PRSL69A	69 ac. 1.5 mi	NS 89020 89021	**5**	**1**	**5**	**1**		Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	Fecal Coliform (1700)	Low Dissolved Oxygen (1200)
RIO GRANDE DE AÑASCO	LAGO GUAYO PRWL83H	285 ac. 12.7 mi	NS 89004 89005 89006	**1**	**1**	**5**	**1**		Agriculture (1300) Major Industrial Point Sources (0110) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)

NOTES:

R1 - Primary Contact Recreation
R2 - Secondary Contact Recreation
AL - Aquatic Life
DW - Raw Source for Drinking Water
NV – No exceedance was detected with theirs applicable water quality standards
K – External Data provided by the Puerto Rico Streams Survey Project

Table 55: Size of Waters Impaired by Causes Coastal Shoreline

CAUSES OF IMPAIRMENT	COASTAL WATERS IMPAIRED (size in miles)
Arsenic (0510)	7.79
Copper (0530)	7.79
Ammonia (0600)	7.79
pH (1000)	69.49
Low Dissolved Oxygen (1200)	145.56
Thermal Modifications (1400)	50.30
Fecal Coliforms (1700)	100.18
Enterococcus (1700)	99.33
Turbidity (2500)	67.76

Table 56: 2010 Cycle 303(d) List – List of Coastal Shoreline

Note: The 2010 303(d) List is comprised of the impairments listed in 2010, 2008, 2006 and 2004 cycles

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
PRNC02 (Punta Sardina to Punta Manglillo)	PRNS0001e_00 cut 2 ●	1.15	14.10	MAC-086, SBZ-006, MAC-047	5	1	5	5		Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)		Not Listed	Not Listed
	PPRNS0001f_00 (A)	1.90												
	PRNS0001g_00 (MAC-086)	3.00												
	PRNS0001h_01 (A)	4.10												
	PRNS0001h_02 (SBZ-006)	1.80										Enterococcus (1700)		
	PRNS0001i_00 cut 1 (MAC-047)	2.15												
PRNC04 (Punta Morrillos to Punta Manatí)	PRNS0001m_00 (MAC-049)	1.90	13.66	MAC-049, SBZ-008, SBZ-009, MAC-055	1	1	5	5		Collection System Failure (0500) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200)	Not Listed	Not Listed	Not Listed
	PRNS0001n-01 (A)	5.10												
	PRNS0001n_02 (SBZ-008)	2.70												
	PRNS0001n-03 (SBZ-009)	1.50												
	PRNS0001o_00 cut 1 (MAC-055)	2.46												
PRNC08 (Punta Cerro Gordo to Punta Boca Juana)	PRES0002a-01 (SBZ-013)	2.80	7.32	SBZ-013, SBZ-014, RW-18, MAC-061	1	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)				
	PRES0002a_02 (SBZ-014, RW-18)	1.90												
	PRES0002b_00 cut 1 (MAC-061)	2.62											pH(1000)	pH(1000)

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
PREC09 (Punta Boca Juana to Punta Salinas)	PRES0002b_00 cut 2 ●	0.38	5.78	MAC-077, RW-19	1	1	5	5	***A***	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)			pH(1000)	pH(1000)
	PRES0002c_00 (A)	3.30												
	PRES0002d_00 (MAC-077)	2.00												
	PRES0002e_00 cut 1 (RW-19)	0.10												
PREC10B (Punta Salinas to Rio Bayamón Mouth)	PRES0002e_00 cut 2 (SBZ-016)	0.10	2.91	SBZ-016, MAC-063	5	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700)			
	PRES0002f_00 cut 1 (MAC-063)	2.81											Turbidity (2500)	
PREC10C (Rio Bayamón Mouth to Isla de Cabras)	PRES0002f_00 cut 2 ●	0.19	6.63	No Stations	3	1	5	5		Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)			Turbidity (2500)	
	PRES0002g_00 cut 1 (A)	6.44												

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
PREC11 (Isla de Cabras to Punta del Morro)	PRES0002g_00 cut 2 (A)	0.46	7.79	No Stations	5	3	5	5	***B***	Major Industrial Point Sources (0110) Major Municipal Point Sources (0210) Minor Municipal Point Sources (0220) Urban Runoff/Storm Sewers (400) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)				
	PRES0002g_02 (USGS 500499920)	4.08											Low Dissolved Oxygen (1200) Fecal Coliforms (1700) Arsenic (0510) Copper (0530)	Low Dissolved Oxygen (1200) Fecal Coliforms (1700) Ammonia (0600)
	PRES0002k_00 cut 2 (A)	1.85												
	PRES0002l_00 (A)	1.40												

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
See Note C	PRES0002j_00 (MAC-070)	0.60	**See Note C**	MAC-070	5	1	2	5	**C**	Urban Runoff/Storm Sewers (400) Onsite Wastewater Systems (6500)	**See Note C**	Fecal Coliforms (1700)	Fecal Coliforms (1700)	
PREC16 (Punta Vacía Talega to Punta Miquillo)	PRES0002u_03 cut 2 (A)	0.57	9.46	SBZ-027, SBZ-028	5	1	2	5		Major Municipal Point Source (0210) Land Development (3200) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)				
	PRES0002v_00 (A)	3.00												
	PRES0002w_00 (SBZ-027)	1.20												
	PRES0002x_00 (SBZ-028)	3.00										Enterococcus (1700)		
	PRES0002y_00 cut 1 (A)	1.69												

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
PREC19 (Cabezas de San Juan to Punta Barrancas)	PRES0002z3_00 cut 2 (A)	3.34	7.08	MAC-078	5	1	5	5		Land Development(3200) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Low Dissolved Oxygen (1200)			
	PRES0002z4_00 (A)	1.10												
	PRES0002z5_00 (MAC-078)	1.80										Fecal Coliforms (1700)		
	PRES0002z6_00 cut 1 (A)	0.84												

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
PREC25 (Punta Lima to Morro de Humacao)	PRES0002z8_00 cut 2 (A)	0.53	9.83	MAC-079, MAC-080, SBZ-033, SBZ-034, MAC-081, RW-4, MAC-011	5	1	5	5		Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)			
	PRES0002z9_00 (MAC-079)	1.90										Fecal Coliforms (1700)	Fecal Coliforms (1700)	Fecal Coliforms, Enterococcus (1700) pH(1000)
	PRES0002z10_01 (MAC-080)	0.80										Fecal Coliforms, Enterococcus (1700)		
	PRES0002z10_02 (SBZ-033)	1.50												
	PRES0002z11_00 (SBZ-034)	0.30												
	PRES0002z12_00 (MAC-081, RW-4)	2.40												
	PRES0002z_13 (A)	0.40												
	PRES0002z14_00 cut 1 (MAC-011)	2.00												

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
PREC27 (Punta Candelero to Punta Guayanés)	PRES0002z15_00 cut 2 (A)	2.26	3.74	No Stations	5	3	5	5		Land Development (3200) Urban Runoff/Storm Sewers (400) Onsite Wastewater Systems (6500)				
	PRES0002z16_00 (A)	1.10												
	PRES0002z17_00 cut 1 ●	0.38										Fecal Coliforms, Enterococcus (1700)	Turbidity (2500)	
PREC28C (Punta Guayanés to Punta Quebrada Honda)	PRES0002z17_00 cut 2 (MAC-012)	1.72	4.68	MAC-012, MAC-013, SBZ-037	5	1	5	5		Major Industrial Point Source (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Fecal Coliforms, Enterococcus (1700)	Turbidity (2500)	
	PRES0002z18_00 (MAC-013)	2.10												
	PRES0002z19_01 (SBZ-037)	0.50										Enterococcus (1700)		
	PRES0002z19_02 cut 1 (SBZ-038)	0.36												
PRSC31 (Cabo Mala Pascua to Punta Viento)	PRSS0003a_01 (A)	3.60	4.06	No Stations	5	3	3	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)				
	PRSS0003a_02 cut 1 ●	0.46										Fecal Coliforms, Enterococcus (1700)	Enterococcus (1700)	

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
PRSC32 (Punta Viento to Punta Figuras)	PRSS0003a_02 cut 2 (SBZ-040, RW-6)	2.54	6.16	SBZ-040, RW-6, MAC-083, RW-7	5	1	2	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Enterococcus (1700)	Fecal Coliforms, Enterococcus (1700)	Enterococcus (1700)	
	PRSS0003a_03 (A)	1.00												
	PRSS0003b_00 cut 1 (MAC-083, RW-7)	2.62												
PRSC33 (Punta Figuras to Punta Ola Grande)	PRSS0003b_00 cut 2	0.38	8.10	MAC-017	1	1	5	5		Major Industrial Point Source (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)			
	PRSS0003c_00 (A)	5.80												
	PRSS0003d_00 cut 1 (MAC-017)	1.92											Turbidity (2500)	

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
PRSC34 (Punta Ola Grande to Punta Petrona)	PRSS0003d_02 cut 2 ●	0.08	40.96	MAC-016, MAC-018, MAC-019, SBZ-042 Stations 09, 10, 19 and 20 from Natural Reserve of Jobos Bay - External Data	5	1	5	5	***D***	Major Industrial Point Sources (0110) Agriculture (1050) Urban Runoff/Storms sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	pH (1000) Low Dissolved Oxygen (1200) Fecal Coliforms, Enterococcus (1700) Turbidity (2500)		Turbidity (2500)	
	PRSS0003e_00 (MAC-016)	1.20												
	PRSS0003f_00 (Station 20- Natural Reserve of Jobos Bay)	4.60												
	PRSS0003g_00 (A)	2.70												
	PRSS0003h_00 (MAC-018)	3.00												
	PRSS0003i_00 (A)	0.90												
	PRSS0003j_00 (MAC-019)	3.00										Fecal Coliforms (1700)	Fecal Coliforms (1700) pH (1000)	
	PRSS0003k_00 (Station 19- National Reserve of Jobos Bay)	0.40												
	PRSS0003l_01 (Stations 09 and 10- National Reserve of Jobos Bay)	18.50												
	PRSS0003l_02 (SBZ-042)	0.90												
	PRSS0003l_03 cut 1 (A)	5.68												

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
PRSC35 (Punta Petrona to Punta Cabullones)	PRSS0003L_02 (A)	0.92	16.19	MAC-020	1	1	5	5		Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200)			
	PRSS0003m_00 (MAC-020)	3.00												
	PRSS0003n_00 cut 1 (A)	12.27												
PRSC36C (Punta Carenero to Punta Cucharas)	PRSS0003p_00 (MAC-022)	2.20	6.70	MAC-022, MAC-023	1	1	5	5		Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Low Dissolved Oxygen (1200)			
	PRSS0003q_00 (MAC-023)	2.20												
	PRSS0003r_00 (A)	2.30												
PRSC38 (Punta Guayanilla to Punta Verraco)	PRSS0003x_00 (MAC-027)	2.50	13.20	MAC-027, MAC-089, MAC-028	1	1	5	5		Major Municipal Point Sources (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Marinas and Recreational Boating (7900)	Low Dissolved Oxygen (1200)			
	PRSS0003y_00 (MAC-089)	1.60											Thermal Modifications (1400)	Thermal Modifications (1400)
	PRSS0003z_00 (MAC-028)	2.10												
	PRSS0003z1_00 (A)	3.80												
	PRSS0003z2_00 (A)	0.90												
	PRSS0003z9_01 cut 2 (A)	1.63												

New Assessment Unit ID (AU)	Old Assessment Unit ID (Monitoring Stations or (A) for Assessed)	Size of Old AU (miles)	Size of New AU (miles)	New AU with Monitoring Stations, External Data, No Stations and External Data 2010	Designated Uses and Categories Summary			Overall 2010	Notes	Sources of Pollution	Causes of Impairment			
					R_1	R_2	AL				2010	2008	2006	2004
PRSC41B2 (Bahía Fosforescente La Parguera to Punta Cueva de Ayala)	PRSS0003z11_00 (SBZ-046)	2.70	7.00	SBZ-046	1	1	5	5		Urban Runoff/Storm Sewers (4000) Landfill (6300) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Thermal Modifications (1400)			
	PRSS0003z12_00 (A)	1.50												
	PRSS0003z13_00 (A)	2.80												
PRWC48 (Punta Guanajibo to Punta Algarrobo)	PRWS0004c_00 (MAC-038)	2.50	5.60	MAC-038, MAC-040	5	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	pH (1000) Enterococcus (1700)		Not Listed	Not Listed
	PRWS0004d_00 (MAC-040)	1.90										Enterococcus (1700) Fecal Coliforms, Enterococcus (1700)		

Notes:

● – The monitoring stations in the Old Assessment Units are distributed in accordance with the New Assessment Units.
R_1 - Primary Contact Recreation
R_2 - Secondary Contact Recreation
AL - Aquatic Life
A - As part of the 2008 Cycle 303(d) List for Coastal Waters, were included the Assessment Units *PRES0003b_00* for Rio De La Plata Mouth and *PRSS0002b_00* for Rio La Plata Mouth.. These Assessment Units IDs do not exist and the waterbodies indicated are the same. Therefore, for the waterbody Rio De La Plata Mouth the correct Assessment Unit ID is *PRES0002b_00*.
B - The United States Geological Survey (USGS) eliminated the Monitoring Station 500499920 for 2010 Cycle.
C - The old Assessment Unit *PRES0002j_00* has been eliminated from the coastal shoreline new segmentation and consolidated with the assessments units (segments) *PRES0002h_00*, *PRES0003i_00* and *PRES0002k_00 cut 1* to constitute the Condado Lagoon. This lagoon is assessed as part of the San Juan Bay Estuary System and it has been included in the 303(d) List of this Estuary System. See 303(d) List for the San Juan Bay Estuary System cycles 2008 and recently 2010. Also see the *Segmentation Criteria and Assessment Unit for Coastal Shoreline Segmentation* from the document *Assessment Methodology for 305(b)/303(d) Integrated Report 2010 Cycle*.
D - The Monitoring Stations 09, 10, 19 and 20 provided water quality data from the National Reserve of Jobos Bay.
E- If the New AU with Monitoring Stations and External Data 2010 column is blank, the Assessment Unit was not monitored for 2010 Cycle.

APENDIX II Public Notice

Deportes EL VOCERO / viernes, 15 de enero de 2010 63

ESTADO LIBRE ASOCIADO DE PUERTO RICO
Oficina del Gobernador
Junta de Calidad Ambiental

AVISO PUBLICO

LISTA 303(d)
CUERPOS DE AGUA QUE EXCEDEN LOS ESTANDARES DE CALIDAD DE AGUA DE PUERTO RICO

Las evaluaciones más recientes realizadas sobre calidad de agua en los cuerpos de agua de Puerto Rico reflejan que varias subcuencas de las distintas hidrográficas de Puerto Rico no lograron, de forma consistente durante el periodo 2008 2009, los criterios de calidad de agua para los usos designados, según establecidos en el Reglamento de Estándares de Calidad de Agua de Puerto Rico vigente. Ningún parámetro individual para el cual se establecen criterios en el referido Reglamento, sean estos numéricos o narrativos, afecta a todos los usos designados de un cuerpo de agua. El incumplimiento de un criterio particular utilizado para proteger la calidad del agua con relación a un uso designado, no significa que todos los demás usos designados de ese cuerpo de agua estén impactados. Debido a que cada uno de estos criterios fue promulgado para proteger usos designados, se hace imperativo identificar los criterios que no se logren para desarrollar las herramientas necesarias que ayuden a llevarlos a cumplimientos.

La Sección 303(d) de la Ley Federal de Agua Limpia(CWA, por sus siglas en inglés) de 1972, según enmendada, requiere que las jurisdicciones desarrollen una lista donde se incluyan los cuerpos de agua que no cumplieron con las normas (estándares de calidad de agua) aplicables a cualquier uso designado especificado en la Ley, durante un periodo de evaluación bajo consideración. Para los cuerpos de agua que no cumplen con la norma aplicable a algún uso designado, la Ley requiere que se implanten medidas de control para los contaminantes (substancias químicas, organismos o condiciones físicas) que impidieron el cumplimiento con los estándares. Las medidas de control a implantarse deben ser aquellas que atiendan el problema causante de incumplimiento de las normas aplicables al uso designado impactado. Los usos designados para las aguas de Puerto Rico son: contacto primario (natación), contacto secundario (pesca y paseo en botes), preservación de especies deseables (vida acuática) y abasto crudo de agua potable.

Una de las estrategias que se indica en la Sección303(d) que debe ser considerada en la planificación para buscar la restauración de los cuerpos de agua impactados es el mecanismo de Carga Diaria Total Máxima *("Total Maximum Daily Load", TMDL)* en las correspondientes cuencas hidrográficas. Un TMDL representa la cantidad máxima de uno o más contaminantes particulares que pueden descargarse a un cuerpo de agua diariamente, sin comprometer la capacidad asimilativa del cuerpo de agua con relación al(los)parámetroc(e)considerados bajo al mismo. El objetivo de un TMDL es controlar los niveles de contaminantes específicos que ganan acceso a un cuerpo de agua, causando violaciones a los estándares de calidad de agua aplicables e impidiendo el logro de usos designados particulares.

Por lo antes expuesto, la JCA ha desarrollado el borrador de la Lista de Cuerpos de Agua Impactados[Lista 303(d)] para el ciclo 2010.

El público puede revisar y evaluar el borrador de la Lista de Cuerpos de Agua Impactados para el ciclo 2010 y los documentos suplementarios generados por la JCA para desarrollar dicha lista. Estos documentos estarán disponibles en los siguientes lugares y en la siguiente dirección electrónica: http:/www.gobierno.pr/JCA/Biblioteca/Publicaciones/BorradorLista303(d), a partir de la fecha de publicación de este aviso.

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La Vista Pública sobre la intención de desarrollar e implantar "TMDL's" para los contaminantes descritos en la Lista 303(d) será celebrada el ***16 de febrero de 2010*** en la Junta de Calidad de Ambiental, Salón de Vistas Públicas del Piso 4 del Edificio de Agencias Ambientales Cruz A. Matos, Ave. Ponce de León 1375, Urb. San José Industrial Park, San Juan a partir de las 9:00 a.m.

La Vista se extenderá mientras haya deponentes presentes. De no haber deponentes presentes una hora después de comenzada la Vista, la misma se declarará desierta y los trabajos serán levantados.

Las partes interesadas o afectadas pueden someter sus comentarios por escrito a la Oficina de Secretaría de la Junta de Calidad Ambiental, **no más tarde de treinta (30) días a partir de la publicación de este aviso.**

La JCA invita a los vecinos, agencias gubernamentales y al público en general a participar en dicha Vista Pública y someter sus comentarios y recomendaciones. Los turnos para deponer deberán solicitarse por los menos con tres (3) días de anticipación a la celebración de la Vista. Las personas interesadas deben comunicarse con la Oficina de Vistas Públicas de la Junta de Calidad Ambiental al teléfono (787)767-8075 ó (787)767-8181 extensión 3705. Si alguna persona no solicita turno para deponer, podrá deponer después que los deponentes con turno hayan terminado su deposición, de haber tiempo disponible razonable al final de la Vista.

Lcdo. Pedro J. Nieves Miranda
Director Ejecutivo

Este anuncio se publicó conforme a lo requerido por la Ley sobre Política Pública Ambiental, Ley Número 416 del 22 de septiembre de 2004, según enmendada.

PRIMERA HORA viernes 15 de enero de 2010 67

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OFICINA DEL GOBERNADOR

JUNTA DE CALIDAD AMBIENTAL

LISTA 303 (d)
CUERPOS DE AGUA QUE EXCEDEN LOS ESTANDARES DE CALIDAD DE AGUA DE PUERTO RICO

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La Sección 303(d) de la Ley Federal de Agua Limpia (CWA, por sus siglas en inglés) DE 1972, según enmendada, requiere que las jurisdicciones desarrollen una lista donde se incluyan los cuerpos de agua que no cumplieron con las normas (estándares de calidad de agua) aplicables a cualquier uso designado especificado en la Ley, durante un periodo de evaluación bajo consideración. Para los cuerpos de agua que no cumplen con la norma aplicable a algún uso designado, la Ley requiere que se implanten medidas de control para los contaminantes (substancias químicas, organismos o condiciones físicas) que impidieron el cumplimiento con los estándares. Las medidas de control a implantarse deben ser aquellas que atiendan el problema causante de incumplimiento de las normas aplicables el uso designado impactado. Los usos designados para las aguas de Puerto Rico son: contacto primario (natación), contacto secundario (pesca y paseo en botes), preservación de especies deseables (vida acuática) y abasto crudo de agua potable.

Una de las estrategias que se indica en la Sección 303(d) que debe ser considerada en la planificación para buscar la restauración de los cuerpos de agua impactados es el mecanismo de Carga Diaria Total Máxima ("Total Maximun Daily Load", TMDL) en las correspondientes cuencas hidrográficas. Un TMDL representa la cantidad máxima de uno o más contaminantes particulares que pueden descargarse a un cuerpo de agua diariamente, sin comprometer la capacidad asimiliativa del cuerpo de agua con relación al (los) parámetros(s) considerados bajo el mismo. El objetivo de un TMDL es controlar los niveles de contaminantes específicos que ganan acceso a un cuerpo de agua, causando violaciones a los estándares de calidad de agua aplicables e impidiendo el logro de usos designados particulares.

Por lo antes expuesto, la JCA ha desarrollado el borrador de la Lista de Cuerpos de Agua Impactados [Lista 303(d)] para el ciclo 2010.

El público puede revisar y evaluar el borrador de la Lista de Cuerpos de Agua Impactados para el ciclo 2010 y los documentos suplementarios generados por la JCA para desarrollar dicha lista. Estos documentos estarán disponibles en los siguientes lugares y en la siguiente dirección electrónica: http://www.gobierno.pr/JCA/Biblioteca/Publicaciones/BorradorLista303(d), a partir de la fecha de publicación de este aviso.

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La Vista Pública sobre la intención de desarrollar e implantar "TMDL's" para los contaminantes descritos en la Lista 303(d) sera celebrada el ***16 de febrero de 2010*** EN LA Junta de Calidad Ambiental, Salón de Vistas Públicas del Piso 4 del Edificio de Agencias Ambientales Cruz A. Matos, Ave. Ponce de León 1375, Urb. San José Industrial Park, San Juan a partir de las 9:00 a.m.

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Las partes interesadas o afectadas pueden someter sus comentarios por escrito a la Oficina de Secretaría de la Junta de Calidad Ambiental, **no más tarde de treinta (30) días a partir de la publicación de este aviso.**

La JCA invita a los vecinos, agencias gubernamentales y al público en general a participar en dicha Vista Pública y someter sus comentarios y recomendaciones. Los turnos para deponer deberán solicitarse por los menos con tres (3) días de anticipación a la celebración de la Vista. Las personas interesadas deben comunicarse con la Oficina de Vistas Públicas de la Junta de Calidad Ambiental al teléfono (787) 767-8075 ó (787) 767-8181 extensión 3705. Si alguna persona no solicita turno para deponer, podrá deponer después que los deponentes con turno hayan terminado su deposición, de haber tiempo disponible razonable al final de la Vista.

Lcdo. Pedro J. Nieves Miranda
Director Ejecutivo

Este anuncio se publicó conforme a lo requerido por la Ley sobre Política Pública Ambiental, Ley Número 416 del 22 de septiembre de 2004, según enmendada.

APENDIX III Environmental Quality Board Determination

R-10-10-2