

305(b)/303(d) Integrated Report

Plans and Special Projects Division
Evaluation and Strategic Planning Area
Environmental Quality Board
Revised February 2013

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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 Puerto Rico Water Quality Standards Regulation (PRWQSR) 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 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 (PR). 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 PR 305(b)/303(d) Integrated Report (IR) for fiscal year 2012. This report presents the same segmentation system established for inland waters (river basins) in the 2006 IR Cycles. For 2012 Cycles, there are 204 assessment units (AU).

The San Juan Bay Estuary System (SJBES) is the only estuary identified as a separate basin due to its complex composition and interrelation of streams, lagoons, channels and closed bay. The 5 basins included in the overall drainage area of the SJBES are Caño Martin Peña, Quebrada Juan Mendez, Quebrada San Anton, Río Piedras and Quebrada Blasina.

This 2012 cycle present the same coastal segmentation system use in 2010 Cycle. As result, this new segmentation presents 64 AU.

Rivers & Streams

The water quality assessment for the 2012 cycle indicates that 2,610.7 of all rivers and stream miles are impaired and total maximum daily loads (TMDL) 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 turbidity, surfactants and copper were the most common causes.

For this cycle, PREQB requested recent (three (3) years or less) chemical and biological data on water bodies, to determine if this information is 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 B: Water Quality External Data of this document.

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Lakes (reservoirs)

During this cycle, a total of 7,323 acres of lakes are considered to be impaired for aquatic life due to the violations of the dissolved oxygen (DO) standard as shown by readings taken at the bottom depths of the lakes. A total of 713 acres are impaired for drinking water due to violations of turbidity parameter (NTU).

Coastal Waters

The coastal shoreline consists of a total of 546.63 miles, of which 24.34 miles supported all designated uses. In 241.64 miles of the total there is insufficient data to make attainment determinations for at least one of the designated uses, and in 280.65 miles of the total coastal shoreline are considered to be impaired for the 2012 evaluation cycle. 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 followings water quality standards: DO, 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 PRWQSR. The exception to this is the SJBES.

Islandwide, there are a total of 3,430.3 acres and 107.8 stream miles that form part of estuaries. SJBES consist in 2,453.8 acres and 122.6 stream miles. For at least one designated use, 768.9 acres of estuaries were found to be impaired. The impairment was due violations of the following: fecal and total coliforms, turbidity, surfactants, low DO, and thermal modifications (temperature).

San Juan Bay Estuary Program

In the specific case of the SJBES, all 2,453.8 acres and 122.6 stream miles shows impairment for at least one designated use. Among the most important causes of impairment were: fecal coliforms, low dissolved oxygen, surfactants, oil & grease, ammonia, pH and turbidity.

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. Meanwhile 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 TMDL in the Impaired Basins

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In the development of the 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 2012 cycle, PREQB requested recent (three (3) 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 that this is 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

Water 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, non-governmental organizations (NGO's) have to work together in order to maintain the integrity and quality of the resource.

PREQB is one of the agencies involved in preserving, maintaining and enhancing the island waters quality; betwixt others responsibilities. PREQB 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)

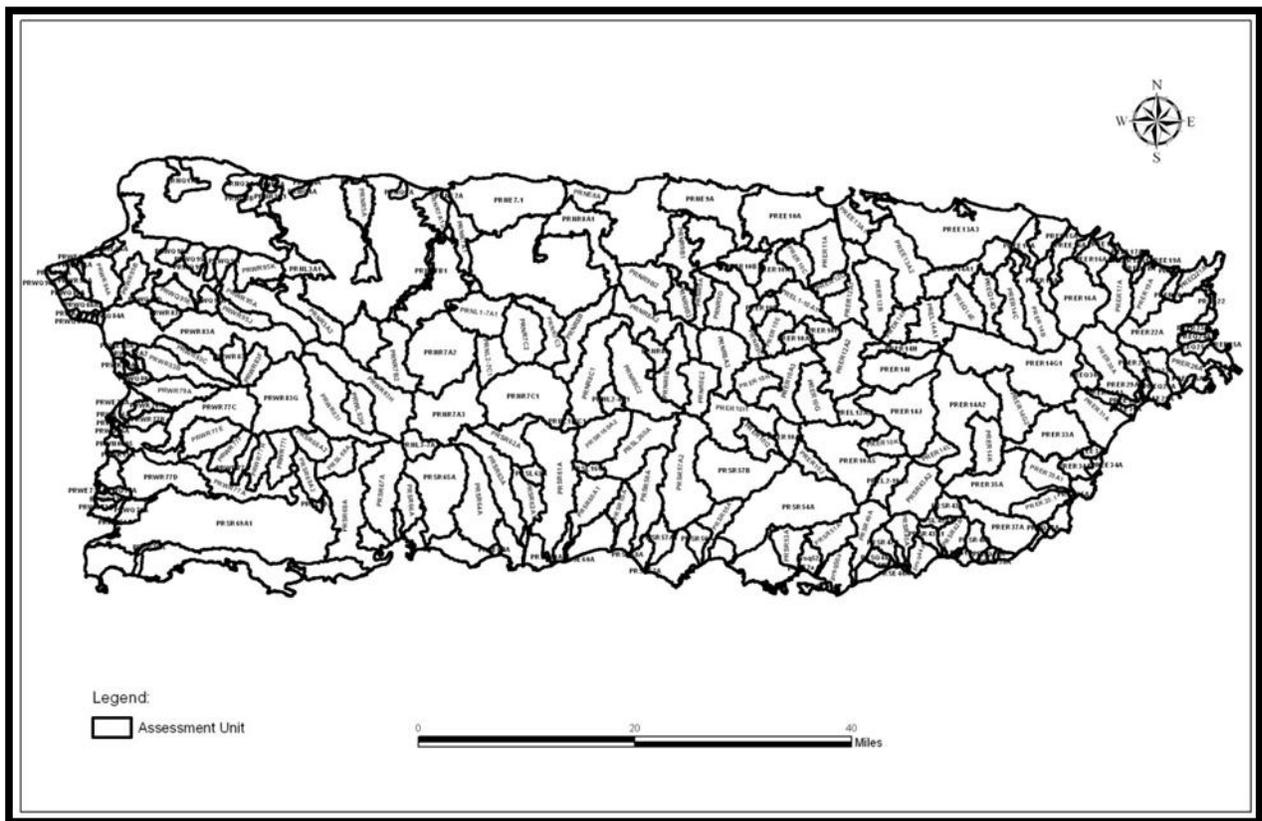


Figure 1: Watersheds in Puerto Rico

The reservoirs in PR, 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 activities performed in the

Water Pollution Control Program

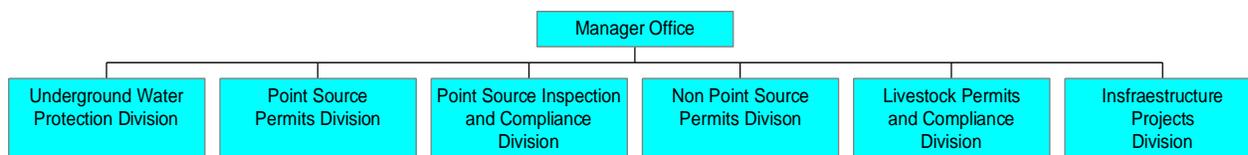
Since 2006, PREQB begins a reorganization of the agency's programs in order to improve its operational organization, therefore, more effective implementation of the various permits issuance and compliance programs. PREQB expects that this change will allow meeting in the following goals:

- ❖ Expedite 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 PREQB 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 is 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 United States Environmental Protection Agency (USEPA) thru a memorandum of understanding delegated the pursuit of both types of systems (UST and UIS) to PREQB.

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The **Point Source Permit Division (PSPD)** 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 (CWA). This is a program administered by the USEPA. Section 401 of the Act, as amended requires USEPA 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 PR, such responsibility is also, on PREQB specifically to the **PSPD**.

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

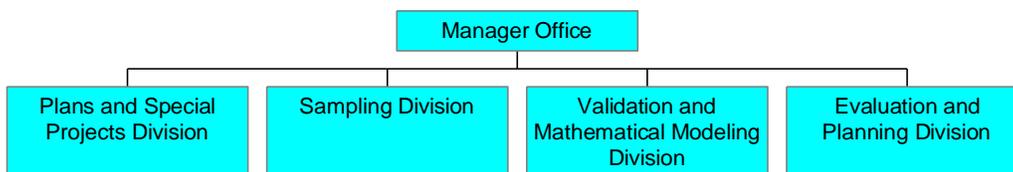
However, the **Non Point Source Permit Division** implements and manages the Erosion Control and Sedimentation Prevention Regulation, which performs enforcement actions to the facilities regulated under the General Permit. This permit is a new one that became effective on 2007. The aforementioned division 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 USEPA through the State Revolving Fund program. Also, assess the planning, design and construction phases of each project in order to verify compliance with Title VI of the CWA.

The **Livestock Permit and Compliance Division** perform inspections, evaluate and approve the Animal Waste Management Plans that submit livestock enterprises such as: dairy facilities, poultry facilities, horse farms, among others. In January 2009, PREQB approved the *Reglamento para el Control de los Desperdicios Fecales de Animales en Confinamiento* to regulate 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 **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 Projects 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 CWA and the PRWQSR. Those strategies include the TMDL for the water bodies impaired in PR. 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, USEPA must approve or disapprove lists and TMDL established by states, territories, and authorized tribes. If a state, territory, or authorized tribe submission is inadequate, USEPA 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 PR.

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 atmospheric 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. In addition, 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.

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The following tables (2 and 3) 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	22	91	2,206	112	0
Total number of inspections	48	3	1,426	114	64
Referrals to Legal Affairs	--	--	7	36	31

Table 3: Actions Initiated Non-Point Sources Control Units

	SEC Activities	Livestock enterprises
Certificates or permits Issued	423	131
Total number of inspections	No reported	821
Referrals to Legal Affairs	123	22

Cost/Benefit Assessment

Accurate costs associated with water quality improvements in PR 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. Another cost, 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.

Table 5 below provides the major costs incurred with federal and state funds to operate environmental protection and planning activities in the WQA and ESPA of PREQB.

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Also, American Recovery and Reinvestment Act of 2009 (ARRA funds), allocated to the Government of Puerto Rico, were 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 were included in this cycle of the 305(b)/303(d) IR.

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Table 4: Federal and State Funds

	Performance Partnership Grant (PPG)				Beach Monitoring and Public Notification Program (BEACH)				LUST			
	2010		2011		2010		2011		2010		2011	
	Federal	State	Federal	State	Federal	State	Federal	State	Federal	State	Federal	State
Salaries	1,690,616	525,863	1,367,340	408,969	138,097	-	144,903	-	82,458	9,162	76,828	8,536
Fringe Benefits	493,556	153,520	405,007	121,137	39,828	-	41,446	-	24,089	2,677	22,636	2,515
Travel	16,500	5,132	13,500	4,038	13,000	-	13,000	-	600	67	1,000	111
Contractual	-	-	-	-	-	-	-	-	-	-	325,744	36,194
Construction	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	6,000	-	1,500	-	-	-	12,500	1,389
Supplies	4,500	1,400	6,500	1,944	54,000	-	50,000	-	-	-	2,000	222
Others	7,058	2,195	25,945	7,760	11,438	-	10,407	-	-	-	-	-
Sub-Total	2,212,230	688,110	1,818,292	543,848	262,363	-	261,256	-	107,147	11,906	440,708	48,967

	Water Quality Management Program (604B)				State Revolving Fund (SRF)			
	2010		2011		2010		2011	
	Federal	State	Federal	State	Federal	State	Federal	State
Salaries	79,484	-	32,613	-	255,965	51,193	303,301	60,660
Fringe Benefits	22,777	-	9,592	-	75,553	15,111	85,613	17,123
Travel	100	-	500	-	35,000	7,000	16,667	3,333
Contractual	-	-	745,569	-	59,167	11,833	39,723	7,945
Construction	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	27,917	5,583	7,230	1,446
Supplies	-	-	1,726	-	4,678	936	10,005	2,001
Others	-	-	537,047	-	25,984,146	5,196,829	18,652,602	3,730,520
Sub-Total	102,361	-	1,327,047	-	26,442,426	5,288,485	19,115,141	3,823,028

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Summary of Federal and State Funds	
Federal	\$ 52,088,971.00
State	\$ 10,404,344.00
TOTAL	\$ 62,493,315.00

Table 5: ARRA Funds

Description	Project Period		Budget	Description
2009 ARRA Water Quality Management Planning 604(b) Grant	7/1/2009	6/30/2012	\$ 516,300	To perform synoptic studies in non-monitored streams throughout PR thru a contract with the USGS.
Leaking UST Trust - ARRA Grant	8/1/2009	9/30/2011	\$ 1,030,000	To assess and cleanup petroleum releases from leaking UST sites in PR.
2009 ARRA Capitalization Grant	7/1/2009	6/30/2012	\$ 51,114,200	To preserve and create jobs and promote economic recovery through the investment in infrastructure projects that will improve water quality and will provide long-term economic benefits.

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Special State Concerns and Recommendations

[RESERVED]

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PART B. Assessment Methodology and Assessment Results

Assessment Methodology Used for 305(b)/303(d) Integrated Report for 2012 Cycle

Assessment Units (AU)

Assessment Unit for Inland Waters

Presently, 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 (Figure 1). The non contributions basins are those areas, contribute to the coastal shoreline instead of the inland waters. Under this system, each main river basin 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.

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.

The total number of basins currently being assessed totals 96, including the SJBES. 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 SJBES presented here is the same as that defined in the Comprehensive Conservation and Management Plan (CCMP) Final Document developed for this estuary.

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

Table 6: Basins for the Inland Waters Segmentation System

BASIN NAME	BASIN ID	BASIN SEQUENCE	BASIN SIZE (Miles)	REGION	SUB-BASINS
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

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BASIN NAME	BASIN ID	BASIN SEQUENCE	BASIN SIZE (Miles)	REGION	SUB-BASINS
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
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

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

*Basins with monitoring stations

**The SJBES 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 of the 96 basins are monitored routinely. These 22 basins form part of the permanent stream water quality monitoring 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 below presents geographic regions with corresponding number of basins and basins part of the monitoring network.

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Table 7: Geographic Regions

REGION	AU	BASINS IN PERMANENT STREAM WATER QUALITY NETWORK	AU BY EXTERNAL DATA
North	9	4	1
South	33	5	4
East	28*	9	29
West	26	4	6

*Included the SJBES

For AU 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. 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 (2) years, implementation of Best Management Practices (BMPs) by non-point sources, fish-kills or spill events, that make possible identified potential pollution sources.

Coastal Shoreline Segmentation System

This segmentation is being used in the 2010 IR for the first time. The table below summarizes the 64 AU for the segmentation system.

Table 8: Assessment Units

Segment ID	Segment Name	Segment Size (miles)	Region
PRNC01*	Punta Borinquén to Punta Sardina	11.75	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 Río Bayamón mouth	2.91	East
PREC10C	Río Bayamón 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 Marías	4.31	East
PREC14*	Punta Las Marías 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

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Segment ID	Segment Name	Segment Size (miles)	Region
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 Candeleró	1.84	East
PREC27	Punta Candeleró to Punta Guayanés	3.74	East
PREC28C*	Punta Guayanés to Punta Quebrada Honda	4.68	East
PREC28B*	Punta Quebrada Honda to Punta Yeguas	.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	16.19	South
PRSC36B	Punta de Cabullones to Punta Carenero	2.53	South
PRSC36C*	Punta Carenero to Punta Cucharas	6.70	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 Bahía Fosforescente La Parguera	10.93	South
PRSC41A1	Bahía Fosforescente La Parguera	2.00	South
PRSC41B2*	Bahía Fosforescente to Punta Cueva de Ayala	7.00	South
PRSC41A2	Bahía Monsio José	3.72	South
PRSC41B3	Bahía 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	Bahía Mosquito	3.00	Offshore Islands
PRVC54B*	Vieques Island	67.60	Offshore Islands
PRMC55	Mona Island	18.60	Offshore Islands

* Assessment units with monitoring stations.

The segmentation for the coastal shoreline provides for 20 segments unmonitored (assessed) and 44 segments monitored (with monitoring stations). However, location of the monitoring stations corresponding to the Permanent Coastal Monitoring Network (PCMN) and Beach Monitoring and Public Notification Program (BMPNP) have not been changed.

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Nevertheless, it will be necessary to relocate many of the PCMN stations in accordance with the new shoreline segmentation. The BMPNP stations will not be affected by the changes to be made in the PCMN. These efforts will be completed during the year 2012.

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Figure 5: Puerto Rico Coastal Shoreline Segmentation System

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Monitoring Program

Permanent Water Quality Monitoring Network

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 PR, this network includes water quality-sampling stations in the 22 major river basins in the north, south, east, and west hydrographic regions of PR. The USGS collects samples on a quarterly basis and analyzes for the following parameters:

Flow *	Fecal Coliforms
Specific Conductance (SC)*	Ammonia (NH ₃) as Nitrogen (N)
Temperature	Nitrate (NO ₃ ⁻) + Nitrite (NO ₂ ⁻) as N
DO	Suspended Solids (SS)*
Turbidity	Chemical Oxygen Demand (COD) *
pH	Total Phosphorus (TP)
Hardness	

*Parameter that does not have numeric standard as establish in the PRWQSR

Analyses for the detection of the following parameters are performed twice a year:

Arsenic (As)	Mercury (Hg)	Iron (Fe)*
Cadmium (Cd)	Selenium (Se)	Zinc (Zn)
Lead (Pb)	Silver (Ag)	Copper (Cu)

*Parameter that does not have numeric standard as establish in the PRWQSR

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

Calcium (Ca)*	Potassium (K)*
Carbonate (CO ₃ ²⁻)*	Silica (SiO ₂)*
Chlorides (Cl ⁻)	Sodium (Na)*
Fluorides (F ⁻)	Sulfate (SO ₄ ²⁻)

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Magnesium (Mg)*

*Parameter that does not have numeric standard as establish in the PRWQSR

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	Methoxychlor	Total Trithion
Endosulfan	Methylparathion *	Toxaphene

*Parameter that does not have numeric standard as establish in the PRWQSR

- ❖ **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 (NH ₃) as N	Dissolved Oxygen (DO) (profile)
Chlorophyll “a” *	Mercury (Hg)
Fecal Coliforms	Total Phosphorous (TP)
Hardness	Turbidity
Nitrate (NO ₃ ⁻) + Nitrite (NO ₂ ⁻)	Pesticides (organochlorides)
pH	Temperature (profile)

*Parameter that does not have numeric standard as establish in the PRWQSR

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 is 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 (NO ₃ ⁻) + Nitrite (NO ₂ ⁻) as N
pH	Ammonia (NH ₃) as N

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DO	TSS *
TDS	Chlorophyll “a” *
Total Phosphorus (TP)	Fecal Coliforms
Orthophosphates *	Pesticides (organochlorides)
Settleable Solids *	

*Parameter that does not have numeric standard as establish in the PRWQSR

All parameters will be collected once in each of three (3) sampling cycles (rainy season, dry season, and midpoint between these two (2) periods).

- ❖ **Groundwater Monitoring Network:** This network is limited to approximately 70 drinking water wells located in different municipalities throughout PR 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 (CMN):** Operated by PREQB, this network includes monitoring stations all around the coastal perimeter of PR. The CMN stations are sampled for the following parameters:

Fecal Coliforms	Ammonia (NH ₃) as N	Cadmium (Ca)	Mercury (Hg)
Fecal Enterococcus	Oil and Grease (O&G)	Chromium (Cr)	Nickel (Ni)
pH	(NO ₃ ⁻) + (NO ₂ ⁻) as N	Copper (Cu)	Selenium (Se)
Temperature	Dissolved Oxygen (DO)	Lead (Pb)	Zinc (Zn)
Turbidity	Salinity		

Those monitoring stations are sampled in accordance with the following frequency: 22 stations monthly, 10 stations annually, and 66 stations bimonthly (Table 9).

Table 9: 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

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STATION ID	FREQUENCY OF MONITORING
MAC-049	1/BTPCM
SBZ-008	6/BT
SBZ-009	6/BT
MAC-055	6/BTPC, 1/M
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

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STATION ID	FREQUENCY OF MONITORING
MAC-011	1/BTPCM
MAC-012	6/BTPC, 1/M
MAC-013	6/BTPC, O&G, 1/M
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, D O, Turbidity, NO₂ + NO₃, NH₃ and O&G

M – Metals

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

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All sampling and analytical activities are subjected to a Water Quality Assurance Program Plan, coordinated through the Quality Assurance Control Officer of the WQA and the Division of Environmental Science and Assessment of USEPA 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 QAPP. The purpose and goals of PREQB fixed monitoring station programs are:

1. Provide current data on the quality of the various water bodies throughout PR.
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 P R are effective in protecting the quality of the different water bodies.

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

Synoptic Studies

Under Section 604(b) in the ARRA funds, allocated to the Commonwealth of PR, were 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 were included in this cycle of the 305(b)/303(d) IR. Those studies were:

1. Synoptic sampling study during wet/dry seasons of unmonitored streams in the Southern and Western Hydrological Regions – 104 monitoring stations were analyzed for the following parameter: Fecal Coliforms, Total Coliforms, pH, Temperature, DO, Specific Conductance, Flow, Surfactants, and Nutrients.
2. Synoptic sampling study during wet/dry seasons that includes 83 monitoring stations in the Eastern Hydrological Region. The parameters analyzed were: Fecal Coliforms, Total Coliforms, pH, Temperature, DO, Specific Conductance, Flow, Surfactants, and Nutrients.
3. Synoptic sampling studies during wet/dry seasons for Fecal Coliforms, Total Coliforms, pH, Temperature, DO, Specific Conductance, Flow, Surfactants, Trace Metals, Persistent Pesticides, and Nutrients within the Río Grande de Añasco (13 monitoring stations), Río Culebrinas (19 monitoring stations), and Río Guanajibo

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Basins (15 monitoring stations) (priority watersheds in the Western Region). This study included the sampling of ten wells located in the abovementioned basins for pH, Temperature, DO, 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 PR. The sampling network to be used for Culebrinas and Añasco are the same as the one (1) used in the previous synoptic study for these two (2) basins. The network to be established in the Rio Guanajibo basin were consistent with the new basin segmentation system used in the Añasco and Culebrinas basins, thus sampling stations were 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) IR.

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.

Unmonitored Waters

To address the unmonitored waters including quality of 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. PREQB, in coordination with USGS has developed a monitoring strategy for the assessment of 20 coastal lagoons in the main island of PR and one in the island of Vieques. Approximately, 40 surfaces water sampling site will be visited quarterly during one year (FY 2011-12) and samples will be collected within these coastal lagoons, including Class SE water bodies: Cartagena and Tortuguero Lagoons. The water samples will be analyzed for chemical physical and bacteriological parameter and the result will help to provide the necessary tools to assess the lagoons.

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 government agencies, members of the public or academic institutions. In addition to these categories, PR 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 requested data from includes government agencies and academic institutions these can be found in the Table 8 below. PREQB requested recent (three (3) 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.

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Table 10: Government Agencies and Academic Institutions contacted by PREQB

NAME	POSITION	AGENCY
Mr. José J. Nolla	Chairman	Associated General Contractors of America Puerto Rico Chapter
Esther A. Astacio	Compliance Manager Drinking Water Compliance and Control Division	PR Aqueduct and Sewer Authority
Eng. Luis Rodríguez	Engineer	PR Highway and Transportation Authority
Ruberto Berrios	Manager Water Quality Department	PR Electric Power Authority
Milagros Rodríguez	Manager Environmental Affairs Office	PR Ports Authority
Carmen González	Acting Director	Jobos Bay National Estuarine Reserve
Eng. Miguel A. Torres Díaz	Chairman	College of Engineers and Land Surveyors of PR
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	Engineer	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
Erick Hawk	Section 7 Coordinator Southeast Regional Office	National Marine Fisheries Services
Irma M. López	Chairman	PR Water & Environmental Association
Dra. Graciela I. Ramírez Toro	Director of CECIA	Interamerican University of PR
Dra. Nilda E. Aponte	Director Department of Marine Sciences	University of PR – Mayagüez Campus
Dr. Luis R. Pérez Alegría	Professor Department of Agricultural and Bio-Systems Engineering	University of PR–Mayagüez Campus
Dr. Jorge Rivera Santos	Director Water Resources Institute	University of PR–Mayagüez Campus
Ruperto Chaparro	Director Sea Grant College Program	University of PR – Mayagüez Campus
Dra. Ana Navarro	Water Quality - Marine Outreach Program	University of PR– Mayaguez Campus

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NAME	POSITION	AGENCY
	Sea Grant College Program	
Gloriselle Negrón Ríos	Environmental Health Specialist	Agriculture Extension Services
Dr. Rafael F. Dávila López	Agricultural and Civil Engineer Engineering Office	Agriculture Extension Services
Edwin Almodóvar	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
Teresa Lipsett	School of Science and Technology	Turabo University
Dr. Carlos M. Padín Bibiloni	Dean School of Environmental Affairs	Metropolitan University of PR
Ing. José Borrageros	Director Department of Civil and Environmental Engineering	Polytechnic University of PR
Dr. Thomas Miller	Department of Geology	University of PR– Mayagüez Campus
Dr. Luis A. Ríos Hernández	Assistant Professor Biology Department	University of PR– Mayagüez Campus
Dr. Sangchul Hwang	Associated Professor Department of Civil Engineering and Surveying	University of PR– Mayagüez Campus
Dra. Ingrid Padilla	Associated Professor Department of Civil Engineering and Surveying	University of PR– Mayagüez Campus
Olga M. Ramos	International Institute of Tropical Forestry	Jardín Botánico Sur
Miyoko Sakashita	Senior Attorney	Center of Biological Diversity
Lirio Márquez D'Acunti	Executive Director	Vieques Conservation and Historical Trust

As result of the water quality data request, the following agencies and/or institutions responded and submitted data:

- Mr. James Kurtenback-USEPA
 - ✓ Puerto Rico Stream Survey Project by USEPA Region 2, March 2011 (Figure 6).
 - The monitoring network consists of 20 monitoring stations through the island.
 - Water chemistry, physical habitat and macroinvertebrate data were collected.

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- ✓ Río Piedras Basin USEPA Region 2 March 2011 (Figure 7)
 - 16 monitoring stations
 - Water chemistry, physical habitat and macroinvertebrate data were collected.
- Mrs. Yazmin Laguer-USEPA CEPD
 - ✓ DMR data (from the past two (2) years)
 - ✓ Pump station by-pass
- Guánica Bay Pollutant Source Identification Sampling Sept. 2010 and February 2011 (Figure 8)
 - ✓ Total of 40 monitoring stations with a primary emphasis on reducing sources of sediment and nutrients.
 - ✓ Parameter analyzed: temperature, salinity, conductivity, turbidity, NH₃, Total N, P, K, F, Chlorophyll “a”, Total Coliform, E. Coli, Enterococcus, B. Adolescentis and optical brighteners.
- Miyoko Sacashita, Center Biological Diversity, San Francisco, CA
 - ✓ No data was included, only referenced documents.
 - ✓ The recommendations are related to include as category 5 all coastal waters due to dissolved carbon dioxide.
- The Quality of Surfaces Water in the Sábalo Creek (Figure 9)
 - ✓ A survey of Sábalo Creek’s water quality was conducted as a Supplemental Environmental Project by Venegas Construction Corp. to define the contribution of the Industrial, Commercial, Agricultural and Domestic activities to the quality of the stream water.
 - ✓ Total of three (3) monitoring stations, parameter analyzed: NH₃ as N, biochemical oxygen demand (BOD) BOD₅, Cu, NO₂⁻ as N, NO₃⁻ as N, O&G, phosphate total, SO₄²⁻, surfactant, DO, temperature, pH, Fecal Coliform, Total Coliform, and Enterococcus.
- Mosquito Bay Survey – OSV BOLD, USUSEPA Region II (Figure 10)
 - ✓ Total 8 monitoring stations, parameter analyzed: As, Ca, Cr, Cu, Pb, Mg, Se, Zn, NH₃ as N, NO₃⁻, NO₂⁻, P, total keldjahl N, DO, pH, salinity, specific conductance, temperature, and turbidity.
 - ✓ The purpose of the sampling is to provide a baseline characterization to assist the PREQB in initiating their Ambient Water Quality Monitoring stations so that they may accurately assess the SA water body.
- San Juan Bay Estuary System Program (Figure 11)
 - ✓ The monitoring network consists of 25 monitoring stations in the SJBES (Figure 9).
 - ✓ Parameters analyzed: temperature, DO, specific conductance, salinity, turbidity, pH, secchi disk, oil and grease, total keldjahl N, NO₃⁻ + NO₂⁻ as N, TP, total organic carbon (TOC), Chlorophyll ‘a’, TSS turbidity, ammonia, BOD, Fecal Coliform and Enterococcus.

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- NRCS- Bahía de Jobos (Figure 12)
 - ✓ Internet available data
 - ✓ Monitoring network consist of 4 monitoring stations located in each of 27 reserve
 - ✓ Temperature, pH, salinity, DO and turbidity data

- Special Study in the *Corredor Ecologico del Noreste* in the northeastern part of the island (Figure 13)
 - ✓ The purpose was assessed water quality in some watersheds of this region.
 - ✓ Monitoring network consists of eight (8) monitoring stations.
 - ✓ Parameters analyzed were: chlorophyll “a”, Fecal Coliforms, Total Coliforms, TP, pesticides, orthophosphates, TDS and TSS. Also field parameters as, temperature, pH, conductivity and DO were analyzed.



Figure 6: Puerto Rico Stream Survey Project Monitoring Stations



Figure 7: Puerto Rico Stream Survey Project– Río Piedras Monitoring Stations



Figure 8: Guánica Bay Pollutant Source Identification Sampling Sept. 2010 and February 2011

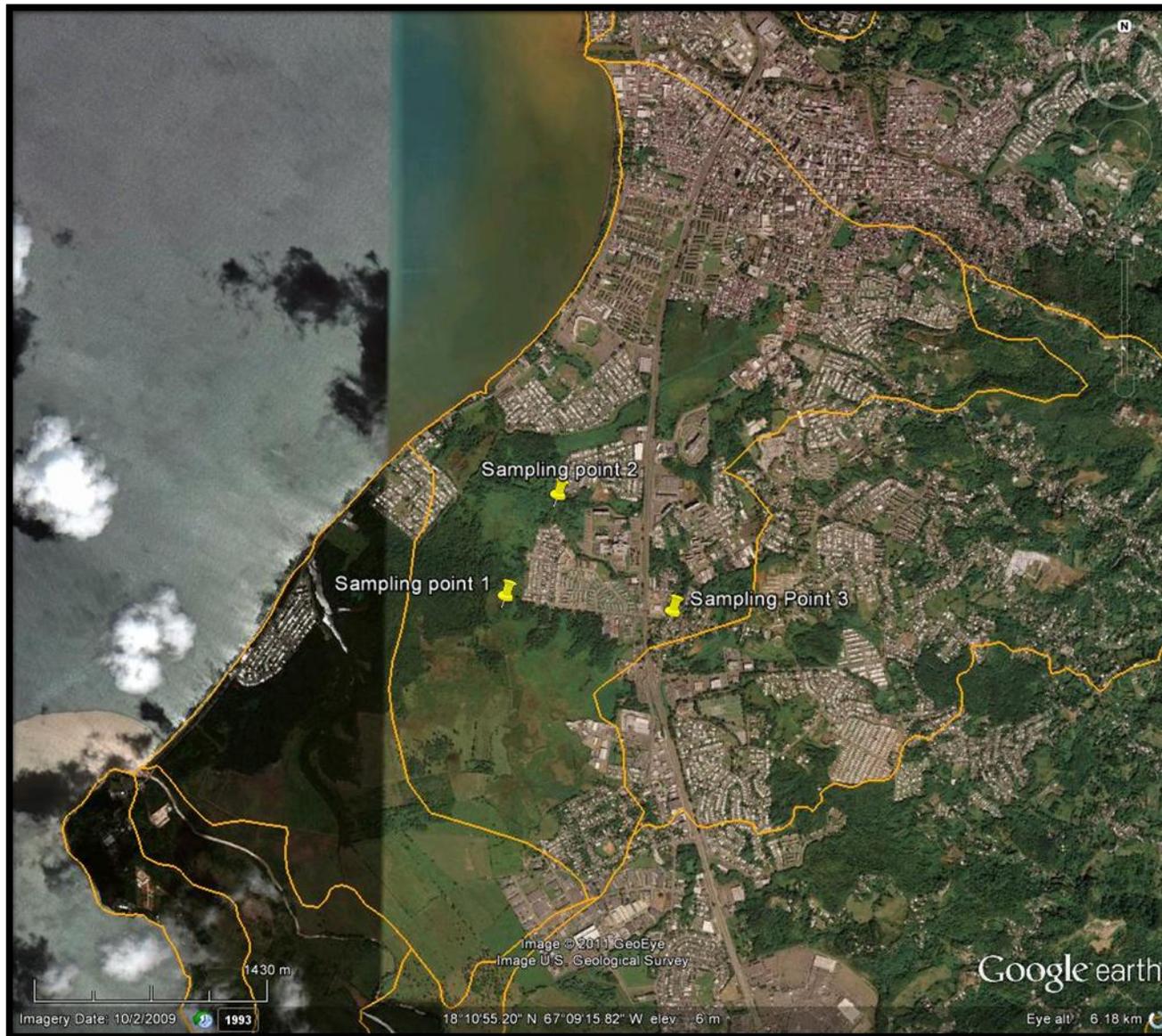


Figure 9: Monitoring Stations Surfaces Water in the Sábalo Creek



Figure 10: Mosquito Bay Survey Monitoring Stations

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Figure 11: San Juan Bay Estuary System Monitoring Stations



Figure 12: NRCS- Bahía de Jobs Monitoring Stations



Figure 13: Special Study for *Corredor Ecológico Del Noreste* - Monitoring Stations

Designated Uses, and Applicable Water Quality Standards

The PRWQSR, as amended established, as goals, the need to preserve, maintain and enhance the quality of the waters of PR to assure that they are compatible with the social and economic needs of PR and comply with the requirements of the CWA. The current PRWQSR in effect is that promulgated in March 2010.

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

1. Protection and propagation of fish, shellfish and wildlife;
2. Primary and secondary contact recreation; and
3. Raw source of drinking water (Class SD waters only)

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 characteristics.

CLASS SB - Coastal and estuarine waters designated for primary and secondary contact recreation, and propagation and preservation of desirable species including threatened or endangered species. Coastal and estuarine waters none classified as Class SA or SC under Rules 1320.1 (A) and (C) of the PRWQSR. Class SB also includes lagoons not classified under any other class. This classification will apply from the zone subject to the ebb and flow of tides (mean sea level) up to 500 meters (0.31 miles) seaward from said zone. Beyond this limit, the next less restrictive classification will apply to a maximum of 10.35 miles (16,656.71 meters) seaward.

CLASS SC – Includes the segments of the coastal waters identified below intended for primary contact recreation, from the zone subject to the ebb and flow of tides (mean sea level) to 3 miles seaward, and secondary contact recreation from 3 miles seaward to 10.35 miles seaward, and for the propagation and preservation of desirable species, including threatened or endangered species.

- ✓ **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, for primary and secondary contact recreation and propagation and preservation of desirable species including threatened and endangered species. Primary Contact Recreation is

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precluded in any stream or segment, that does not comply with the Rule 1303.2 (D)(2)(1) of the PRWQSR until such stream or segment meets the goal of the referred section.

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

The following tables summarize the existing applicable water quality standards used to perform the assessment for the 2012 IR. They show the maximum allowable concentrations for specific substances in coastal and estuarine waters, surface waters, and ground waters:

Table 11: Specific Water Quality Standards for Selected Parameters (as established in the PRWQSR)

PARAMETER	COASTAL WATERS (ug/l)	RIVERS AND STREAM (ug/l)
Antimony (Sb) ^{+, &}	640 (HH)	5.6 (HH)
Arsenic (As) ^{%, +, &}	36.0 (AL)	10.0 (DW)
Cadmium (Cd) ^{+, %, &}	8.85 (AL)	Note 1 (AL)
Chromium III (Cr ⁺³⁺) ^{+, &}	-	Note 2 (AL)
Chromium VI (Cr ⁺⁶⁺) ^{+, &}	50.35 (AL)	11.43 (AL)
Chromium (Cr) ^{&}	-	-
Copper (Cu) ^{+, &}	3.73 (AL)	Note 3 (AL)
Cyanide (Free CN) ⁺	1.0 (AL)	5.2 (AL)
Fluoride (F ⁻)	-	4000 (DW)
Lead (Pb) ^{+, %, &}	8.52 (AL)	Note 6 (AL)
Mercury (Hg) ^{+, &}	0.051 (HH)	0.050 (HH)
Nickel (Ni) ^{+, &}	8.28 (AL)	Note 4 (AL)
Nitrate + Nitrite (as N)	-	10,000.0 (DW)
Nitrogen (NO ₃ , NO ₂ , NH ₃)	5,000.0	-
Nitrite (as N)	-	-
Selenium (Se) ^{+, &}	71.14 (AL)	5.0 (AL)
Silver (Ag) ^{+, &}	2.24 (AL)	Note 5 (AL)
Sulfide (Undissociated H ₂ S)	2.0 (AL)	2.0 (AL)
Zinc (Zn) ^{+, &}	85.62 (AL)	Note 7 (AL)
Thallium (Tl) ^{+, &}	0.47 (HH)	0.24 (HH)

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 $e^{(0.7409 [\text{Ln Hardness}] - 4.719)}$.

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 $e^{(0.8460 [\text{Ln Hardness}] + 0.0584)}$.

Note 5 - Concentration in ug/l must not exceed the numerical value given by $e^{(1.72 [\text{Ln Hardness}] - 6.59)}$.

Note 6 - Concentration in ug/l must not exceed the numerical value given by $e^{(1.273 [\text{Ln Hardness}] - 4.705)}$.

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.

% 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.

& the numbers represent a total recoverable value

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Table 12: Water Quality Standards for Specific Classifications

PARAMETER	SA	SB	SC	SD	SE
Chlorides	Note 1	-	-	250 mg/L, except by natural causes	Note 1
Color	Note 1	Shall not be altered except by natural causes	Shall not be altered except by natural causes	15 Pt-Co., except by natural causes	Note 1
Dissolved Oxygen	Note 1	Not less than 5 mg/L, except when is depressed due to natural causes	Not less than 4mg/L, except when is depressed due to natural causes	Not less than 5 mg/L, except when is depressed due to natural causes	Note 1
Enterococcus	Note 1	Note 3	(Note 2 and 3)	-	Note 1
Fecal Coliforms	Note 1	Note 4	Note 6	Note 4	Note 1
Other Pathogenic Organisms	Note 1	-	-	Free of Pathogens	Note 1
pH	Note 1	7.3-8.5, except when it is altered by natural causes	7.3-8.5, except when it is altered by natural causes	6.0-9.0, except when the value falls outside this range due to natural causes	Note 1
Sulfates	Note 1	2,800 mg/L	2,800 mg/L	250 mg/L, except by natural causes	Note 1
Surfactants as MBAS	Note 1	500 ug/L	500 ug/L	100 ug/L	Note 1
Taste and odor producing substances	Note 1	Shall not be present	Shall not be present	Shall not be present	Note 1
Total Dissolved Solids	Note 1	-	-	500 mg/L, except by natural causes	Note 1
Total Ammonia [@]	Note 1	-	-	1mg/L at specific segments established in the WQSR	Note 1
Total Coliforms	Note 1	-	-	Note 5	Note 1
Total Phosphorous	Note 1	-	-	1 mg/L*	Note 1
Turbidity	Note 1	10 NTU, except by natural causes	10 NTU, except by natural causes	50 NTU, except by natural causes	Note 1

* Applicable in SD waters upstream from reservoirs, in segment with water intakes or estuarine waters.

@ Total Ammonia standard shall not exceed 1 mg/l upstream from the points given by coordinates for the following segments:

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SEGMENT	COORDINATES	SEGMENT	COORDINATES
Río Cibuco	18°21'13" 66°20'07"	Río Caguaitas	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** – USEPA promulgation: Water Quality Standard Regulations, Federal Register, Vol. 69, No. 16, Monday, January 26, 2004, Rules and Regulations, Page 3514
- Note 3**- 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 total 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.
- Note 6** – The fecal coliforms geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 2000 col/100mL, and not more than 20 percent of the samples shall exceed 4000 col/100mL.

Assessment Categories

The current assessment of the water quality in PR was performed taking into consideration the five (5) attainment categories currently required to be used for the 305(b)/303(d) IR. 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 TMDL.
 - ✓ **4a** – a state developed TMDL has been approved by USEPA or a TMDL has been established by USEPA 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.

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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 CWA and the PRWQSR: primary contact recreation (swimming), secondary contact recreation, aquatic life and raw source of drinking water supply:

1. Swimming (Primary Contact Recreation):

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. The Enterococcus density in terms of geometric mean of at least five representative samples taken sequentially shall not exceed 35colonies/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 10,000 colonies/100mL of Total Coliforms or 200 colonies/100mL of Fecal Coliforms, and not more than 20% of the samples shall exceed 400 colonies/100mL of Fecal Coliforms, 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

All such segments were evaluated on the basis of Primary Contact Recreation, this being the most restrictive use.

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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. The Enterococcus density in term of geometric mean of at least five representative samples taken sequentially shall not exceed 35colonies/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. 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 Raw Sources of Drinking Water use, we considered compliance of water quality standards for the various toxic parameters indicated below:

Aldrin	Fluoride
Alpha-BHC	Heptachlor
Antimonium (Sb)	Lindane
Arsenic (As)	Mercury (Hg)
Beta-BHC	Nitrates + Nitrites (NO ₃ + NO ₂)
Chlorides	Thallium (Tl)
Dieldrin	Total Phosphorus (P)
Endrin Aldehyde	Turbidity
Endosulfan Sulfide	

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 identify the segment non-support for RSDW.

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4. Aquatic Life Use Support (rivers, lakes, estuaries and coasts)

Currently, the Aquatic Life Use Support 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)	Cyanide (Free CN)	Silver (Ag)
Antimony (Sb)	Lead (Pb)	Sulfide (S) (undissociated H ₂ S)
Cadmium (Cd)	Mercury (Hg)	Surfactants
Copper (Cu)	Nickel (Ni)	Thallium (Tl)
Chlorides	Pesticides (Organochlorides)	Zinc (Zn)
Chromium (Cr)	Selenium (Se)	

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

Dissolved Oxygen (DO)	Temperature
pH	Turbidity

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

A new developed and proposed macroinvertebrate protocol was used to document biological conditions in stream across PR as part of the 2009 survey. The protocol was also tested and successfully used to document biological conditions in the 2011 survey of the Río Piedras. Once a final document for the Rapid Bioassessment Protocol will be approved it will be address to the assessment methodology for aquatic life use.

Assessment Results for Data Collected During 2009-2011 (2012 Cycle)

In Tables 11 through 29 are include the information related with the assessment for the 2012 cycle. For this assessment, PREQB considered the most recent two consecutive years (2010-2011) of available water quality data for each AU. In addition, PREQB has requested data from government agencies and academic institutions for the same period. The following do not reflect impaired waters from previous cycles (Tables 11-29). For a complete list of impaired waters of PR, which includes causes of impairments from previous cycles that have not been delisted, please refer to Appendix I- 2012 Cycle 303(d) List.

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Table 13: 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	287.6	-	291.9	1,718.3	-	16.5	2,738.5	5,052.8	5,052.8
Reservoirs - acres	-	-	-	-	-	-	7,323	7,323	7,323
Estuaries - acres	196		1851.9	611.3		2.3	768.9	3,430.3	3,430.3
Coastal Waters - miles	24.34	114	127.64				280.65	546.63	546.63

Total of assessed miles without monitoring station: 886.7

Total of assessed miles with monitoring station: 4,166.1
5,052.8

Rivers and Streams

Table 14: Size of waters Impaired by Causes (Monitored Miles for Rivers and Streams)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (miles)
Pesticides (0200)	286.1
Surfactants (0400)	497.8
Cadmium (0520)	59.0
Copper (0530)	490.2
Lead (0550)	302.2
Mercury (0560)	101.2
Ammonia (0600)	14.6
Phosphorus (0910)	180.8
NO2+NO3 (0990)	15.0
pH (1000)	127.7
Low Dissolved Oxygen (1200)	1,079.7
Thermal Modifications (1400)	211.4
Fecal Coliforms (1700)	1,055.0
Total Coliforms (1700)	670.4
Turbidity (2500)	1,794.9

Table 15: Size of Waters Impaired by Sources (Assessed and Monitored Rivers and Streams)

SOURCES OF IMPAIRMENTS	SIZE OF WATER IMPAIRED
Major Industrial Point Source (0110)	146.4
Minor Industrial Point Source (0120)	2,602.1
Major Municipal Point Source (0210)	1,265.4
Minor Municipal Point Source (0220)	903.5
Package Plants (Small Flows) (0230)	422.2
Collection System Failure (0500)	2,342.2
Agriculture (1300)	2,587.8
Confined Animal Feeding Operations (1640)	3,248.8
Land Development (3200)	470.0
Urban Runoff/Storm Sewers (4000)	3,023.3
Surface Mining (5100)	556.3
Landfills (6300)	1,667.9
Onsite Wastewater Systems (6500)	5,052.8

Table 16: Rivers and Streams Assessment (Monitored and Unmonitored)

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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	12.0	SD	SS 5007000	4a	4a	4c	4c	A, F, O, Q	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
QUEBRADA DEL TORO	QUEBRADA DEL TORO PRNQ2A	1.0	SD		3	3	3	3		Onsite Wastewater systems (6500)	
RIO GUAJATACA	RIO GUAJATACA PRNR3A1	9.9	SD	NS 50011400	5	5	1	1		Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700)
	RIO GUAJATACA PRNR3A2	22.0	SD	NS 50010500	5	5	1	1		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)	Fecal Coliforms (1700)
	QUEBRADA LAS SEQUIAS PRNQ3B	3.5	SD		3	3	3	3	L, N	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA BELLACA	QUEBRADA BELLACA PRNQ4A	1.7	SD		3	3	3	3	L	Onsite Wastewater Systems (6500)	
RIO CAMUY	RIO CAMUY PRNR5A	48.6	SD		3	3	3	3	L	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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	SD		3	3	3	3	L	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO PRNR7A1	31.4	SD	NS 50029000 50027250 A1-B	4a	4a	5	5	P	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)	Copper (0530) Turbidity (2500)
	RIO GRANDE DE ARECIBO PRNR7A2	122.8	SD	NS 50025000 A3-A A3-B	4a	4a	5	5	P	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Land Development (3200) Landfills (6300) Major Municipal Point Sources (0210) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
	TUNEL PRNR7A3	28.9	SD	NS 50020500	4a	4a	1	1	P	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)	
	RIO CAONILLAS PRNR7C1	87.0	SD	NS A4-A A4-B	4a	4a	1	1	P	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Land Development (3200) Landfills (6300) Major Municipal Point Sources (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surface Mining (5100) Urban Runoff/Storm Sewers (4000)	
	RIO LIMON PRNR7C2	40.7	SD	NS A1-A	4a	4a	1	1	P	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230)	
	RIO YUNES PRNR7C3	32.7	SD	NS A2-A A2-B	4a	4a	1	1	P	Agriculture (1300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
	RIO TANAMA PRNR7B1	16.2	SD		N/A	N/A	3	3	L, P	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
	RIO TANAMA PRNR7B2	43.5	SD	NS 50028000 A5-A2	4a	4a	5	5	P	Agriculture (1300) Land Development (3200) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Turbidity (2500)
RIO GRANDE DE MANATÍ	RIO GRANDE DE MANATÍ PRNR8A1	31.0	SD	NS 50038100	4a	4a	5	5	P	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)	Copper (0530) Turbidity (2500)
	RIO GRANDE DE MANATÍ PRNR8A2	38.1	SD	NS 50035500 50031200	4a	4a	5	5	P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)
	RIO GRANDE DE MANATÍ PRNR8A3	27.0	SD		4a	4a	3	3	E, L, P	Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
	RIO CIALITO PRNR8B	25.8	SD	NS 50035950	4a	4a	5	5	P	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)	Turbidity (2500)
	RIO TORO NEGRO PRNR8C1	41.5	SD		4a	4a	3	3	E, L, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
	RIO BAUTA PRNR8C2	27.6	SD		4a	4a	3	3	E, L, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO SANA MUERTOS PRNR8D	16.0	SD		4a	4a	3	3	E, L, P	Agriculture (1300) Onsite Wastewater Systems (6500)	
	RIO OROCOVIS PRNR8E1	19.8	SD	NS 50030700	4a	4a	5	5	P	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)	Turbidity (2500)
	RIO BOTIJAS PRNR8E2	19.1	SD		4a	4a	3	3	E, L, P	Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
RIO CIBUCO	RIO CIBUCO PRNR9A	31.1	SD	NS 50038320 50039500	5	5	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)	Total Coliforms (1700) Turbidity (2500)
	RIO INDIO PRNR9B1	12.5	SD		4a	4a	3	3	B, L, N	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)	
	RIO MOROVIS PRNR9B2	25.5	SD		4a	4a	3	3	B	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) Package Plant (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	
	RIO UNIBON PRNR9B3	17.4	SD		4a	4a	3	3	B, L	Collection System Failure (0500) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
	RIO MAVILLAS PRNR9C	34.0	SD		4a	4a	3	3	B, L	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO DE LOS NEGROS PRNR9D	24.1	SD		4a	4a	3	3	B, L, N	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)	
RIO DE LA PLATA	RIO DE LA PLATA PRER10A1	21.0	SD	NS 50046000	4a	4a	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)	Turbidity (2500)
	RIO DE LA PLATA PRER10A2	14.3	SD		4a	4a	3	3	C, L	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO DE LA PLATA PRER10A3	55.7	SD	NS 50044000 LP-5 LP-6	4a	4a	5	5	C	Agriculture (1300) Confined Animal Feeding Operations (1640) Land Development (3200) Landfills (6300) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Turbidity (2500)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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	SD	NS 50043000 LP-4	4a	4a	1	1	C	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
	RIO DE LA PLATA PRER10A5	92.7	SD		4a	4a	3	3	C, L, N	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)	
	RIO LAJAS PRER10B	16.6	SD		4a	4a	3	3	C, L, N	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surface Mining (5100)	
	RIO BUCARABONES PRER10C	19.2	SD		4a	4a	3	3	C, L, N	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
	RIO CAÑAS PRER10D	10.4	SD		4a	4a	3	3	C, L	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO GUADIANA PRER10E	21.8	SD	NS 50044850	5	5	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)	Total Coliforms (1700) Turbidity (2500)
	RIO CUESTA ARRIBA PRER10F	10.6	SD	ED – PR1167	4a	4a	5	1	C, I	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	pH (1000)
	RIO ARROYATA PRER10G	36.8	SD	NS LP-3	4a	4a	1	1	C	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Land Development (3200) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	
	RIO HONDO PRER10H	25.6	SD		4a	4a	3	3	C, L	Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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	SD		4a	4a	3	3	C, K	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)	
	RIO AIBONITO PRER10I2	18.7	SD		4a	4a	3	3	C, L	Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO MATON PRER10J	15.8	SD	NS LP-1 LP-2	4a	4a	1	1	C	Confined Animal Feeding Operations (1640) Land Development (3200) Onsite Wastewater Systems (6500)	
	RIO GUAVATE PRER10K	19.8	SD	ED – PR1161, PR1165	4a	4a	5	1	C, I	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	pH (1000)
RIO HONDO	RIO HONDO PRER11A	22.0	SD		3	3	3	3	A, J, L	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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	SD	NS 50048510	5	5	1	1		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Total Coliforms (1700)
	RIO BAYAMÓN PRER12A2	83.7	SD	NS 50047600 ED – PR1159	5	5	5	5	I	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Turbidity (2500)
	RIO GUAYNABO PRER12B	50.7	SD	NS 50047990	5	5	5	5		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Industrial Point Source (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Total Coliforms (1700) Turbidity (2500)
	RIO MINILLAS PRER12C	8.7	SD		3	3	3	3	L	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA PRER14A1	31.0	SD	NS 50059100	5	5	5	1		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Industrial Point Sources (0110) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Cooper (0530) Fecal Coliforms (1700) Low Dissolved Oxygen (1200)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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 PRER14A2	86.6	SD	NS 50055000 L-2 L-3	5	5	5	5	D, H, 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) Package Plant (Small Flow) (0230) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Total Coliforms (1700) Turbidity (2500)
	RIO CANOVANAS PRER14B	32.6	SD		3	3	3	3	G, L	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plant (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	
	RIO CANOVANILLAS PRER14C	27.9	SD	ED – PR1158, PR1158R	2	2	1	1	G, I	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	QUEBRADA MARACUTO PREQ14D	22.9	SD		3	3	3	3	G, L	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
	QUEBRADA GRANDE PREQ14E	17.7	SD		3	3	3	3	G, L	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plant (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	
	RIO CAÑAS PRER14F	9.4	SD		4a	4a	3	3	D, G, L	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO GURABO PRER14G1	124.3	SD	NS 50057025	5	5	5	5	D, H	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100)	Total Coliforms (1700) Turbidity (2500)
	RIO VALENCIANO PRER14G2	42.8	SD	NS L-1	4a	4a	1	1	D	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 Flow) (0230) Urban Runoff/Storm Sewers (4000)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
	RIO BAIROA PRER14H	16.3	SD	NS 50055410	4a	4a	1	5	D, H, K, M	Collection System Failure (0500) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Phosphorus (0910)
	RIO CAGÜITAS PRER14I	33.9	SD	NS 50055250	5	5	1	1	D, H, K, M	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Total Coliforms (1700)
	RIO TURABO PRER14J	54.7	SD	NS L-5	4a	4a	1	1	D	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)	
	RIO CAYAGUAS PRER14K	38.5	SD	NS L-4	4a	4a	1	1	D	Agriculture (1300) Confined Animal Feeding Operations (1640) Land Development (3200) Onsite Wastewater Systems (6500)	
	RIO EMAJAGUA PRER14L	8.5	SD		4a	4a	3	3	D, G, L	Onsite Wastewater Systems (6500)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
RIO HERRERA	RIO HERRERA PRER15A	17.0	SD	SS 50063045 50063065	2	2	5	5		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Surfactants (0400) Turbidity (2500)
RIO ESPIRITU SANTO	RIO ESPIRITU SANTO PRER16A	58.4	SD	NS 50063800 SS 50064500 50064300 50064800 50064850 ED PR1103, PR1151, PR1152, PR1155, PR1178	5	5	5	5	I	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Copper (0530) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) pH (1000) Surfactants (0400) Turbidity (2500)
RIO MAMEYES	RIO MAMEYES PRER17A	38.9	SD	SS 50066100 50065750 50066000 50066025 50066020 50065600 50065650 50065680 ED PR1153	5	5	5	1	I	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) pH (1000)
QUEBRADA MATA DE PLATANO	QUEBRADA MATA DE PLATANO PREQ18A	4.0	SD	SS 50066475 50066490 50066500	5	5	5	1		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400)
RIO SABANA	RIO SABANA PRER19A	33.1	SD	SS 50069050 50069000 50068710 50068900 50068000 50067200 ED PR1154	4a	4a	1	1	G, I, O	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100)	
RIO JUAN MARTÍN	RIO JUAN MARTÍN PRER20A	7.8	SD	SS 50069305	2	2	1	1	G	Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
QUEBRADA FAJARDO	QUEBRADA FAJARDO PREQ21A	10.0	SD	SS 50069390 50069410 50070700 50069400	4a	4a	1	1	G, O	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
RIO FAJARDO	RIO FAJARDO PRER22A	59.0	SD	NS 50071000 SS 50072605 50070905 50071195 50072000 50072500 50071950 50071190	5	5	5	5		Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Sources (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Cadmium (0520) Copper (0530) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Mercury (0560) Surfactants (0400) Turbidity (2500)
RIO DEMAJAGUA	RIO DEMAJAGUA PRER23A	2.8	SD	SS 50072700	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)
QUEBRADA CEIBA	QUEBRADA CEIBA PREQ24A	5.0	SD	SS 50072775 50072910	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)
QUEBRADA AGUAS CLARAS	QUEBRADA AGUAS CLARAS PREQ25A	4.8	SD	SS 50072875 50072900	4a	4a	5	1	O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Thermal Modifications (1400)
RIO DAGUAO	RIO DAGUAO PRER26A	13.8	SD	SS 50073100 50073225 50073375	4a	4a	5	1	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)
QUEBRADA PALMA	QUEBRADA PALMA PREQ27A	11.8	SD	SS 50073400	4a	4a	1	1	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230)	
QUEBRADA BOTIJAS	QUEBRADA BOTIJAS PREQ28A	7.4	SD	SS 50073500	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
RIO SANTIAGO	RIO SANTIAGO PRER29A	15.3	SD	SS 50074004 50073975 50073900	5	5	1	1		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Municipal Point Sources (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700)
RIO BLANCO	RIO BLANCO PRER30A	45.0	SD	SS 50077500 50077525 50077550 50077600 50076300	4a	4a	5	5	O	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Turbidity (2500)
	QUEBRADA PEÑA POBRE PREQ30B	13.4	SD	SS 50076300	4a	4a	1	1	G, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
RIO ANTON RUIZ	RIO ANTON RUIZ PRER31A	20.4	SD	SS 50078600 50078300 50078510	4a	4a	5	1	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)
QUEBRADA FRONTERA	QUEBRADA FRONTERA PREQ32A	8.5	SD	SS 50078900	2	2	5	1		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO HUMACAO	RIO HUMACAO PRER33A	55.8	SD	NS 50082000 SS 50082350 50081500 50081900	5	5	5	5		Minor Industrial Point Source (0120) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700) Total Coliforms (1700) Turbidity (2500)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
RIO CANDELERO	RIO CANDELERO PRER34A	10.4	SD	SS 50082525	2	2	5	1		Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO GUAYANES	RIO GUAYANES PRER35A	94.6	SD	NS 50083500 SS 50084025 50085000 50083300 50086060 50086150	5	5	5	5		Agriculture (1300) Landfills (6300) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Copper (0530) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Thermal Modification (1400) Turbidity (2500)
QUEBRADA EMAJAGUA	QUEBRADA EMAJAGUA PREQ36A	2.5	SD	SS 50088000	2	2	1	1	G	Onsite Wastewater Systems (6500)	
RIO MAUNABO	RIO MAUNABO PRER37A	36.0	SD	NS 50091000 SS 50091290	5	5	5	1		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)	Fecal Coliforms (1700) Thermal Modifications (1400)
QUEBRADA MANGLILLO	QUEBRADA MANGLILLO PRSQ38A	1.0	SD		4a	4a	3	3	L, O	Onsite Wastewater Systems (6500)	
QUEBRADA FLORIDA	QUEBRADA FLORIDA PRSQ39A	3.0	SD		NE	NE	NE	NE	F, Q		
RIO JACABOA	RIO JACABOA PRSR40A	13.0	SD	SS 50091500	4a	4a	1	1	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA PALENQUE	QUEBRADA PALENQUE PRSQ41A	1.0	SD	SS 50091525	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO CHICO	RIO CHICO PRSR42A	14.6	SD	SS 50091800	4a	4a	5	1	O	Agriculture (1300) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Low Dissolved Oxygen (1200)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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 PATILLAS	RIO GRANDE DE PATILLAS PRSR43A1	4.0	SD	SS 50094300	4a	4a	1	1	O	Onsite Wastewater Systems (6500)	
	RIO GRANDE DE PATILLAS PRSR43A2	35.9	SD	NS 50092000 ED PR1163, PR1164, PR1148, PR1148R	4a	4a	1	1	I, O	Onsite Wastewater Systems (6500)	
	RIO MARIN PRSR43B	8.7	SD		4a	4a	3	3	L, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA YAUREL	QUEBRADA YAUREL PRSQ44A	6.0	SD	SS 50094315	4a	4a	1	1	O	Onsite Wastewater Systems (6500)	
RIO NIGUAS DE ARROYO	RIO NIGUAS DE ARROYO PRSR45A	21.0	SD	SS 50094375 50094410 50094500	5	5	1	1	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plant (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	Total Coliforms (1700)
QUEBRADA SALADA	QUEBRADA SALADA PRSQ46A	1.7	SD		4c	4c	4c	4c	A, L	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surface Mining (5100)	
QUEBRADA CORAZON	QUEBRADA CORAZON PRSQ47A	9.7	SD		4a	4a	4c	4c	A, L, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA BRANDERI	QUEBRADA BRANDERI PRSQ48A	4.5	SD	SS 50094530	2	2	1	1		Collection System Failure (0500) Onsite Wastewater Systems (6500)	
RIO GUAMANI	RIO GUAMANI PRSR49A	22.0	SD	SS 50095210 50095500 50095550	4a	4a	5	1	O	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Thermal Modifications (1400)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
QUEBRADA MELANIA	QUEBRADA MELANIA PRSQ50A	7.0	SD	SS 50095900 50096010	4a	4a	5	1	O	Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Surfactants (0400)
RIO SECO	RIO SECO PRSR51A	24.7	SD	SS 50096990 50097010 50097500 50097800 50098000	5	5	5	1		Agriculture (1300) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200)
QUEBRADA AMOROS	QUEBRADA AMOROS PRSQ52A	0.7	SD	SS 50098600	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
QUEBRADA AGUAS VERDES	QUEBRADA AGUAS VERDES PRSQ53A	15.0	SD	SS 50099050 50099200 50099300 50099400	5	5	5	5		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Nitrate+Nitrite (0990) Total Coliforms (1700)
RIO NIGUAS DE SALINAS	RIO NIGUAS DE SALINAS PRSR54A	102.5	SD	SS 50100150 50100250 50100400 50100450 50100700 50100750 50101600 50101800 50102010	5	5	1	1		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700)
RIO JUEYES	RIO JUEYES PRSR55A	11.0	SD	SS 50102450 50102900	4a	4a	1	1	O	Agriculture (1300) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO CAYURES	RIO CAYURES PRSR56A	5.0	SD	SS 50103100	4a	4a	5	1	O	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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	SD	SS 50107000	4a	4a	1	1	O	Agriculture (1300) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO COAMO PRSR57A2	59.0	SD	NS 50106500	4a	4a	1	1	O	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO CUYON PRSR57B	49.2	SD		4a	4a	3	3	L, N, O	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plant (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	
RIO DESCALABRADO	RIO DESCALABRADO PRSR58A	18.8	SD	SS 50108000 50108375 50108500	5	5	1	1		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700)
RIO CAÑAS	RIO CAÑAS PRSR59A	8.0	SD	SS 50109100 50109200 50109500	4a	4a	1	1	O	Agriculture (1300) Onsite Wastewater Systems (6500)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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	SD	SS 50112000 50112100	2	2	1	1		Agriculture (1300) Collection System Failure (0500) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO JACAGUAS PRSR60A2	29.3	SD		3	3	3	3	L	Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO INABON	RIO INABON PRSR61A	66.7	SD	SS 50113450	2	2	1	1		Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500) Surface Mining (5100) Urban Runoff/Storm Sewers (4000)	
RIO BUCANA-CERRILLOS	RIO BUCANA-CERRILLOS PRSR62A1	27.8	SD	NS 50114000 SS 50114600	4a	4a	1	1	O	Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	
	RIO BUCANA-CERRILLOS PRSR62A2	32.6	SD		3	3	3	3	L	Agriculture (1300) Onsite Wastewater Systems (6500)	
RIO PORTUGUES	RIO PORTUGUES PRSR63A	54.0	SD	NS 50115000 50116200 SS 50116500	5	5	5	5	O	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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	SD	SS 50116970 50118300	4a	4a	5	1	O	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
RIO TALLABOA	RIO TALLABOA PRSR65A	59.6	SD	SS 50121000 50122000	4a	4a	5	5	O	Agriculture (1300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)
RIO MACANA	RIO MACANA PRSR66A	21.7	SD	SS 50122600	4a	4a	1	1	O	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO GUAYANILLA	RIO GUAYANILLA PRSR67A	60.0	SD	NS 50124700 SS 50123190	5	5	5	5		Agriculture (1300) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Phosphorus (0910)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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	SD	SS 50126050 50127400 50128110	5	5	5	5		Agriculture (1300) Collection System Failure (0500) Landfills (6300) Minor Industrial Point Source (0120) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Phosphorus (0910) Turbidity (2500)
	RIO YAUCO PRSR68A2	18.3	SD		3	3	3	3	L	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
RIO LOCO	RIO LOCO PRSR69A1	92.4	SD	SS 50129260 50129600	2	2	5	1		Agriculture (1300) Collection System Failure (0500) Landfills (6300) Major Municipal Point Sources (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
	RIO LOCO PRSR69A2	19.5	SD		3	3	3	3	E, L	Agriculture (1300) Onsite Wastewater Systems (6500)	
RIO ARROYO CAJUL	RIO ARROYO CAJUL PRSR70A	7.4	SD	SS 50129820	2	2	1	1		Onsite Wastewater Systems (6500)	
QUEBRADA BOQUERON	QUEBRADA BOQUERON PRWQ71A	11.7	SD	SS 50130000	4a	4a	1	1	O	Onsite Wastewater Systems (6500)	
QUEBRADA ZUMBON	QUEBRADA ZUMBON PRWQ72A	1.7	SD	SS 50130050	4a	4a	5	1	O	Collection System Failure (0500) Onsite Wastewater Systems (6500)	Surfactants (0400)
QUEBRADA GONZALEZ	QUEBRADA GONZALEZ PRWQ73A	1.8	SD	SS 50130100	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
QUEBRADA LOS PAJARITOS	QUEBRADA LOS PAJARITOS PRWQ74A	2.7	SD	SS 50130150	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
CAÑO CONDE AVILA	CAÑO CONDE AVILA PRWK75A	4.0	SD		4a	4a	3	3	L, O	Onsite Wastewater Systems (6500)	
QUEBRADA IRIZARRY	QUEBRADA IRIZARRY PRWK76A	2.0	SD		4a	4a	3	3	L, O	Onsite Wastewater Systems (6500)	
RIO GUANAJIBO	RIO GUANAJIBO PRWR77A	121.4	SD	NS 50138000 50133600 SS 50130390 50131250 50135650	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)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500)
	RIO HONDO PRWR77B	17.2	SD	SS 50138230	2	2	1	1		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO ROSARIO PRWR77C	58.3	SD	NS 50136400 SS 50136000 50136700 ED PR1174	5	5	5	5	I	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)	Fecal Coliforms (1700) Turbidity (2500) Pesticides (0200)
	RIO VIEJO PRWR77D	21.1	SD	SS 50135625	2	2	5	1		Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
	RIO DUEY Y RIO HOCONUCO PRWR77E	39.9	SD	SS 50134000 50134550	2	2	1	1	N	Agriculture (1300) Onsite Wastewater Systems (6500)	
	RIO CAIN PRWR77F	22.4	SD	SS 50133000	2	2	1	1		Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
	RIO CUPEYES PRWR77G	8.0	SD	SS 50131800	2	2	5	1		Agriculture (1300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Pesticides (0200)
	RIO CRUCES PRWR77H	13.8	SD	SS 50131050	2	2	1	1		Collection System Failure (0500) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO GRANDE PRWR77I	22.5	SD	SS 50130420	2	2	1	1		Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
CAÑO MERLE	CAÑO MERLE PRWK78A	11.1	SD	SS 50138385	4a	4a	5	1	O	Collection System Failure (0500) Onsite Wastewater Systems (6500) Surface Mining (5100) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Surfactants (0400)
RIO YAGÜEZ	RIO YAGÜEZ PRWR79A	42.2	SD	NS 50138800	4a	4a	5	5	O	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Copper (0530) Lead (0550) Mercury (0560) Turbidity (2500)

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					R1	R2	AL	DW			
QUEBRADA DEL ORO	QUEBRADA DEL ORO PRWQ80A	10.0	SD	SS 50139660	4a	4a	1	1	O	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
CAÑO MANI	CAÑO MANI PRWK81A	3.0	SD		3	3	3	3	L	Onsite Wastewater Systems (6500)	
CAÑO BOQUILLA	CAÑO BOQUILLA PRWK82A	12.3	SD		3	3	3	3		Landfills (6300) Major Industrial Point Source (0110) Onsite Wastewater Systems (6500)	
RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO PRWR83A	126.0	SD	NS 50146000 50144000 50143000 SS 50146120	4a	4a	5	5	P	Agriculture (1300) Confined Animal Feeding Operations (1640) Major Municipal Point Sources (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Turbidity (2500)
	RIO CAÑAS PRWR83B	54.4	SD	SS 50146005	4a	4a	1	1	P	Agriculture (1300) Onsite Wastewater Systems (6500)	
	RIO CASEY PRWR83C	38.1	SD	SS 50145600	4a	4a	1	1	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO HUMATA PRWR83D	13.3	SD	SS 50144900	4a	4a	1	1	N, P	Agriculture (1300) Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
	RIO ARENAS PRWR83E	18.3	SD	SS 50143920	4a	4a	1	1	P	Agriculture (1300) Collection System Failure (0500) Landfills (6300) Minor Municipal Point Sources (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO MAYAGUECILLO PRWR83F	18.0	SD	SS 50143600	4a	4a	1	1	E, P	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
	RIO GUABA PRWR83G	68.1	SD	SS 50143320 ED PR1123, PR1175	4a	4a	1	1	E, I, P	Agriculture (1300) Onsite Wastewater Systems (6500)	
	RIO BLANCO PRWR83H	79.9	SD	SS 50140900 50142250	4a	4a	1	1	N, P	Agriculture (1300) Onsite Wastewater Systems (6500)	
	RIO PRIETO PRWR83I	59.8	SD	SS 50142710 50142900	4a	4a	5	5	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Pesticides (0200)
QUEBRADA JUSTO	QUEBRADA JUSTO PRWQ84A	1.0	SD	SS 50146130	2	2	1	1		Onsite Wastewater Systems (6500)	
QUEBRADA ICACOS	QUEBRADA ICACOS PRWQ85A	1.4	SD	SS 50146135	2	2	1	1		Onsite Wastewater Systems (6500)	
QUEBRADA CAGUABO	QUEBRADA CAGUABO PRWQ86A	1.0	SD	SS 50146140	2	2	1	1		Onsite Wastewater Systems (6500)	
CAÑO GARCIA	CAÑO GARCIA PRWK87A	2.0	SD	SS 50146145	2	2	1	1		Onsite Wastewater Systems (6500)	
QUEBRADA GRANDE DE CALVACHE	QUEBRADA GRANDE DE CALVACHE PRWQ88A	14.8	SD		4c	4c	4c	4c	A, L	Onsite Wastewater Systems (6500)	
QUEBRADA LOS RAMOS	QUEBRADA LOS RAMOS PRWQ89A	6.9	SD	SS 50146155	2	2	5	1		Landfills (6300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)

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					R1	R2	AL	DW			
QUEBRADA PUNTA ENSENADA	QUEBRADA PUNTA ENSENADA PRWQ90A	5.0	SD	SS 50146160	2	2	1	1		Onsite Wastewater Systems (6500)	
QUEBRADA PILETAS	QUEBRADA PILETAS PRWQ91A	2.0	SD	SS 50146165	2	2	5	1		Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO GRANDE	RIO GRANDE PRWR92A	21.8	SD	SS 50146200	2	2	1	1		Onsite Wastewater Systems (6500)	
CAÑO DE SANTI PONCE	CAÑO DE SANTI PONCE PRWK93A	4.8	SD	SS 50146180	4a	4a	1	1	O	Collection System Failure (0500) Onsite Wastewater Systems (6500)	
RIO GUAYABO	RIO GUAYABO PRWR94A	43.1	SD	SS 50146300 50146400 50146550 50146610 50146620 50146630	4a	4a	5	5	O	Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Phosphorus (0910) Surfactants (0400)
RIO CULEBRINAS	RIO CULEBRINAS PRWR95A	142.6	SD	NS 50149100 50147600 SS 50146675 50146800 50147050 50147800 50148050	5	5	5	5	P	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)	Copper (0530) Lead (0550) Surfactants (0400) Total Coliforms (1700) Turbidity (2500) Pesticides (0200)
	RIO CAÑO (RIO CAÑAS) PRWR95B	33.3	SD	SS 50148500	4a	4a	1	1	E, P	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	QUEBRADA GRANDE (SECTOR CUCHILLAS) PRWQ95C	11.4	SD	SS 50147997	4a	4a	1	1	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW			
	QUEBRADA LAS MARIAS PRWQ95D	9.8	SD	SS 50147900	4a	4a	1	1	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	QUEBRADA YAGRUMA PRWQ95E	20.6	SD	SS 50147796	4a	4a	1	1	P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	QUEBRADA LA SALLE PRWQ95F	11.8	SD	SS 50147675	4a	4a	5	5	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Pesticides (0200)
	QUEBRADA EL SALTO PRWQ95G	7.8	SD	SS 50147630	4a	4a	1	1	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	QUEBRADA GRANDE DE LA MAJAGUA PRWQ95H	5.6	SD	SS 50147595	4a	4a	5	5	N, P	Agriculture (1300) Onsite Wastewater Systems (6500)	Pesticides (0200)
	QUEBRADA SALADA PRWQ95I	7.9	SD	SS 50147475	4a	4a	1	1	E, P	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO SONADOR PRWR95J	37.7	SD	SS 50147400 50147450	4a	4a	1	1	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO GUATEMALA PRWR95K	20.3	SD	SS 50147200	4a	4a	1	1	E, P	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
CAÑO CORAZONES	CAÑO CORAZONES PRWK96A	1.3	SD		4a	4a	3	3	L, O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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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 an approved TMDL for Río Cibuco, the TMDL was approved on September 2002, the pollutant was Fecal Coliforms
- C** - Watershed that has an approved TMDL for Río de la Plata, the TMDL was approved on September 2003, the pollutant was Fecal Coliforms
- D** - Watershed that has an approved TMDL for Río Grande de Loíza, the TMDL was approved on September 2007, the pollutant was Fecal Coliforms
- E** - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2008-303(d) list
- F** - 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 2006-303(d) list.
- H** - Watershed that has an approved TMDL for Río Grande de Loíza a TMDL was approved on August 2007, the pollutant was DO
- I** - External Data
- J** - For this assessment unit the monitoring station was eliminated since 2008 cycle
- K** - Watershed that has an approved TMDL. Río Grande de Loíza, the TMDL was approved on August 2007, the pollutant was Copper
- L** - If the Monitoring Station column is left blank, the Assessment Unit was not monitored for 2012 cycle
- M** - Watershed that has approved TMDL from Río Grande de Loíza, a TMDL was approved on August 2007, the pollutant was Ammonia
- N** - Remains in 2012 303(d) list due to old segmentation evaluation
- O** - Watersheds that have approved TMDL on September 2011, the pollutant were Fecal Coliforms
- P** - Watersheds that have an approved TMDL on September 2010, the pollutant were Fecal Coliforms. The watersheds are Río Grande de Arecibo, Río Grande de Manatí, Río Grande de Añasco and Río Culebrinas
- Q** - During 2010 Southern Region Synoptic Study, this AU was found dry and could not be evaluated
- R1** - Primary Contact Recreation
- R2** - Secondary Contact Recreation
- AL** - Aquatic Life
- DW** - Raw Source for Drinking Water

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Estuaries

Table 17: Size of waters Impaired by Causes (Monitored acres for Estuaries)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Surfactants (0400)	547.2
Low Dissolved Oxygen (1200)	602.7
Thermal Modification (1400)	49.9
Fecal Coliforms (1700)	368.5
Total Coliforms (1700)	101.1
Turbidity (2500)	164.3

Table 18: Size of Waters Impaired by Sources (Assesed and Monitored Estuaries)

SOURCES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Major Industrial Point Sources (0110)	368.5
Minor Industrial Point Source (0120)	26.9
Major Municipal Point Source (0210)	791.8
Minor Municipal Point Source (0220)	368.5
Collection System Failure (0500)	1,566.6
Agriculture (1300)	168.6
Confined Animal Feeding Operations (1640)	1,508.3
Urban Runoff/Storm Sewers (4000)	1,955.4
Surface Mining (5100)	147.1
Landfills (6300)	595.2
Onsite Wastewater Systems (6500)	3,119.2
Upstream Impoundment (7350)	358.1

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Table 19: Estuaries Assessment (Except San Juan Estuary System)

BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
					R1	R2	AL	DW			
RIO GUAJATACA PRNR3A	RIO GUAJATACA PRNE3A	30.72	SB		3	3	3	N/A	L	Surface Mining (5100) Urban Runoff/Storm Sewers (4000)	
QUEBRADA BELLACA PRNR4A	QUEBRADA BELLACA PRNE4A	2.68	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500)	
RIO CAMUY PRNR5A	RIO CAMUY PRNE5A	26.88	SB		3	3	3	N/A	L	Minor Industrial Point Sources (0120)	
RIO GRANDE DE ARECIBO PRNR7A	RIO GRANDE DE ARECIBO PRNE7A	54.20	SB		3	3	3	N/A	L, P	Agriculture (1300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
CAÑO TIBURONES PRNE7.1	CAÑO TIBURONES PRNE7.1	187.1 acres 38.7miles	SB		4a	4a	3	N/A	L, O	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO GRANDE DE MANATÍ PRNR8A	RIO GRANDE DE MANATÍ PRNE8A	164.86	SB		4a	4a	3	N/A	L,P	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO CIBUCO PRNR9A	RIO CIBUCO PRNE9A	189.69 acres 19.6 miles	SB		N/A	N/A	3	N/A	L	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)	

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BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
					R1	R2	AL	DW			
RIO DE LA PLATA PRER10A	RIO DE LA PLATA PREE10A	528.38 acres 24.4miles	SB		3	3	3	N/A	L	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO GRANDE DE LOIZA PRER14A	RIO GRANDE DE LOIZA PREE14A	116.8 acres 439.04 acres 13.2 miles	SB		3	3	3	N/A	L	Collection System failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO HERRERA PRER15A	RIO HERRERA PREE15A	65.28	SB	SS 50062800	2	2	5	N/A		Landfills (6300) Onsite Wastewater Systems (6500)	Surfactants (0400)
RIO ESPIRITU SANTO PRER16A	RIO ESPIRITU SANTO PREE16A	316.8 acres 51.71 acres	SB	SS 50064000 50064910 50065100	5	5	5	N/A		Major Industrial Point Source (0110) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400)
CAÑO RODRÍGUEZ PREE16.1	CAÑO RODRÍGUEZ PREE16.1	69.12	SB		3	3	3	N/A	L	Upstream Impoundment (7350)	
RIO MAMEYES PRER17A	RIO MAMEYES PREE17A	107.13	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500) Surface Mining (5100)	
RIO SABANA PRER19A	RIO SABANA PREE19A	18.43	SB		4a	4a	3	N/A	L, O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO JUAN MARTÍN PRER20A	RIO JUAN MARTÍN PREE20A	1.79	SB		4a	4a	3	N/A	L,O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO FAJARDO PRER22A	RIO FAJARDO PREE22A	43.52	SB		4a	4a	3	N/A	L, O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
					R1	R2	AL	DW			
RIO DEMAJAGUA PRER23A	RIO DEMAJAGUA PREE23A	1.79	SB	SS 50072690	2	2	5	N/A		Collection System Failure (0500) Onsite Wastewater Systems (6500)	Turbidity (2500)
QUEBRADA AGUAS CLARAS PRER25A	QUEBRADA AGUAS CLARAS PREE25A	1.53	SB		3	3	3	N/A	L	Upstream Impoundment (7350)	
RIO DAGUAO PRER26A	RIO DAGUAO PREE26A	43.0	SB		4a	4a	3	N/A	O, L	Upstream Impoundment (7350)	
QUEBRADA PALMA PRER27A	QUEBRADA PALMA PREE27A	3.2	SB		3	3	3	N/A	L	Upstream Impoundment (7350)	
QUEBRADA BOTIJAS PRER28A	QUEBRADA BOTIJAS PREE28A	12.28	SB		3	3	3	N/A	L	Upstream Impoundment (7350)	
RIO SANTIAGO PRER29A	RIO SANTIAGO PREE29A	16.12	SB		4a	4a	3	N/A	O, L	Onsite Wastewater Systems (6500)	
RIO BLANCO PRER30A	RIO BLANCO PREE30A	32.76	SB		4a	4a	3	N/A	O, L	Upstream Impoundment (7350)	
RIO ANTON RUIZ PRER31A	RIO ANTON RUIZ PREE31A	82.94	SB		4a	4a	3	N/A	O, L	Upstream Impoundment (7350)	
RIO HUMACAO PRER33A	RIO HUMACAO PREE33A	79.36	SB	SS 50082400	2	2	1	N/A		Collection System Failure (0500) Landfills (6300) Onsite Wastewater Systems (6500)	
RIO CANDELERO PRER34A	RIO CANDELERO PREE34A	49.92	SB	SS 50082700	2	2	5	N/A		Collection System Failure (0500) Onsite Wastewater Systems (6500)	Thermal Modifications (1400)
RIO GUAYANES PRER35A	RIO GUAYANES PREE35A	23.29	SB	SS 50086475 50086500	2	2	1	N/A		Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500)	
CAÑO SANTIAGO PRER35.1	CAÑO SANTIAGO PREE35.1	73.72 acres 11.9 miles	SB	SS 50087000 50087200	2	2	5	N/A		Agriculture (1300) Landfills (6300) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)
RIO CHICO PRSR42A	RIO CHICO PRSE42A	5.12	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
RIO GRANDE DE PATILLAS PRSR43A	RIO GRANDE DE PATILLAS PRSE43A	8.70	SB		3	3	3	N/A	L	Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	
QUEBRADA SALADA PRSR46A	QUEBRADA SALADA PRSE46A	3.84	SB	SS 50094515	2	2	1	N/A		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surface Mining (5100)	
QUEBRADA CORAZON PRSR47A	QUEBRADA CORAZON PRSE47A	3.45	SB	SS 50094523	2	2	1	N/A		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA BRANDERI PRSR48A	QUEBRADA BRANDERI PRSE48A	7.68	SB		4a	4a	3	N/A	L, O	Onsite Wastewater Systems (6500)	
QUEBRADA MELANIA PRSR50A	QUEBRADA MELANIA PRSE50A	7.68	SB		4a	4a	3	N/A	L, O	Onsite Wastewater Systems (6500)	
RIO SECO PRSR51A	RIO SECO PRSE51A	2.30	SB		4a	4a	3	N/A	L, O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
QUEBRADA AMOROS PRSR52A	QUEBRADA AMOROS PRSE52A	2.68	SB		4a	4a	3	N/A	L, O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
QUEBRADA AGUAS VERDES PRSR53A	QUEBRADA AGUAS VERDES PRSE53A	2.30	SB		4c	4c	4c	N/A	A, L	Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	
RIO NIGUAS DE SALINAS PRSR54A	RIO NIGUAS DE SALINAS PRSE54A	7.04	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
RIO COAMO PRSR57A	RIO COAMO PRSE57A	7.29	SB		3	3	3	N/A	L	Agriculture (1300) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	

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BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
					R1	R2	AL	DW			
RIO DESCALABRADO PRSR58A	RIO DESCALABRADO PRSE58A	3.07	SB		4a	4a	3	N/A	L, O	Agriculture (1300) Onsite Wastewater Systems (6500)	
RIO JACAGUAS PRSR60A	RIO JACAGUAS PRSE60A	7.04	SB		3	3	3	N/A	L	Agriculture (1300) Onsite Wastewater Systems (6500)	
RIO INABON PRSR61A	RIO INABON PRSE61A	2.30	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO MATILDE- PASTILLO PRSR64A	RIO MATILDE- PASTILLO PRSE64A	27.64	SB	SS 50119000	2	2	5	N/A		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)
RIO TALLABOA PRSR65A	RIO TALLABOA PRSE65A	21.50	SB	SS 50122050	2	2	5	N/A		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)
RIO MACANA PRSR66A	RIO MACANA PRSE66A	2.30	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO YAUCO PRSR68A	RIO YAUCO PRSE68A	1.92	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
RIO LOCO PRSR69A	RIO LOCO PRSE69A	5.37	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500) Surface Mining (5100) Urban Runoff/Storm Sewers (4000)	
QUEBRADA BOQUERON PRWR71A	QUEBRADA BOQUERON PRWE71A	6.14	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500)	
QUEBRADA ZUMBON PRWR72A	QUEBRADA ZUMBON PRWE72A	1.92	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500)	
QUEBRADA GONZALEZ PRWR73A	QUEBRADA GONZALEZ PRWE73A	5.12	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500)	

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BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
					R1	R2	AL	DW			
QUEBRADA LOS PAJARITOS PRWR74A	QUEBRADA LOS PAJARITOS PRWE74A	1.92	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500)	
RIO GUANAJIBO PRWR77A	RIO GUANAJIBO PRWE77A	36.86	SB		3	3	3	N/A	L	Collection System Failure (0500) Onsite Wastewater Systems (6500)	
CAÑO MERLE PRWR78A	CAÑO MERLE PRWE78A	101.12	SB	SS 50138265 ED 1, 2, 3	5	5	5	N/A	I, O	Collection System Failure (0500) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Total Coliforms (1700)
RIO YAGÜEZ PRWR79A	RIO YAGÜEZ PRWE79A	12.28	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
CAÑO BOQUILLA PRWR82A	CAÑO BOQUILLA PRWE82A	39.68	SB	SS 50139710	2	2	5	N/A		Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Turbidity (2500) Surfactants (0400)
RIO GRANDE DE AÑASCO PRWR83A	RIO GRANDE DE AÑASCO PRWE83A	152.06	SB		3	3	3	N/A	L, P	Onsite Wastewater Systems (6500)	
QUEBRADA GRANDE CALVACHE PRWR88A	QUEBRADA GRANDE CALVACHE PRWE88A	1.28	SB	SS 50146150	2	2	5	N/A		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
QUEBRADA LOS RAMOS PRWR89A	QUEBRADA LOS RAMOS PRWE89A	.384	SB		3	3	3	N/A	L	Collection System Failure (0500) Onsite Wastewater Systems (6500)	
RIO GRANDE PRWR92A	RIO GRANDE PRWE92A	1.79	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500)	
CAÑO DE SANTI PONCE PRWR93A	CAÑO DE SANTI PONCE PRWE93A	2.04	SB		3	3	3	N/A	L	Onsite Wastewater Systems (6500)	
RIO GUAYABO PRWR94A	RIO GUAYABO PRWE94A	18.43	SB	SS 50146630	2	2	5	N/A		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)

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BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				NOTES	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
					R1	R2	AL	DW			
RIO CULEBRINAS PRWR95A	RIO CULEBRINAS PRWE95A	86.01	SB	SS 50149200	2	2	1	N/A	L, P	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

I - External Data

L - If the Monitoring Station column is left blank, the AU was not monitored for 2012 cycle

O - Watershed that have approved TMDL on September 2011, the pollutant was Fecal Coliforms

P - Watersheds that have an approved TMDL on September 2010, the pollutant were Fecal Coliforms. The watersheds are Río Grande de Arecibo, Río Grande de Manatí, Río Grande de Añasco and Río Culebrinas

R1 - Primary Contact Recreation

R2 - Secondary Contact Recreation

AL - Aquatic Life

DW - Raw Source for Drinking Water

N/A - Not Applicable

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San Juan Bay Estuary System

Table 20: Size of waters Impaired by Causes San Juan Bay Estuary System

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED
Surfactants (0400)	64.6 acres, 55.9 miles
Cadmium (0520)	2,389.2 acres, 47.9 miles
Copper (0530)	2,389.2 acres, 47.9 miles
Lead (0550)	2,453.8 acres, 103.8 miles
Mercury (0560)	2,389.2 acres, 47.9 miles
Ammonia (0600)	64.6 acres, 55.9 miles
NO ₂ +NO ₃ (0990)	64.6 acres, 55.9 miles
pH (1000)	2,453.8 acres, 122.6 miles
Low Dissolved Oxygen (1200)	2,453.8 acres, 122.6 miles
Thermal Modification (1400)	2,389.2 acres, 47.9 miles
Enterococcus Fecal (1700)	2,389.2 acres, 18.8 miles
Fecal Coliforms (1700)	2,453.8 acres, 122.6 miles
Total Coliforms (1700)	2,453.8 acres, 103.8 miles
Oil and Grease (1900)	2,453.8 acres, 122.6 miles
Turbidity (2500)	2,453.8 acres, 122.6 miles

Table 21: Size of waters Impaired by Sources San Juan Bay Estuary System

SOURCES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED
Major Industrial Point Sources (0110)	64.6 acres, 74.7 miles
Minor Industrial Point Source (0120)	18.8 miles
Major Municipal Point Source (0210)	18.8 miles
Collection System Failure (0500)	2,453.8 acres, 103.8 miles
Confined Animal Feeding Operations (1640)	2,453.8 acres, 103.8 miles
Urban Runoff/Storm Sewers (4000)	2,453.8 acres, 122.6 miles
Landfills (6300)	64.6 acres, 55.9 miles
Onsite Wastewater Systems (6500)	2,453.8 acres, 122.6 miles
Marinas and Recreational Boating (7900)	18.8 miles

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Table 22: San Juan Bay Estuary System Assessment

BASIN	WATERBODY NAME ASSESSMENT UNIT- ID	WATERBODY SIZE (ACRES/MILES)	2012 MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				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	18.8 miles	NS 070 071 072 ED – BSJ 1, 2, 3 LC 1, 2 CSA CM PLE 50048580	5	5	5	N/A	I	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)	Fecal Enterococcus (1700) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Oil &Grease (1900) pH (1000) Turbidity (2500)
ESTUARY SYSTEM	PREE13A2 Río Piedras Lago Las Curías	55.9 miles 64.6 acres	NS 89027 89028 50049100 50048800 ED – RP 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16 RPN 1, 2, 3	5	5	5	5	I	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) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Nitrate + Nitrite (0990) Oil &Grease (1900) pH (1000) Surfactants (0400) Total Coliforms (1700) 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	2,389.2 acres 47.9 miles	NS 50050300 50049820 ED – CS 1, 2 CMP LSJ 1, 2 BC SA LLC LT 1, 2, 3 JM LP	5	5	5	N/A	I	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater System (6500) Urban Runoff/Storm Sewers (4000)	Cadmium (0520) Copper (0530) Fecal Enterococcus (1700) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Mercury (0560) Oil &Grease (1900) pH (1000) Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)

Notes:

- I - External Data
- R1 - Primary Contact Recreation
- R2 - Secondary Contact Recreation
- AL - Aquatic Life
- DW - Raw Sources for Drinking Water
- N/A - Not applicable

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Lagoons

Table 23: Size of waters Impaired by Causes (Monitored acres for Lagoons)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED
Low Dissolved Oxygen (1200)	554

Table 24: Size of waters Impaired by Sources (Monitored acres for Lagoons)

SOURCES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED
Confined Animal Feeding Operations (1640)	300
Urban Runoff/Storm Sewers (4000)	1,352
Inappropriate Waste Disposal (6350)	77
Landfills (6300)	14
Onsite Wastewater Systems (6500)	1,961
Marinas and Recreational Boating (7900)	399

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Table 25: Lagoons Assessment

MUNICIPALITY	WATERBODY NAME	ASSESSMENT UNIT (AU-ID)	CLASS	2012 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	SB		339	4a	4a	3	L, O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
VEGA BAJA-MANATÍ	Laguna Tortuguero	PRNN0006	SE	NS 50038200	554	1	1	5		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
DORADO	Laguna Mata Redonda	PRNN0007	SB		15	3	3	3	L	Onsite Wastewater Systems (6500)	
FAJARDO	Laguna Aguas Prietas	PREN0011	SB		128	3	3	3	L		
FAJARDO	Laguna Grande	PREN0012	SB		216	3	3	3	L	Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
CEIBA	Laguna Ceiba	PREN0013	SB		120	3	3	3	L		
GUAYAMA	Laguna Pozuelo	PRSN0014	SB		35	3	3	3	L	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
SALINAS	Laguna Mar Negro	PRSN0015	SB		208	3	3	3	L	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
SALINAS	Laguna Punta Arenas	PRSN0016	SB		18	3	3	3	L		
SALINAS	Laguna Tiburones	PRSN0017	SB		14	3	3	3	L	Landfills (6300)	
PONCE	Laguna Salinas	PRSN0018	SB		77	3	3	3	L	Inappropriate Waste Disposal (6350)	
CABO ROJO	Laguna Salinas I	PRSN0019	SB		294	3	3	3	L	Onsite Wastewater Systems (6500)	
CABO ROJO	Laguna Cabo Rojo 2	PRSN0020	SB		190	3	3	3	L		
CABO ROJO	Laguna Cabo Rojo 3 (El Faro)	PRSN0021	SB		69	3	3	3	L		
RINCÓN – CABO ROJO	Caño Boquerón	PRSN0022	SB		183	3	3	3	L	Marinas and Recreational Boating (7900)	
CABO ROJO	Laguna Guaniquilla	PRSN0023	SB		22	3	3	3	L		
LAJAS	Laguna Cartagena	PRSN0024	SE		300	3	3	3	L	Confined Animal Feeding Operations 1640) Onsite Wastewater Systems (6500)	

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Notes:

- L** - If the Monitoring Station column is left blank, the AU was not monitored for 2012 cycle
- O** - Watershed that have approved TMDL on September 2011, the pollutant was Fecal Coliforms
- R1** - Primary Contact Recreation
- R2** - Secondary Contact Recreation
- AL** - Aquatic Life

Lakes

Table 26: Size of waters Impaired by Causes (Monitored acres for Lakes)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Copper (0530)	1,413.0
Lead (0550)	713.0
pH (1000)	1,044.0
Low Dissolved Oxygen (1200)	7,323.0
Turbidity (2500)	713.0

Table 27: Size of waters Impaired by Sources (Monitored acres for Lakes)

SOURCES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Major Industrial Point Source (0110)	285.0
Minor Industrial Point Source (0120)	2,187.0
Collection System failure (0500)	1,086.0
Agriculture (1300)	3,680.0
Confined Animal Feeding Operations (1640)	3,585.0
Urban Runoff/Storm Sewers (4000)	1,413.0
Landfills (6300)	560.0
Onsite Wastewater Systems (6500)	6,492.0
Upstream Impoundment (7350)	700.0

Table 28: Lakes Assessment

BASIN	WATERBODY NAME	WB SIZE (ACRES/MILES)	CLASS	2012 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	SD	NS 50010720 50010790 50011000	1	1	5	1		Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO DOS BOCAS PRNL17A1	634 acres 6.9 miles	SD	NS 50025110 50027090	4a	4a	5	1	P	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) pH (1000)
RIO GRANDE DE ARECIBO	LAGO CAONILLAS PRNL27C1	700 acres 11.8 miles	SD	NS 89001 89002 89003 50026050	4a	4a	5	1	P	Agriculture (1300) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Copper (0530) Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO GARZAS PRNL57A3	108 acres 2.7 miles	SD	NS 50020050 ED-PR1173	4a	4a	5	1	P, I	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO GRANDE DE MANATÍ	LAGO GUINEO PRNL18C1	54 acres 1.7 miles	SD	NS 89007 89008	4a	4a	5	1	P	Agriculture (1300)	Low Dissolved Oxygen (1200)
RIO GRANDE DE MANATÍ	LAGO MATRULLAS PRNL28C1	77 acres 3.0 miles	SD	NS 89009 89010	4a	4a	5	1	P	Agriculture (1300) Confined Animal Feeding Operations (1640)	Low Dissolved Oxygen (1200) pH (1000)
RIO DE LA PLATA	LAGO DE LA PLATA PREL110A1	560 acres 15.0 miles	SD	NS 50044400 50044950	1	1	5	1		Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO DE LA PLATA	LAGO CARITE PREL210A5	333 acres 11.3 miles	SD	NS 50039900 50039950 ED - PR1162	1	1	5	1	I	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) pH (1000)
RIO BAYAMON	LAGO CIDRA PREL12A2	268 acres 8.3 miles	SD	NS 89029 89030 89031	1	1	5	1		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	SD	NS 50057500 50058800 50059000	1	1	5	5		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Copper (0530) Lead (0550) Low Dissolved Oxygen (1200) Turbidity (2500)

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BASIN	WATERBODY NAME	WB SIZE (ACRES/MILES)	CLASS	2012 MONITORING STATION NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES				Notes	SOURCES OF POLLUTION	CAUSE OF IMPAIRMENT
					R1	R2	AL	DW			
RIO GRANDE DE PATILLAS	LAGO PATILLAS PRSL43A1	312 acres	SD	NS 89022 89023 89024 89025	4a	4a	5	1	O	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
QUEBRADA MELANIA	LAGO MELANIA PRSL50A	35 acres	SD	NS 89026	1	1	5	1		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO JACAGUAS	LAGO GUAYABAL PRSL160A	373 acres 5.9 miles	SD	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 PRSL260A	836 acres 31.5 miles	SD	NS 89014 89015 89016	1	1	5	1		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO BUCANA-CERRILLOS	LAGO CERRILLOS PRSL62A1	700 acres	SD	NS 89032 89033 89034	4a	4a	5	1	O	Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
RIO YAUCO	LAGO LUCHETTI PRSL68A1	266 acres 14.0 miles	SD	NS 89017 89018 89019	1	1	5	1		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO LOCO	LAGO LOCO PRSL69A	69 acres 1.5 miles	SD	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	SD	NS 89004 89005 89006	4a	4a	5	1	P	Agriculture (1300) Major Industrial Point Sources (0110) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)

Notes:

I - External Data

O - Watersheds that have an approved TMDL on September 2011, the pollutant were Fecal Coliforms

P - Watersheds that have an approved TMDL on September 2010, the pollutant were Fecal Coliforms. The watersheds are Río Grande de Arcibo, Río Grande de Manatí, Río Grande de Añasco and Río Culebrinas.

R1 - Primary Contact Recreation

R2 - Secondary Contact Recreation

AL - Aquatic Life

DW - Raw Source for Drinking Water

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Coastal Shoreline

Table 29: Size of waters Impaired by Causes (Monitored Miles for Coastal Waters)

CAUSES OF IMPAIRMENT	COASTAL WATERS IMPAIRED (miles)
pH (1000)	125.0
Low Dissolved Oxygen (1200)	183.69
Thermal Modifications (1400)	29.5
Enterococcus (1700)	40.96
Turbidity (2500)	129.21

Table 30: Size of Waters Impaired by Sources (Assessed and Monitored Coastal Waters)

SOURCES OF IMPAIRMENT	COASTAL WATERS IMPAIRED (miles)
Major Industrial Point Sources (0110)	107.30
Major Municipal Point Sources (0210)	77.00
Minor Municipal Point Sources (0220)	98.19
Collection System Failure (0500)	39.80
Agriculture (1050)	40.96
Highway/Road/Bridge Construction (3100)	7.5
Urban Runoff/Storm Sewers (4000)	376.60
Surface Mining (5100)	7.5
Onsite Wastewater Systems (6500)	432.30
Landfill (6300)	7.00
Hazardous Wastes (6600)	67.60
Upstream Impoundment (7350)	138.01
Flow Regulations and Modifications (7400)	67.60
Marinas and Recreational Boating (7900)	206.93
Debris and bottom deposits (8520)	67.60
Unknown Sources (9000)	13.87

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Table 31: Coastal Shoreline Waters Assessment (monitored and unmonitored waters)

Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	2012 Assessment Designated Uses and Categories			Overall	Notes	Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PRNC01 (Punta Borinquén to Punta Sardina)	11.75	SB	SBZ-003, SBZ-004, SBZ-005, MAC-044	1	1	1	1		Onsite Wastewater Systems (6500)	
PRNC02 (Punta Sardina to Punta Manglillo)	14.10	SB	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) Turbidity (2500)
PRNC03 (Punta Manglillo to Punta Morrillos)	9.65	SB	SBZ-007	1	1	2	2		Collection System Failure (0500) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
PRNC04 (Punta Morrillos to Punta Manatí)	13.66	SB	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)	Turbidity (2500)
PRNC05 (Punta Manatí to Punta Chivato)	7.46	SB	SBZ-010	1	1	2	2		Unknown Source (9000)	
PRNC06 (Punta Chivato to Punta Puerto Nuevo)	3.23	SB	MAC-087, RW-23	1	1	1	1		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
PRNC07 (Punta Puerto Nuevo to Punta Cerro Gordo)	5.05	SB	MAC-088, RW-17	1	1	1	1		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
PRNC08 (Punta Cerro Gordo to Punta Boca Juana)	7.32	SB	SBZ-013, SBZ-014, RW-18, MAC-061	1	1	1	1		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
PREC09 (Punta Boca Juana to Punta Salinas)	5.78	SB	MAC-077, RW-19	1	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) pH (1000)
PREC10B (Punta Salinas to Rio Bayamon Mouth)	2.91	SB	SBZ-016, MAC-063	1	1	5	5		Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
PREC10C (Rio Bayamon Mouth to Isla de Cabras)	6.63	SC	No Stations	3	3	3	3	B	Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
PREC11 (Isla de Cabras to Punta del Morro)	7.79	SC	No Stations	3	3	3	3	B	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)	

Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	2012 Assessment Designated Uses and Categories			Overall	Notes	Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PREC12 (Punta del Morro to West side of Condado Bridge)	3.50	SB	SBZ-018, SBZ-019, RW-20B, RW-20A	1	1	5	5		Urban Runoff/Storm Sewers (4000)	pH (1000)
PREC13 (East side of Condado Bridge to Punta Las Marías)	4.31	SB	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	1	1		Urban Runoff/Storm Sewers (4000)	
PREC14 (Punta Las Marías to Punta Cangrejos)	4.19	SB	EB-40, EB-41, EB-42, 004C, B-3, RW-21, RW-21C	1	1	5	5		Urban Runoff/Storm Sewers (4000) Marinas and Recreational Boating (7900)	pH (1000)
PREC15 (Punta Cangrejos to Punta Vacía Talega)	6.23	SB	SBZ-024, SBZ-025, SBZ-026	1	1	3	3		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
PREC16 (Punta Vacía Talega to Punta Miquillo)	9.46	SB	SBZ-027, SBZ-028	1	1	3	3		Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
PREC17 (Punta Miquillo to Punta La Bandera)	8.41	SB	MAC-009, RW-1A, RW-1C	1	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) pH (1000)
PREC18 (Punta La Bandera to Cabezas de San Juan)	10.46	SB	SBZ-030, MAC-010, RW-2	1	1	5	5			Low Dissolved Oxygen (1200) Turbidity (2500)
PREC19 (Cabezas de San Juan to Punta Barrancas)	7.08	SB	MAC-078	1	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Low Dissolved Oxygen (1200)
PREC20 (Punta Barrancas to Punta Medio Mundo)	5.33	SB	No Stations	3	3	3	3	B	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
PREC21 (Punta Medio Mundo to Punta Puerca)	3.00	SB	No Stations	3	3	3	3	B		
PREC22 (Punta Puerca to Isla Cabras)	3.30	SB	No Stations	3	3	3	3	B	Marinas and Recreational Boating (7900)	
PREC23 (Isla Cabras to Punta Cascajo)	8.83	SB	No Stations	3	3	3	3	B	Major Industrial Point Source (0110) Marinas and Recreational Boating (7900)	
PREC24 (Punta Cascajo to Punta Lima)	9.07	SB	No Stations	3	3	3	3	B	Major Industrial Point Source (0110) Upstream Impoundment (7350)	

Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	2012 Assessment Designated Uses and Categories			Overall	Notes	Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PREC25 (Punta Lima to Morro de Humacao)	9.83	SB	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) pH (1000) Turbidity (2500)
PREC26 (Morro de Humacao to Punta Candelerero)	1.84	SB	No Stations	3	3	3	3	B	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
PREC27 (Punta Candelerero to Punta Guayanés)	3.74	SB	No Stations	3	3	3	3	B	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
PREC28C (Punta Guayanés to Punta Quebrada Honda)	4.68	SC	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) Turbidity (2500)
PREC28B (Punta Quebrada Honda to Punta Yeguas)	0.74	SB	SBZ-038	1	1	2	2		Onsite Wastewater Systems (6500)	
PREC29 (Punta Yeguas to Punta Tuna)	4.35	SB	No Stations	3	3	3	3	B	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
PREC30 (Punta Tuna to Cabo Mala Pascua)	2.65	SB	MAC-082	1	1	5	5			Low Dissolved Oxygen (1200) pH(1000) Turbidity (2500)
PRSC31 (Cabo Mala Pascua to Punta Viento)	4.06	SB	No Stations	3	3	3	3	B	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
PRSC32 (Punta Viento to Punta Figuras)	6.16	SB	SBZ-040, RW-6, MAC-083, RW-7	1	1	1	1		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
PRSC33 (Punta Figuras to Punta Ola Grande)	8.10	SB	MAC-017	1	1	5	5		Major Industrial Point Source (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
PRSC34 (Punta Ola Grande to Punta Petrona)	40.96	SB	MAC-016, MAC-018, MAC-019, SBZ-042 Stations 09, 10, 19 and 20 from National Reserve of Jobos Bay - External Data	1	1	5	5	A	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) Turbidity(2500), Enterococcus (1700)
PRSC35 (Punta Petrona to Punta Cabullones)	16.19	SB	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)
PRSC36B (Punta Cabullones to Punta Carenero)	2.53	SB	No Stations	3	3	3	3	B	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	

Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	2012 Assessment Designated Uses and Categories			Overall	Notes	Sources of Pollution	Causes of Impairment
				<i>R₁</i>	<i>R₂</i>	<i>AL</i>				
PRSC36C (Punta Carenero to Punta Cuchara)	6.70	SC	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) pH (1000) Thermal modifications (1400)
PRSC37B (Punta Cuchara to Cayo Parguera)	3.30	SB	MAC-084	1	1	1	1		Highway/Road/Bridge Construction (3100) Urban Runoff/Storm Sewers (4000) Surface Mining (5100) Upstream Impoundment (7350)	
PRSC37C (Cayo Parguera to Punta Guayanilla)	4.20	SC	MAC-024, MAC-025	2	2	1	2		Major Industrial Point Sources (0110) Highway/Road/Bridge Construction (3100) Urban Runoff/Storm Sewers (4000) Surface Mining (5100) Upstream Impoundment (7350)	
PRSC38 (Punta Guayanilla to Punta Verraco)	13.20	SC	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) pH (1000) Turbidity (2500)
PRSC39 (Punta Verraco to Punta Ballena)	6.41	SB	MAC-030, G1	2	2	5	5	C	Unknown Source (9000)	Turbidity (2500)
PRSC40 (Punta Ballena to Punta Brea)	13.26	SB	MAC-085, RW-9, MAC-034, G2, G3, G4, GE1A,GE1B, GW3A, GW3B, GW1A, GW1B	1	1	5	5	C	Minor Municipal Point Source (0220) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500) Thermal Modifications (1400)
PRSC41B1 (Punta Brea to Bahia Fosforescente La Parguera)	10.93	SB	SBZ-045, RW-10, RW-10A, RW-10B	1	1	2	2		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
PRSC41A1 (Bahia Fosforescente La Parguera)	2.00	SA	No Stations	3	3	3	3	B		
PRSC41B2 (Bahia Fosforescente La Parguera to Punta Cueva de Ayala)	7.00	SB	SBZ-046, PAR1, PAR2, PAR3, PAR4, PAR5, PAR6, PAR7, PAR8, PAR9, PAR 10, PAR 11	1	1	1	1	C	Urban Runoff/Storm Sewers (4000) Landfill (6300) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
PRSC41A2 (Bahia Monsio José)	3.72	SA	No Stations	3	3	3	3	B		

Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	2012 Assessment Designated Uses and Categories			Overall	Notes	Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PRSC41B3 (Bahia Monsio José to Faro de Cabo Rojo)	13.45	SB	No Stations	3	3	3	3	B		
PRWC42 (Faro de Cabo Rojo to Punta Águila)	2.89	SB	No Stations	3	3	3	3	B		
PRWC43 (Punta Águila to Punta Guaniquilla)	9.54	SB	SBZ-047, RW-12A, RW-12B, SBZ-048, RW-14A, MAC-037, RW-13	1	1	5	5		Collection System Failure (0500) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Thermal Modifications (1400) pH (1000)
PRWC44 (Punta Guaniquilla to Punta La Mela)	2.50	SB	SBZ-050, RW-8, SBZ-051	1	1	2	2		Onsite Wastewater Systems (6500)	
PRWC45 (Punta La Mela to Punta Carenero)	2.95	SB	No Stations	3	3	3	3	B	Collection System Failure (0500) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
PRWC46 (Punta Carenero to front of Cayo Ratones)	4.00	SB	SBZ-052	1	1	2	2		Collection System Failure (0500) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
PRWC47 (In front of Cayo Ratones to Punta Guanajibo)	3.85	SB	No Stations	3	3	3	3	B	Onsite Wastewater Systems (6500)	
PRWC48 (Punta Guanajibo to Punta Algarrobo)	5.60	SC	MAC-038, MAC-040	1	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200)
PRWC49 (Punta Algarrobo to Punta Cadena)	6.98	SB	MAC-041, RW-15	1	1	5	5		Major Municipal Point Sources (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200) pH (1000)
PRWC50 (Punta Cadena to Punta Higüero)	4.98	SB	SBZ-054, RW-5, SBZ-055	1	1	2	2		Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
PRWC51 (Punta Higüero to Punta del Boquerón)	6.14	SB	RW-22	1	1	2	2		Onsite Wastewater Systems (6500)	
PRWC52 (Punta del Boquerón to Punta Borinquén)	6.80	SB	MAC-043, SBZ-002, RW-16, RW-16A	1	1	5	5		Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
PRCC53 (Culebra Island)	32.70	SB	RW-3	2	2	3	3		Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	
PRVC54A (Bahia Mosquito)	3.00	SA	No Stations	3	3	3	3	B		

Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	2012 Assessment Designated Uses and Categories			Overall	Notes	Sources of Pollution	Causes of Impairment
				<i>R₁</i>	<i>R₂</i>	<i>AL</i>				
PRVC54B (Vieques Island)	67.60	SB	RW-24A,RW-24B	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)	
PRMC55 (Mona Island)	18.60	SB	No Stations	3	3	3	3	B		

Notes:

R₁ - Primary Contact Recreation

R₂ - Secondary Contact Recreation

AL - Aquatic Life

A - The Monitoring Stations 09, 10, 19 and 20 provided water quality data from the National Reserve of Jobos Bay.

B - If the 2012 MONITORING STATION NS = Network ED = External Data column is blank, the Assessment Unit was not monitored for 2012 Cycle

C - Monitoring Stations (G2, G3, G4, GE1A, GE1B, GW3A, GW3B, GW1A, and GW1B) were provided by the Guánica Bay Pollutant Source Identification Sampling September 2010 and February 2011

305(b) and 303(d) Integrated Report

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.

Following are the trends analysis of various parameters for each monitored lake. These trends analyses were based on *Oficina Panamericana de la Salud e Ingeniería / Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente* (OPSI/CEPIS, in spanish) criteria.

Table 32: Trophic Status of Significant Lakes/Reservoirs

DESCRIPTION	NUMBER OF LAKES/RESERVOIRS	ACRES OF LAKES/RESERVOIRS
Total in State	19	7,378*
Assessed	19	7,378
Oligotrophic	0	0
Mesotrophic	1	54
Eutrophic	18	7,324

*Including Las Curias Lake (SJBES)

Lakes trophic status is determined as follows. Table 31 shows OPSI/CEPIS numeric criteria for the determination of the 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.

Table 33: OPSI/CEPIS Criteria for the Determination of the Trophic Status

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

Table 34: Puerto Rico Lakes Trophic Status

LAKE		TROPHIC STATUS ¹ [P mg/L] ²
		OCT. 09 – DEC. 11
Guajataca	PRNL3A1	(0.21) E
Dos Bocas	PRNL ₁ 7A1	(0.19) E
Caonillas	PRNL ₂ 7C1	(0.06) E
Garzas	PRNL ₃ 7A3	(0.16) E
Guíneo	PRNL ₁ 8C1	(0.05) M
Matrullas	PRNL ₂ 8C1	(0.14) E
La Plata	PREL ₁ 10A1	(0.07) E
Carite	PREL ₂ 10A5	(0.09) E
Cidra	PREL12A2	(0.11) E
Las Curias	PREE13A2	(0.06) E
Loíza	PREL14A1	(0.18) E

LAKE		TROPHIC STATUS ¹ [P mg/L] ²
		OCT. 09 – DEC. 11
Patillas	PRSL43A1	(0.06) E
Melanía	PRSL50A	(0.07) E
Guayabal	PRSL ₁ 60A	(0.06) E
Toa Vaca	PRSL ₂ 60A	(0.07) E
Cerrillos	PRSL62A	(0.11) E
Luchetti	PRSL68A1	(0.08) E
Loco	PRSL69A	(0.09) E
Guayo	PRWL83H	(0.08) E

(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 PRWQSR on which is 1 mg/L.

Table 35: 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	Degraded	Degraded	Stable
Guayo	285	Stable	Stable	Improved
Matrullas	77	Degraded	Degraded	Improved
Guayabal	373	Stable	Degraded	Improved
Toa Vaca	836	Degraded	Degraded	Stable
Luchetti	266	Degraded	Degraded	Degraded
Loco	69	Degraded	Stable	Stable
Patillas	312	Stable	Degraded	Improved
Las Curias	55	Stable	Degraded	Stable
Cidra	268	Degraded	Degraded	Stable
Cerrillos	700	Degraded	Degraded	Improved
Loíza	713	Degraded	Stable	Degraded
Guajataca	1000	Stable	Degraded	Improved
Dos Bocas	634	Improved	Stable	Degraded
Carite	333	Improved	Degraded	Stable
La Plata	560	Stable	Stable	Improved
Garzas	108	Stable	Stable	Stable
Melanía	35	Improved	Degraded	Improved
Guineo	54	Stable	Stable	Improved

Table 36: Trends in Significant Public Lakes Category

PARAMETER	IMPROVED (ACRES)	DEGRADED (ACRES)	STABLE (ACRES)
DO	1,002	3,629	2,747
Phosphorous	0	4,955	2,423
Fecal Coliforms	3,396	1,613	2,369

Note: These trends analyses were based on OPSI/CEPIS criteria, not on the PRWQSR criteria.

PART D. Class SA Waters

According to Puerto Rico Water Quality Standard Regulation, Class SA waters are 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 SA includes bioluminescent lagoons and bays such as, La Parguera and Monsio José on the Southern Coast, Bahía de Mosquito in Vieques, and any other coastal or estuarine waters of exceptional quality or high ecological value or recreational which may be designated by the Board, throughout Resolution, requiring this classification for the protection of the water. Rule 1303.2 (A) (2) of this Regulation will also apply to the waters 500 meters (0.31miles) seaward of the physical and geographical limits of the water bodies under this classification.

Coastal lagoons are highly productive ecosystems that provide a variety of habitats, including salt marshes, seagrasses, and mangroves. They also provide essential habitat, refuge and nursery for many birds, amphibians, and fish species, including sport fish species. However, there is very little baseline water quality data to evaluate the ecological health of the systems. It is necessary to collect water samples for analyses of chemical, physical and bacteriological characteristics to assess the water quality of the lagoon systems.

To address the unmonitored waters including quality of high ecological value or recreational, Class SA waters, as defined in the PRWQSR, PREQB, in coordination with USGS has developed a monitoring strategy for the assessment of 20 coastal lagoons in the main island of Puerto Rico and one in the island of Vieques. Approximately, 40 surfaces water sampling site will be visited quarterly during one year (FY 2011-12) and samples will be collected within these coastal lagoons. The water samples will be analyzed for chemical, physical and bacteriological parameter and the result will help to provide the necessary tools to assess the lagoons and establish a database that will be used to evaluate natural and human pollution-induced effects. Also, the assessment will determine the occurrence and distribution of a suite inorganic and organic contaminants and bacteria in the surface water of the selected coastal lagoons throughout Puerto Rico. Metals, nutrients, and pathogens are predicted to persist and can result in water and bed sediment quality degradation.

Besides the results that will help to provide the necessary tools to assess the lagoons sanitary quality the data will be useful by Puerto Rico government agencies for numerous purposes; among these, help in develop the 303d and 305b reports to meet the mandates of the CWA; to provide Commonwealth government agencies and Public Corporations updated data on the quality of surface waters; and, to maintain a data base of water-quality parameters for use in defining long-term trends and enable resource managers to relate these to land-use factors.

Some efforts to collect necessary information on these gaps had already begun already, on November 11, 2010 EPA Region 2 conducted a water quality monitoring survey of Mosquito Bay, Vieques, Puerto Rico. The sampling was designed to provide baseline data to assist the PREQB in initiating an ambient monitoring program for Mosquito Bay. The samples were analyzed for nutrients, metals and physical parameters that are identified in the EQB ambient monitoring program. This data may be used to assess the water body for the antidegradation

requirements of its Class SA designation under the federal Clean Water Act and to assist EQB in establishing their future monitoring stations.

PART E. Phosphorus and Nitrogen

In 1994, the (USEPA established the National Nutrient Criteria Program. The goal of this program is to reduce eutrophication by developing guidelines for the establishment of numeric nutrient criteria at a state (tribal) level. The criteria, which represent conditions of water minimally impacted by human activities, will enable regulatory agencies to identify, prioritize and restore nutrient impaired waters.

Although phosphorus is usually the limiting factor for aquatic biomass growth in surface waters, nitrogen is also a major controlling factor. In Puerto Rico, 10 mg/L Nitrate + Nitrite is used as drinking water criteria. However, numeric criteria aimed at preserving the natural status and protecting the biological and chemical integrity of surface water has yet to be established.

PR has existing numeric ambient water quality standards for phosphorus and nitrogen ($\text{NO}_3^- + \text{NO}_2^-$), established for Classes SD as follows:

- Total P shall not exceed 1 mg/L (1,000 ug/L) in surfaces water bodies (freshwater) upstream from a reservoir, in segment of surface water bodies with drinking water intakes of estuarine waters”. The current PREQB water quality criterion for total phosphorus (TP) corresponds to the maximum discharge concentration allowed to point sources by USEPA.
- The maximum allowable concentration of Nitrogen (nitrate $[\text{NO}_3]$ + nitrite $[\text{NO}_2]$) substances in surface waters shall not exceed 10,000 ug/L.

Due to the fact that the nutrient criteria are much needed for rivers and stream as endpoint for developing TMDL, PREQB had intended to adopt rivers and streams nutrient criteria first. It is likely that the criteria will be adopted for all water of appropriate classes, islandwide.

In the next revision of the PRWQSR, the PREQB will be considering the addition of nutrient criteria for rivers and streams of PR.

The table below summarizes the AU that exceeds the standard for phosphorus and the priorities to be addressed.

ASSESSMENT UNIT	SIZE (MILES)	PHOSPHORUS MG/L	PRIORITY RANKING
RIO BAIROA PRER14H	16.3	1.258	H
RIO GUAYANILLA PRSR67A	60.0	1.07	H
RIO YAUCO PRSR68A1	61.4	2.06	I
RIO GUAYABO PRWR94A	43.1	1.108	I

Notes:

H – High Priority
I – Intermediate Priority

Among the initiatives developed in order to address phosphorous effects in water quality, In April 2005, established the Watersheds Stewardship Program consisting of a multi agency effort between USEPA and several PR agencies such as Puerto Rico Aqueduct and Sewer Authority (PRASA), Department of Natural Resources and Environment (DRNA, in spanish), Department of Health (DOH), USEPA, PREQB and others. This Committee propelled the creation of the Law 138, enacted on July 14, 2009, better known as Phosphates Detergents Control Act to contribute in the implementation of solutions to help control the degradation of the quality of water bodies affected significantly by the presence in excess of phosphorus.

The Law 138 became effective on January 1, 2010 and required to any person, entity or corporation that it manufactures, import, distribute, sell or use detergents of washing of clothes for domestic use in PR that complies with the detergent containing maximum of phosphorus by weight of 0.5%. These detergents should include on their labels the following: "contains no phosphorus" or "does not contain phosphate". The Act has the effect of removing one of the causes contributing to getting large amount of phosphorus to surface water, which is the use of detergents with phosphorus, which eventually gain access to bodies of water through the runoff.

PART F. Emergent Contaminant

Pharmaceutical and Personal Care Products (PPCPs) as Pollutant

Pharmaceuticals and personal care products (PPCPs) constitute a group of a wide number of compounds largely consumed in modern societies (Suárez et al 2008). PPCPs are an extraordinary, diverse group of chemicals used in veterinary medicine, agricultural practices, human health and cosmetic care (Suárez et al 2008; Barceló and Petrovic 2007). This group includes antibiotics, tranquilizers, anti-epileptics, hormones (natural and synthetic), X-ray contrast, media, and musk fragrances, besides others (Suárez et al 2008).

Tens of thousands of manmade chemicals are used in today's society with all having the potential to enter our water resources (Barnes et al 2008). There are a variety of pathways by which these organic contaminants can make their way into the aquatic environment (Heberer 2002). Such pathways include direct discharge via wastewater treatment plants, landfills, and land application of human and animal waste to farmland (Barnes et al 2008).

Their occurrence is most often a result of municipal wastewater discharge, as these compounds are not completely removed during treatment (Benotti et al 2009). It is well established that these compounds enter the environment mainly through wastewater effluents from municipal treatment plants (Kolpin et al. 2002; Filali-Meknassi et al. 2004), hospital effluents (Kummerer 2001) and from livestock activities (Shore and Shemesh 2003). The continuous introduction of PPCPs and their bioactive metabolites into the environment may lead to high, long-term concentrations and promote continual but unnoticed adverse effects on aquatic and terrestrial organisms (Barceló and Petrovic 2007).

Recently, pharmaceuticals have received growing attention from environmental and health agencies all over the world owing to recent studies showing occurrence of pharmaceutical compounds in environment, especially in water bodies and have become one of the emerging water pollutants (Kumar and Xagoraki 2010a). PPCPs may produce adverse ecological and human health effects (Kumar and Xagoraki 2010b).

Hormones are PPCPs that are endocrine disruption that have the potential to affect both animal and human. Currently, the main concerns for the low level, chronic exposure to such environmental endocrine disruptors cause or contribute to adverse human health effects (Wise et al 2011). Wise et al (2011) indicates that the intersex fish have been observed near sewage treatment plants in the United States, across Europe, and in Japan. Furthermore, is growing concern that a connection exists between estrogenic surface water, the occurrence of intersex fish in these rivers, lakes, and streams, and the rise in human reproductive problems (Wise et al 2011).

PPCPs deserve attention: (i) because of their continuous introduction into the environment via effluents from sewage treatment facilities and from septic systems; (ii) in the case of pharmaceuticals they are developed with the intention of performing a biological effect; (iii) PPCPs often have the same type of physico-chemical behavior as other harmful xenobiotics; and (iv) PPCPs are used by man in rather large quantities, similar to those of many pesticides

(Barceló and Petrovic 2007). Besides, it should be considered that these compounds are usually present in complex mixtures, which may produce synergistic effects (Suarez et al 2008).

Different scientists and regulators are concerned about what level of risk may be associated with the presence of PPCPs in drinking water, as many drinking water treatment plants (DWTPs) use source water impacted by wastewater (Benotti et al 2009). PPCPs has an interesting characteristics that might cause this type of pollution is that they do not need to be persistent in the environment t cause negative effects (Jones et al 2005).

Principally, PPCPs has high transformation and removal rates can be offset by their continuous introduction into the environment, often through sewage treatment works. This is an important reason why there is an increasingly widespread consensus that this kind of contamination might require legislative action sooner rather than later (Jones et al 2005). Currently, no state or federal mandatory testing or reporting requirements for PPCPs, is being proactive to collect PPCP data and research in an effort to better understand the occurrence and potential human health consequences of PPCPs in the waterways (DEP 2010).

Surface waters are important raw water sources for DWTPs, and a few studies have shown that pharmaceuticals and/or their metabolites may pass the treatment process and end up in drinking water. The continual population growth and the increasing standards of living have led to a growing demand for freshwater. For this reason, is mainly to protection of this natural resource is an important environmental issue (Barnes et al 2008).

The PREQB, in cooperation with the USGS will conduct a water quality sampling program to determine the presence of treated wastewater compounds and human-health pharmaceuticals at selected basins in PR. The main objective is to conduct a reconnaissance to study the pollution-induced effects on streams and determine the occurrence and distribution of a suite of treated wastewater compounds and human-health pharmaceuticals in Río Grande de Manatí, Río de La Plata, Río Grande de Loíza, Río Guanajibo, Río Grande de Añasco, and Río Culebrinas basins. These residuals are predicted to persist after the treatment of wastewaters and can result in water quality degradation.

The results will be used to determine if the in stream water quality meets the criteria for use as raw source of public drinking water supply, recreational waters and propagation of aquatic life. The field water quality sampling crews will visit the selected stream stations once during low-flow conditions (February-March) and once during above-base flow conditions (April-May).

Raw water samples will be collected at each site, following the procedures established in the National Field Manual for the Collection of Water Quality Data. The collected samples will be analyzed at the USGS-National Water Quality Laboratory in Denver, Colorado.

The following tables present the PPCPs and compounds in wastewater were analyzed:

Table 37: Human Health Pharmaceutical Personal Care Products

cotinine	codeine
1,7—Dimethylxantine	dehydronefedipine
acetaminophen	diltiazem
albuterol	diphenhydramine
sulfamethoxazole	ethyl nicotinate-d4
caffeine	thiabendazole
carbamazepine	trimethoprim
carbamazepine-d10	warfarin

Table 38: Wastewater Compounds

Diazinon	Indole
4-tert-Octylphenol diethoxylate	Isoborneol
4-tert-Octylphenol monoethoxylate	Isophorone
5-Methyl-1H-benzotriazole	Isoquinoline
Anthraquinone	d-Limonene
Acetophenone	Menthol
Acetyl hexamethyl tetrahydronaphthalene (AHTN)	Metalaxyl
Anthracene	Metolachlor
1,4-Dichlorobenzene	Naphthalene
Benzo[a]pyrene	1-Methylnaphthalene
Benzophenone	2,6-DimethylnaphthaleneC
Bromacil	2-Methylnaphthalene
Bromoform	4-Nonylphenol diethoxylate, (sum of all isomers) aka NP2EO
3-tert-Butyl-4-hydroxy anisole (BHA)	Fluoranthene-d10
Caffeine	Bisphenol A-d3
Caffeine-C13	Decafluorobiphenyl
Camphor	p-Cresol
Carbaryl	4-Cumylphenol
Carbazole	para-Nonylphenol (total) (branched)
Chlorpyrifos	4-n-Octylphenol
Cholesterol	4-tert-Octylphenol
3-beta-Coprostanol	Phenanthrene
Isopropylbenzene	Phenol
Fluoranthene-d10	Pentachlorophenol
Bisphenol A-d3	Tributyl phosphate
Decafluorobiphenyl	Triphenyl phosphate
N,N-diethyl-meta-toluamide (DEET)	Tris(2-butoxyethyl)phosphate
Diazinon	Tris(2-chloroethyl)phosphate
Bisphenol A	Prometon
Triethyl citrate (ethyl citrate)	Pyrene
Tetrachloroethylene	Methyl salicylate
Fluoranthene	3-Methyl-1(H)-indole (Skatole)

Hexahydrohexamethylcyclopentabenzopyran (HHCB)	beta-Sitosterol
Fluoranthene-d10	beta-Stigmastanol
Bisphenol A-d3	Triclosan
Decafluorobiphenyl	Tris(dichlorisopropyl)phosphate
N,N-diethyl-meta-toluamide (DEET)	

In the study, samples were collected during February and May 2010, 13 sites were selected (Figure 14), 14 compounds of PPCPs were sampled during the study, 9 PPCPs compound were detected, at least one of the nine compounds detected were found in each of the 13 streams (Figure 15).

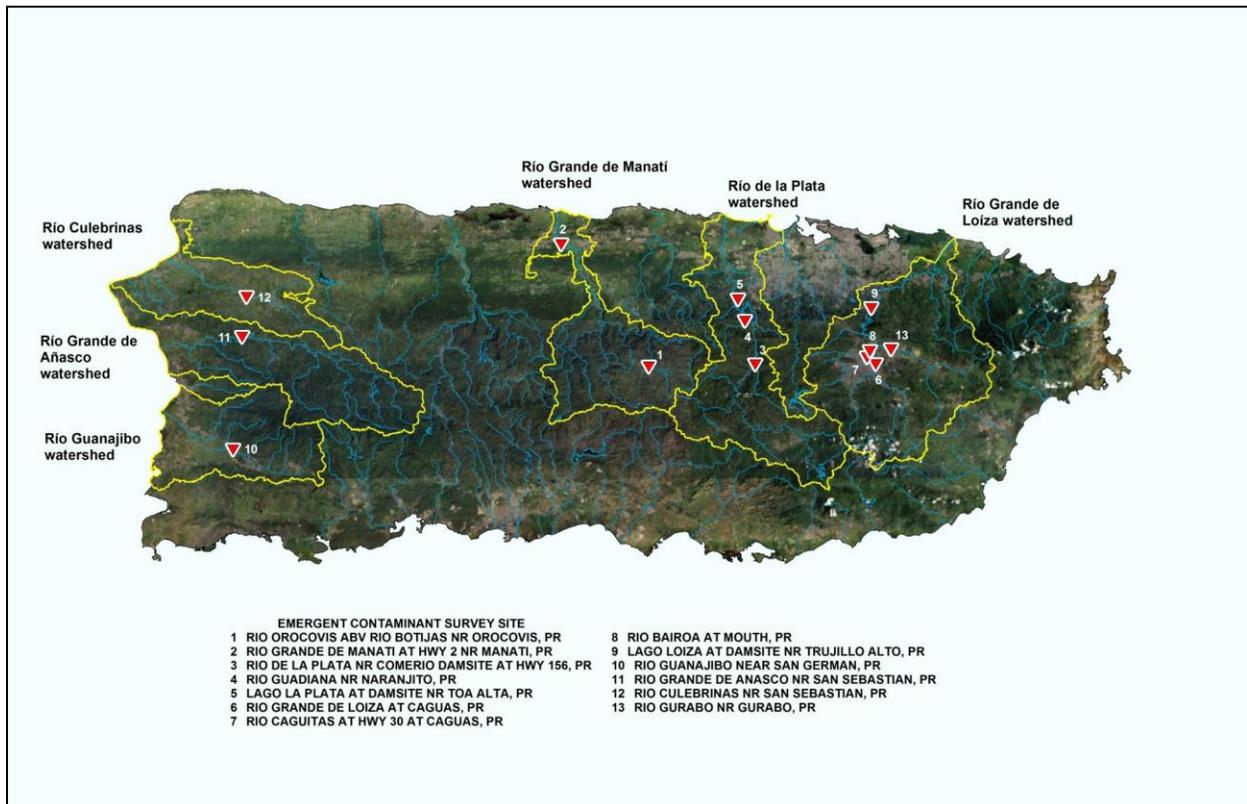


Figure 14: Emergent Contaminants Survey Sites

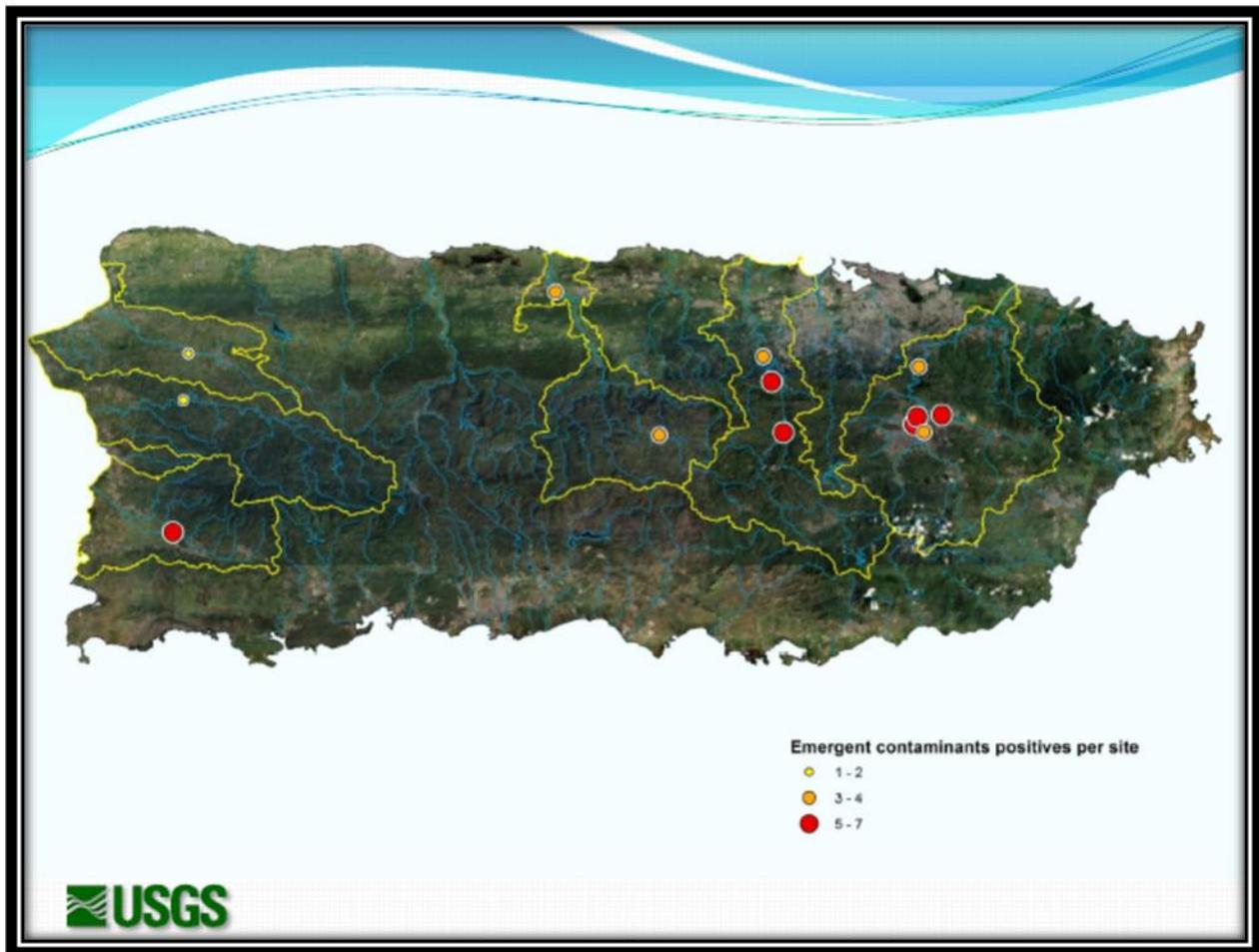


Figure 15: Emergent Contaminants Positives Sites

General Results:

- One or more compounds were detected in 80% of the streams sampled
- Chemical were found at very low concentration, less 1ppb
- Mixtures of chemicals are common, 75% of streams had more than one; 50% had 7 or more and 34% had 10 or more.
- The chemicals groups most frequently detected were steroids, nonprescription drugs and insects repellent.
- Study suggests that mixtures of pharmaceuticals, hormones and other wastewater contaminants can occur at low concentration in stream that are susceptible to wastewater sources.

According to the study results, the major issues includes: potential effects on public health and aquatic life, disposition of the PPCPs and the effects of PPCPs are different from conventional pollutants.

PART G. 303(d) List

Listing Criteria

The PR 2012 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 CWA and special water quality studies. In the case of the 2012 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 TMDL 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 2012 cycle, PREQB use the PRWQSR, as amended in March 2010 and the USEPA promulgation, where applicable. The waters considered to be impaired have been included in Category 5. The PREQB 2012 CWA 303(d) List is included as Appendix I of the IR.

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, 2010 and 2012 cycles that specific parameter will be delisted from Category 5. (Table 36)

PREQB will remove a specific parameter from the list when the TMDL for the corresponding assessment unit has been approved by USEPA. Also other valid delisting reasons are:

- change in water quality standard
- original basis for listing was incorrect
- new assessment method
- restoration activities
- reason for recovery unspecified

Table 39: Assessment Unit Parameter Combination to be delisting from 2012 Cycle 303(d) List

ID	BASIN	WATERBODY NAME	PARAMETER	REASON FOR DELISTING
1	RIO GRANDE ARECIBO	RIO GRANDE DE ARECIBO PRNR7A1	FECAL COLIFORMS	TMDL
2		RIO GRANDE DE ARECIBO PRNR7A2	FECAL COLIFORMS	TMDL
3		RIO GRANDE DE ARECIBO PRNR7A2	THERMAL MODIFICATIONS	WATER QUALITY IMPROVEMENT
4		TUNEL PRNR7A3	FECAL COLIFORMS	TMDL
5		RIO CAONILLAS PRNR7C1	FECAL COLIFORMS	TMDL
6		RIO CAONILLAS PRNR7C1	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
7		RIO TANAMA PRNR7B2	FECAL COLIFORMS	TMDL
8	RIO GRANDE DE MANATI	RIO GRANDE DE MANATÍ PRNR8A1	FECAL COLIFORMS	TMDL
9		RIO GRANDE DE MANATI PRNR8A1	LEAD	WATER QUALITY IMPROVEMENT
10		RIO GRANDE DE MANATI PRNR8A1	SURFACTANTS	WATER QUALITY IMPROVEMENT
11		RIO GRANDE DE MANATI PRNR8A2	COPPER	WATER QUALITY IMPROVEMENT
12		RIO GRANDE DE MANATI PRNR8A2	FECAL COLIFORMS	TMDL
13		RIO GRANDE DE MANATI PRNR8A2	SURFACTANTS	WATER QUALITY IMPROVEMENT
14		RIO GRANDE DE MANATI PRNR8A3	FECAL COLIFORMS	TMDL
15		RIO GRANDE DE MANATI PRNR8A3	MERCURY	WATER QUALITY IMPROVEMENT
16		RIO CIALITO PRNR8B	FECAL COLIFORMS	TMDL
17		RIO TORO NEGRO PRNR8C1	FECAL COLIFORMS	TMDL
18		RIO SANA MUERTOS PRNR8D	FECAL COLIFORMS	TMDL
19		RIO OROCOVIS PRNR8E1	COPPER	WATER QUALITY IMPROVEMENT
20		RIO OROCOVIS PRNR8E1	FECAL COLIFORMS	TMDL
21		RIO BOTIJAS PRNR8E2	FECAL COLIFORMS	TMDL
22	RIO CIBUCO	RIO INDIO PRNR9B1	FECAL COLIFORMS	TMDL
23		RIO DE LOS NEGROS PRNR9D	FECAL COLIFORMS	TMDL
24	RIO DE LA PLATA	RIO DE LA PLATA PRER10A1	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT

ID	BASIN	WATERBODY NAME	PARAMETER	REASON FOR DELISTING
25		RIO DE LA PLATA PRER10A3	Ph	WATER QUALITY IMPROVEMENT
26		RIO DE LA PLATA PRER10A4	THERMAL MODIFICATIONS	WATER QUALITY IMPROVEMENT
27	RIO HONDO	RIO HONDO PRER11A	AMMONIA	WATER QUALITY IMPROVEMENT
28	RIO BAYAMON	RIO BAYAMON PRER12A1	SURFACTANTS	WATER QUALITY IMPROVEMENT
29		RIO GUAYNABO PRER12B	MERCURY	WATER QUALITY IMPROVEMENT
30	RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA PRER14A2	AMMONIA	AMMONIA STANDARD IS NOT APPLICABLE FOR THIS SEGMENT
31		RIO GRANDE DE LOIZA PRER14A2	COPPER	TMDL
32		RIO CAGÜITAS PRER14I	LEAD	WATER QUALITY IMPROVEMENT
33		RIO CAYAGUAS PRER14K	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
34	RIO SABANA	RIO SABANA PRER19A	FECAL COLIFORMS	TMDL
35	QUEBRADA FAJARDO	QUEBRADA FAJARDO PREQ21A	FECAL COLIFORMS	TMDL
36	RIO DEMAJAGUA	RIO DEMAJAGUA PRER23A	FECAL COLIFORMS	TMDL
37	QUEBRADA CEIBA	QUEBRADA CEIBA PREQ24A	FECAL COLIFORMS	TMDL
38	QUEBRADA AGUAS CLARAS	QUEBRADA AGUAS CLARAS PREQ25A	FECAL COLIFORMS	TMDL
39	RIO DAGUAO	RIO DAGUAO PRER26A	FECAL COLIFORMS	TMDL
40	QUEBRADA PALMA	QUEBRADA PALMA PREQ27A	FECAL COLIFORMS	TMDL
41	QUEBRADA BOTIJAS	QUEBRADA BOTIJAS PREQ28A	FECAL COLIFORMS	TMDL
42	RIO BLANCO	RIO BLANCO PRER30A	FECAL COLIFORMS	TMDL
43		QUEBRADA PEÑA POBRE PREQ30B	FECAL COLIFORMS	TMDL
44	RIO ANTON RUIZ	RIO ANTON RUIZ PRER31A	FECAL COLIFORMS	TMDL
45	RIO HUMACAO	RIO HUMACAO PRER33A	COPPER	WATER QUALITY IMPROVEMENT
46		RIO HUMACAO PRER33A	MERCURY	WATER QUALITY IMPROVEMENT
47		RIO HUMACAO PRER33A	LEAD	WATER QUALITY IMPROVEMENT
48		RIO HUMACAO PRER33A	THERMAL MODIFICATIONS	WATER QUALITY IMPROVEMENT
49	RIO CHICO	RIO CHICO PRSR42A	FECAL COLIFORMS	TMDL

ID	BASIN	WATERBODY NAME	PARAMETER	REASON FOR DELISTING
50	RIO GRANDE DE PATILLAS	RIO GRANDE DE PATILLAS PRSR43A1	ARSENIC	ORIGINAL BASIS FOR LISTING WAS INCORRECT
51		RIO GRANDE DE PATILLAS PRSR43A1	FECAL COLIFORMS	ORIGINAL BASIS FOR LISTING WAS INCORRECT
52		RIO GRANDE DE PATILLAS PRSR43A2	FECAL COLIFORMS	TMDL
53	RIO COAMO	RIO COAMO PRSR57A2	SURFACTANTS	WATER QUALITY IMPROVEMENT
54		RIO COAMO PRSR57A2	FECAL COLIFORMS	TMDL
55		RIO CUYON PRSR57B	FECAL COLIFORMS	TMDL
56	RIO BUCANA CERRILLOS	RIO BUCANA CERRILLOS PRSR62A1	FECAL COLIFORMS	TMDL
57	RIO PORTUGUES	RIO PORTUGUES PRSR63A	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
58		RIO PORTUGUES PRSR63A	FECAL COLIFORMS	TMDL
59	RIO GUAYANILLA	RIO GUAYANILLA PRSR67A	AMMONIA	WATER QUALITY IMPROVEMENT
60		RIO GUAYANILLA PRSR67A	SURFACTANTS	WATER QUALITY IMPROVEMENT
61	QUEBRADA BOQUERON	QUEBRADA BOQUERON PRWQ71A	FECAL COLIFORMS	TMDL
62	RIO GUANAJIBO	RIO GUANAJIBO PRWR77A	LEAD	WATER QUALITY IMPROVEMENT
63		RIO GUANAJIBO PRWR77A	PHOSPHORUS	WATER QUALITY IMPROVEMENT
64		RIO ROSARIO PRWR77C	SURFACTANTS	WATER QUALITY IMPROVEMENT
65	RIO YAGÜEZ	RIO YAGÜEZ PRWR79A	FECAL COLIFORMS	TMDL
66	RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO PRWR83A	FECAL COLIFORMS	TMDL
67		RIO CAÑAS PRWR83B	FECAL COLIFORMS	TMDL
68		RIO CASEY PRWR83C	COPPER	WATER QUALITY IMPROVEMENT
69		RIO CASEY PRWR83C	CADMIUM	WATER QUALITY IMPROVEMENT
70		RIO CASEY PRWR83C	FECAL COLIFORMS	TMDL
71		RIO HUMATA PRWR83D	FECAL COLIFORMS	TMDL
72		RIO MAYAGUECILLO PRWR83F	FECAL COLIFORMS	TMDL

ID	BASIN	WATERBODY NAME	PARAMETER	REASON FOR DELISTING
73		RIO BLANCO PRWR83H	COPPER	WATER QUALITY IMPROVEMENT
74		RIO BLANCO PRWR83H	FECAL COLIFORMS	TMDL
75		RIO BLANCO PRWR83H	LEAD	WATER QUALITY IMPROVEMENT
76		RIO PRIETO PRWR83I	COPPER	WATER QUALITY IMPROVEMENT
77		RIO PRIETO PRWR83I	FECAL COLIFORMS	TMDL
78		RIO PRIETO PRWR83I	LEAD	WATER QUALITY IMPROVEMENT
79	RIO GUAYABO	RIO GUAYABO PRWR94A	FECAL COLIFORMS	TMDL
80	RIO CULEBRINAS	RIO CULEBRINAS PRWR95A	FECAL COLIFORMS	TMDL
81		RIO CAÑO (RIO CAÑAS) PRWR95B	COPPER	WATER QUALITY IMPROVEMENT
82		RIO CAÑO (RIO CAÑAS) PRWR95B	FECAL COLIFORMS	TMDL
83		RIO CAÑO (RIO CAÑAS) PRWR95B	MERCURY	WATER QUALITY IMPROVEMENT
84		QUEBRADA GRANDE (SECTOR CUCHILLAS) PRWQ95C	FECAL COLIFORMS	TMDL
85		QUEBRADA LAS MARIAS PRWQ95D	FECAL COLIFORMS	TMDL
86		QUEBRADA LA SALLE PRWQ95F	FECAL COLIFORMS	TMDL
87		QUEBRADA EL SALTO PRWQ95G	FECAL COLIFORMS	TMDL
88		QUEBRADA GRANDE DE LA MAJAGUA PRWQ95H	FECAL COLIFORMS	TMDL
89		QUEBRADA SALADA PRWQ95I	FECAL COLIFORMS	TMDL
90		RIO SONADOR PRWR95J	FECAL COLIFORMS	TMDL
91		RIO GUATEMALA PRWR95K	FECAL COLIFORMS	TMDL
LAKES				
92	RIO GUAJATACA	LAGO GUAJATACA PRNL3A1	MERCURY	WATER QUALITY IMPROVEMENT
93	RIO GRANDE DE MANATI	LAGO MATRULLAS PRNL28C1	FECAL COLIFORMS	TMDL
94	RIO GRANDE DE LOIZA	LAGO LOIZA PREL14A1	PHOSPHORUS	WATER QUALITY IMPROVEMENT
95	RIO BUCANA CERRILLOS	LAGO CERRILLOS PRSL62A	FECAL COLIFORMS	TMDL

Priority Ranking and TMDL Development Status

In October of 1998, the PREQB in collaboration with the Natural Resources Conservation Service (NRCS) and USEPA developed the document Puerto Rico Unified Watershed Assessment and Restoration Activities (PRUWA). As result of this initiative, 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.

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 PRUWA and were discussed in the IR of 2004. (Table 38)

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 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.

Table 41: Assessment Units by Priority Ranking

BASIN	WATERBODY NAME	PRIORITY RANKING	PARAMETER
RIO GUAJATACA	RIO GUAJATACA, PRNR3A1	H	Arsenic, Cyanide, Fecal Coliforms, Low Dissolved Oxygen, Turbidity
	RIO GUAJATACA, PRNR3A2	H	Arsenic, Cyanide, Fecal Coliforms, Turbidity
	QUEBRADA LAS SEQUIAS, PRNQ3B	H	Arsenic, Cyanide, Fecal Coliforms, Low Dissolved Oxygen
RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO, PRNR7A1	H	Arsenic, Copper, Cyanide, Low Dissolved Oxygen, Turbidity
	RIO GRANDE DE ARECIBO, PRNR7A2	H	Arsenic, Cyanide, Pesticides, Turbidity
	TUNEL, PRNR7A3	H	Arsenic, Cyanide, Turbidity
	RIO CAONILLAS, PRNR7C1	H	Arsenic, Cyanide, Low Dissolved Oxygen
	RIO LIMON, PRNR7C2	H	Low Dissolved Oxygen
	RIO TANAMA, PRNR7B2	H	Arsenic, Cyanide, pH, Turbidity
RIO GRANDE DE MANATI	RIO GRANDE DE MANATI, PRNR8A1	H	Arsenic, Copper, Cyanide, Turbidity
	RIO GRANDE DE MANATI, PRNR8A2	H	Arsenic, Cyanide, Surfactants, Turbidity
	RIO GRANDE DE MANATI, PRNR8A3	H	Arsenic, Copper, Cyanide, Surfactants, Turbidity
	RIO CIALITO, PRNR8B	H	Arsenic, Copper, Cyanide, Surfactants, Turbidity
	RIO TORO NEGRO, PRNR8C1	H	Arsenic, Copper, Cyanide, Turbidity
	RIO BAUTA, PRNR8C2	H	Arsenic, Copper
	RIO SANA MUERTOS, PRNR8D	H	Arsenic, Copper, Turbidity
	RIO OROCOVIS, PRNR8E1	H	Arsenic, Cyanide, Turbidity
	RIO BOTIJAS, PRNR8E2	H	Arsenic, Turbidity
RIO CIBUCO	RIO CIBUCO, PRNR9A	H	Arsenic, Cyanide, Surfactants, Total Coliforms, Turbidity

BASIN	WATERBODY NAME	PRIORITY RANKING	PARAMETER
	RIO INDIO, PRNR9B1	H	Arsenic, Copper, Cyanide, Low Dissolved Oxygen, Surfactants, Turbidity
	RIO DE LOS NEGROS, PRNR9D	H	Arsenic, Cyanide, Surfactants
RIO DE LA PLATA	RIO DE LA PLATA, PRER10A1	H	Arsenic, Cyanide, Turbidity
	RIO DE LA PLATA, PRER10A3	H	Arsenic, Cyanide, Low Dissolved Oxygen, Turbidity
	RIO DE LA PLATA, PRER10A4	H	Arsenic, Copper, Cyanide, Surfactants, Turbidity
	RIO DE LA PLATA, PRER10A5	H	Arsenic, Copper, Cyanide, Surfactants, Turbidity
	RIO LAJAS, PRER10B	H	Arsenic, Cyanide, Low Dissolved Oxygen, Surfactants
	RIO BUCARABONES, PRER10C	H	Arsenic, Cyanide, Low Dissolved Oxygen, Surfactants
	RIO GUADIANA, PRER10E	H	Arsenic, Cyanide, Total Coliforms, Turbidity
	RIO CUESTA ARRIBA, PRER10F	H	pH
	RIO ARROYATA, PRER10G	H	pH
	RIO MATON, PRER10J	H	Arsenic, Copper, Cyanide, Low Dissolved Oxygen, Surfactants, Turbidity
	RIO GUAVATE, PRER10K	H	pH
RIO HONDO	RIO HONDO, PRER11A	H	Arsenic, Fecal Coliforms, Low Dissolved Oxygen, Other Inorganic, Selenium, Surfactants, Turbidity
RIO BAYAMÓN	RIO BAYAMÓN, PRER12A1	H	Arsenic, Copper, Cyanide, Fecal Coliforms, Lead, Total Coliforms, Turbidity
	RIO BAYAMÓN, PRER12A2	H	Arsenic, Cyanide, Fecal Coliforms, Turbidity
	RIO GUAYNABO, PRER12B	H	Arsenic, Copper, Cyanide, Fecal Coliforms, Lead, Surfactants, Total Coliforms, Turbidity

BASIN	WATERBODY NAME	PRIORITY RANKING	PARAMETER
RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA, PRER14A1	H	Arsenic, Copper, Cyanide, Fecal Coliforms, Low Dissolved Oxygen, Surfactants, Turbidity
	RIO GRANDE DE LOIZA, PRER14A2	H	Arsenic, Cyanide, Pesticides, Surfactants, Total Coliforms, Turbidity
	RIO CANOVANAS, PRER14B	H	Arsenic, Cyanide, Fecal Coliforms
	RIO CANOVANILLAS, PRER14C	H	Arsenic, Cyanide, Fecal Coliforms
	QUEBRADA MARACUTO, PREQ14D	H	Arsenic, Cyanide
	QUEBRADA GRANDE, PREQ14E	H	Arsenic, Cyanide, Surfactants
	RIO CAÑAS, PRER14F	H	Arsenic, Cyanide
	RIO GURABO, PRER14G1	H	Arsenic, Copper, Cyanide, Total Coliforms, Turbidity
	RIO VALENCIANO, PRER14G2	H	Arsenic, Copper, Cyanide, Surfactants, Turbidity
	RIO BAIROA, PRER14H	H	Arsenic, Cyanide, Phosphorus, Surfactants
	RIO CAGUITAS, PRER14I	H	Arsenic, Cyanide, Surfactants, Thermal Modification, Total Coliforms, Turbidity
	RIO TURABO, PRER14J	H	Arsenic, Cyanide, Surfactants, Turbidity
	RIO CAYAGUAS, PRER14K	H	Arsenic, Copper, Cyanide, Lead, Surfactants, Turbidity
	RIO EMAJAGUA, PRER14L	H	Arsenic, Cyanide, Surfactants
RIO HERRERA	RIO HERRERA, PRER15A	I	Fecal Coliforms, Low Dissolved Oxygen, Surfactants, Turbidity
RIO ESPIRITU SANTO	RIO ESPIRITU SANTO, PRER16A	I	Arsenic, Copper, Cyanide, Fecal Coliforms, Lead, Low Dissolved Oxygen, pH, Surfactants, Turbidity
RIO MAMEYES	RIO MAMEYES, PRER17A	I	Fecal Coliforms, Low Dissolved Oxygen, pH
QUEBRADA MATA DE PLATANO	QUEBRADA MATA DE PLATANO, PREQ18A	I	Fecal Coliforms, Low Dissolved Oxygen, Surfactants

BASIN	WATERBODY NAME	PRIORITY RANKING	PARAMETER
RIO SABANA	RIO SABANA, PRER19A	L	Low Dissolved Oxygen
RIO JUAN MARTÍN	RIO JUAN MARTÍN, PRER20A	L	Fecal Coliforms
QUEBRADA FAJARDO	QUEBRADA FAJARDO, PREQ21A	L	Low Dissolved Oxygen
RIO FAJARDO	RIO FAJARDO, PRER22A	I	Arsenic, Cadmium, Copper, Cyanide, Fecal Coliforms, Lead, Low Dissolved Oxygen, Mercury, Surfactants, Turbidity
RIO DEMAJAGUA	RIO DEMAJAGUA, PRER23A	L	Low Dissolved Oxygen, Surfactants
QUEBRADA CEIBA	QUEBRADA CEIBA, PREQ24A	L	Low Dissolved Oxygen, Surfactants
QUEBRADA AGUAS CLARAS	QUEBRADA AGUAS CLARAS, PREQ25A	L	Low Dissolved Oxygen, Thermal Modification
RIO DAGUAO	RIO DAGUAO, PRER26A	L	Low Dissolved Oxygen, Surfactants
QUEBRADA BOTIJAS	QUEBRADA BOTIJAS, PREQ28A	L	Low Dissolved Oxygen
RIO SANTIAGO	RIO SANTIAGO, PRER29A	I	Fecal Coliforms
RIO BLANCO	RIO BLANCO, PRER30A	H	Low Dissolved Oxygen, Turbidity
	QUEBRADA PEÑA POBRE, PREQ30B	H	Low Dissolved Oxygen
RIO ANTON RUIZ	RIO ANTON RUIZ, PRER31A	L	Low Dissolved Oxygen, Surfactants
QUEBRADA FRONTERA	QUEBRADA FRONTERA, PREQ32A	I	Fecal Coliforms, Low Dissolved Oxygen
RIO HUMACAO	RIO HUMACAO, PRER33A	I	Arsenic, Cyanide, Fecal Coliforms, Surfactants, Total Coliforms, Turbidity
RIO CANDELERO	RIO CANDELERO, PRER34A	I	Fecal Coliforms, Low Dissolved Oxygen
RIO GUAYANES	RIO GUAYANES, PRER35A	I	Arsenic, Copper, Cyanide, Fecal Coliforms, Lead, Low Dissolved Oxygen, Surfactants, Thermal Modification, Turbidity
CAÑO SANTIAGO	CAÑO SANTIAGO PREK35.1	I	Fecal Coliforms, Low Dissolved Oxygen, Surfactants, Turbidity
QUEBRADA EMAJAGUA	QUEBRADA EMAJAGUA, PREQ36A	L	Fecal Coliforms
RIO MAUNABO	RIO MAUNABO, PRER37A	I	Arsenic, Cyanide, Fecal Coliforms, Surfactants, Thermal Modification

BASIN	WATERBODY NAME	PRIORITY RANKING	PARAMETER
QUEBRADA PALENQUE	QUEBRADA PALENQUE, PRSQ41A	L	Low Dissolved Oxygen
RIO CHICO	RIO CHICO, PRSR42A	I	Ammonia, Arsenic, Copper, Lead, Low Dissolved Oxygen, Mercury, Phosphorus, Silver, Surfactants
RIO GRANDE DE PATILLAS	RIO GRANDE DE PATILLAS, PRSR43A2	H	Arsenic, Cyanide
RIO NIGUAS DE ARROYO	RIO NIGUAS DE ARROYO, PRSR45A	I	Total Coliforms
RIO GUAMANI	RIO GUAMANI, PRSR49A	L	Thermal Modification
QUEBRADA MELANIA	QUEBRADA MELANIA, PRSQ50A	L	Low Dissolved Oxygen, Surfactants
RIO SECO	RIO SECO, PRSR51A	I	Fecal Coliforms, Low Dissolved Oxygen
QUEBRADA AMOROS	QUEBRADA AMOROS, PRSQ52A	L	Low Dissolved Oxygen
QUEBRADA AGUAS VERDES	QUEBRADA AGUAS VERDES, PRSQ53A	I	Fecal Coliforms, Low Dissolved Oxygen, Nitrate+Nitrite, Total Coliforms
RIO NIGUAS DE SALINAS	RIO NIGUAS DE SALINAS, PRSR54A	I	Fecal Coliforms, Low Dissolved Oxygen
RIO CAYURES	RIO CAYURES, PRSR56A	L	Low Dissolved Oxygen, Surfactants
RIO COAMO	RIO COAMO, PRSR57A2	H	Arsenic, Cyanide, Thermal Modification
	RIO CUYON, PRSR57B	H	Arsenic, Cyanide, Thermal Modification, Turbidity
RIO DESCALABRADO	RIO DESCALABRADO, PRSR58A	M	Fecal Coliforms
RIO BUCANA CERRILLOS	RIO BUCANA CERRILLOS, PRSR62A1	L	Arsenic, Cyanide
RIO PORTUGUES	RIO PORTUGUES, PRSR63A	I	Arsenic, Cyanide, Thermal Modification, Total Coliforms, Turbidity
RIO MATILDE PASTILLO	RIO MATILDE PASTILLO, PRSR64A	L	Low Dissolved, Oxygen
RIO TALLABOA	RIO TALLABOA, PRSR65A	I	Turbidity
RIO GUAYANILLA	RIO GUAYANILLA, PRSR67A	H	Arsenic, Cyanide, Fecal Coliforms, Low Dissolved Oxygen, Phosphorus, Thermal Modification, Turbidity
RIO YAUCO	RIO YAUCO, PRSR68A1	I	Fecal Coliforms, Phosphorus, Turbidity

BASIN	WATERBODY NAME	PRIORITY RANKING	PARAMETER
RIO LOCO	RIO LOCO, PRSR69A1	I	Arsenic, Cyanide, Fecal Coliforms, Lead, Low Dissolved Oxygen, Surfactants, Turbidity
	RIO LOCO, PRSR69A2	I	Fecal Coliforms
QUEBRADA ZUMBON	QUEBRADA ZUMBON PRWQ72A	L	Surfactants
QUEBRADA GONZALEZ	QUEBRADA GONZALEZ PRWQ73A	L	Low Dissolved Oxygen
QUEBRADA LOS PAJARITOS	QUEBRADA LOS PAJARITOS PRWQ74A	L	Low Dissolved Oxygen
RIO GUANAJIBO	RIO GUANAJIBO, PRWR77A	H	Ammonia, Arsenic, Cyanide, Fecal Coliforms, Low Dissolved Oxygen, Surfactants, Turbidity
	RIO ROSARIO, PRWR77C	H	Arsenic, Cyanide, Fecal Coliforms, Pesticides, Turbidity
	RIO VIEJO, PRWR77D	H	Low Dissolved Oxygen
	RIO DUEY Y RIO HOCONUCO, PRWR77E	H	Arsenic, Cyanide, Fecal Coliforms, Surfactants, Turbidity
	RIO CUPEYES PRWR77G	H	Pesticides
CAÑO MERLE	CANO MERLE, PRWK78A	L	Low Dissolved Oxygen, Surfactants
RIO YAGUEZ	RIO YAGUEZ, PRWR79A	H	Arsenic, Copper, Cyanide, Lead, Mercury, Turbidity
RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO, PRWR83A	H	Arsenic, Cyanide, Low Dissolved, Turbidity
	RIO CASEY, PRWR83C	H	Arsenic, Cyanide, Lead, Low Dissolved Oxygen, Surfactants, Turbidity
	RIO HUMATA, PRWR83D	H	Arsenic, Cadmium, Copper, Cyanide, Lead, Low Dissolved Oxygen, Surfactants, Turbidity
	RIO MAYAGUECILLO, PRWR83F	H	Arsenic
	RIO GUABA, PRWR83G	H	Arsenic
	RIO BLANCO, PRWR83H	H	Arsenic, Cyanide
	RIO PRIETO, PRWR83I	H	Arsenic, Cyanide, Pesticides, Turbidity
QUEBRADA GRANDE DE CALVACHE	QUEBRADA GRANDE DE CALVACHE, PRWQ88A	I	Fecal Coliforms, Low Dissolved Oxygen
QUEBRADA LOS RAMOS	QUEBRADA LOS RAMOS, PRWQ89A	L	Low Dissolved Oxygen
QUEBRADA PILETAS	QUEBRADA PILETAS PRWQ91A	L	Low Dissolved Oxygen

BASIN	WATERBODY NAME	PRIORITY RANKING	PARAMETER
RIO GUAYABO	RIO GUAYABO, PRWR94A	I	Low Dissolved Oxygen, Phosphorus, Surfactants
RIO CULEBRINAS	RIO CULEBRINAS, PRWR95A	H	Arsenic, Copper, Cyanide, Lead, Mercury, Pesticides, Surfactants, Total Coliforms, Turbidity
	RIO CAÑO (RIO CAÑAS), PRWR95B	H	Arsenic, Cyanide, Lead, Surfactants, Turbidity
	QUEBRADA GRANDE, (SECTOR CUCHILLAS), PRWQ95C	H	Arsenic
	QUEBRADA LAS MARIAS, PRWQ95D	H	Arsenic
	QUEBRADA LA SALLE, PRWQ95F	H	Arsenic, Pesticides
	QUEBRADA EL SALTO, PRWQ95G	H	Arsenic
	QUEBRADA GRANDE DE LA MAJAGUA, PRWQ95H	H	Arsenic, Cyanide, Pesticides
	QUEBRADA SALADA, PRWQ95I	H	Arsenic, Cyanide
	RIO SONADOR, PRWR95J	H	Arsenic, Cyanide
	RIO GUATEMALA, PRWR95K	H	Arsenic

Notes:

- H – High Priority
- I – Intermediate Priority
- L – Low Priority

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

Table 42: TMDL Development Status

SEGMENT/POLLUTANT	SEGMENT ID	PROJECT STATUS	PROJECTED TMDL SUBMITTAL DATE
1. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83A	Approved by USEPA	September 2010
2. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83B	Approved by USEPA	September 2010
3. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83C	Approved by USEPA	September 2010
4. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83D	Approved by USEPA	September 2010
5. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83E	Approved by USEPA	September 2010
6. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83F	Approved by USEPA	September 2010
7. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83G	Approved by USEPA	September 2010
8. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83H	Approved by USEPA	September 2010
9. RIO GRANDE DE AÑASCO/FECAL COLIFORMS	PRWR83I	Approved by USEPA	September 2010

SEGMENT/POLLUTANT	SEGMENT ID	PROJECT STATUS	PROJECTED TMDL SUBMITTAL DATE
10. LAGO GUAYO/FECAL COLIFORMS	PRWL83H	Approved by USEPA	September 2010
11. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7A1	Approved by USEPA	September 2010
12. LAGO DOS BOCAS/FECAL COLIFORMS	PRNL ₁ 7A1	Approved by USEPA	September 2010
13. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7A2	Approved by USEPA	September 2010
14. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7A3	Approved by USEPA	September 2010
15. LAGO GARZAS/FECAL COLIFORMS	PRNL ₃ 7A3	Approved by USEPA	September 2010
16. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7B1	Approved by USEPA	September 2010
17. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7B2	Approved by USEPA	September 2010
18. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7C1	Approved by USEPA	September 2010
19. LAGO CAONILLAS/FECAL COLIFORMS	PRNL ₂ 7C1	Approved by USEPA	September 2010
20. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7C2	Approved by USEPA	September 2010
21. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7C3	Approved by USEPA	September 2010
22. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8A1	Approved by USEPA	September 2010
23. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8A2	Approved by USEPA	September 2010
24. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8A3	Approved by USEPA	September 2010
25. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8B	Approved by USEPA	September 2010
26. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8C1	Approved by USEPA	September 2010
27. LAGO GUINEO/FECAL COLIFORMS	PRNL ₁ 8C1	Approved by USEPA	September 2010
28. LAGO MATRULLAS/FECAL COLIFORMS	PRNL ₂ 8C1	Approved by USEPA	September 2010
29. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8C2	Approved by USEPA	September 2010
30. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8D	Approved by USEPA	September 2010
31. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8E1	Approved by USEPA	September 2010
32. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8E2	Approved by USEPA	September 2010
33. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95A	Approved by USEPA	September 2010
34. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95B	Approved by USEPA	September 2010
35. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95C	Approved by USEPA	September 2010
36. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95D	Approved by USEPA	September 2010
37. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95E	Approved by USEPA	September 2010

SEGMENT/POLLUTANT	SEGMENT ID	PROJECT STATUS	PROJECTED TMDL SUBMITTAL DATE
38. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95F	Approved by USEPA	September 2010
39. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95G	Approved by USEPA	September 2010
40. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95H	Approved by USEPA	September 2010
41. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95I	Approved by USEPA	September 2010
42. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95J	Approved by USEPA	September 2010
43. RIO CULEBRINAS/FECAL COLIFORMS	PRWR95K	Approved by USEPA	September 2010
44. RIO SABANA/FECAL COLIFORMS	PREE19A	Approved by USEPA	September 2011
45. RIO JUAN MARTÍN/FECAL COLIFORMS	PREE20A	Approved by USEPA	September 2011
46. RIO FAJARDO/FECAL COLIFORMS	PREE22A	Approved by USEPA	September 2011
47. RIO DAGUAO/FECAL COLIFORMS	PREE26A	Approved by USEPA	September 2011
48. RIO SANTIAGO/FECAL COLIFORMS	PREE29A	Approved by USEPA	September 2011
49. RIO BLANCO/FECAL COLIFORMS	PREE30A	Approved by USEPA	September 2011
50. RIO ANTON RUIZ/FECAL COLIFORMS	PREE31A	Approved by USEPA	September 2011
51. QUEBRADA FAJARDO/FECAL COLIFORMS	PREQ21A	Approved by USEPA	September 2011
52. QUEBRADA CEIBA/FECAL COLIFORMS	PREQ24A	Approved by USEPA	September 2011
53. QUEBRADA AGUAS CLARAS/FECAL COLIFORMS	PREQ25A	Approved by USEPA	September 2011
54. QUEBRADA PALMA/FECAL COLIFORMS	PREQ27A	Approved by USEPA	September 2011
55. QUEBRADA BOTIJAS/FECAL COLIFORMS	PREQ28A	Approved by USEPA	September 2011
56. RIO BLANCO/FECAL COLIFORMS	PREQ30B	Approved by USEPA	September 2011
57. RIO SABANA/FECAL COLIFORMS	PRER19A	Approved by USEPA	September 2011
58. RIO DEMAJAGUA/FECAL COLIFORMS	PRER23A	Approved by USEPA	September 2011
59. RIO DAGUAO/FECAL COLIFORMS	PRER26A	Approved by USEPA	September 2011
60. RIO BLANCO/FECAL COLIFORMS	PRER30A	Approved by USEPA	September 2011
61. RIO ANTON RUIZ/FECAL COLIFORMS	PRER31A	Approved by USEPA	September 2011
62. CAÑO TIBURONES/FECAL COLIFORMS	PRNE7.1	Approved by USEPA	September 2011
63. QUEBRADA DE LOS CEDROS/FECAL COLIFORMS	PRNQ1A	Approved by USEPA	September 2011
64. QUEBRADA BRANDERI/FECAL COLIFORMS	PRSE48A	Approved by USEPA	September 2011
65. QUEBRADA MELANIA/FECAL COLIFORMS	PRSE50A	Approved by USEPA	September 2011
66. RIO SECO/FECAL COLIFORMS	PRSE51A	Approved by USEPA	September 2011
67. QUEBRADA AMOROS/FECAL COLIFORMS	PRSE52A	Approved by USEPA	September 2011
68. RIO DESCALABRADO/FECAL COLIFORMS	PRSE58A	Approved by USEPA	September 2011
69. LAGO PATILLAS/FECAL COLIFORM	PRSL43A1	Approved by USEPA	September 2011

SEGMENT/POLLUTANT	SEGMENT ID	PROJECT STATUS	PROJECTED TMDL SUBMITTAL DATE
70. LAGO CERRILLOS/FECAL COLIFORMS	PRSL62A1	Approved by USEPA	September 2011
71. QUEBRADA MANGLILLO/FECAL COLIFORMS	PRSQ38A	Approved by USEPA	September 2011
72. QUEBRADA FLORIDA/FECAL COLIFORMS	PRSQ39A	Approved by USEPA	September 2011
73. QUEBRADA PALENQUE/FECAL COLIFORMS	PRSQ41A	Approved by USEPA	September 2011
74. QUEBRADA YAUREL/FECAL COLIFORMS	PRSQ44A	Approved by USEPA	September 2011
75. QUEBRADA MELANIA/FECAL COLIFORMS	PRSQ50A	Approved by USEPA	September 2011
76. QUEBRADA AMOROS/FECAL COLIFORMS	PRSQ52A	Approved by USEPA	September 2011
77. RIO JACABOA/FECAL COLIFORMS	PRSR40A	Approved by USEPA	September 2011
78. RIO CHICO/FECAL COLIFORMS	PRSR42A	Approved by USEPA	September 2011
79. RIO GRANDE DE PATILLAS/FECAL COLIFORMS	PRSR43A1	Approved by USEPA	September 2011
80. RIO GRANDE DE PATILLAS/FECAL COLIFORMS	PRSR43A2	Approved by USEPA	September 2011
81. RIO MARIN/FECAL COLIFORMS	PRSR43B	Approved by USEPA	September 2011
82. RIO NIGUAS DE ARROYO/FECAL COLIFORMS	PRSR45A	Approved by USEPA	September 2011
83. QUEBRADA CORAZON/FECAL COLIFORMS	PRSR47A	Approved by USEPA	September 2011
84. RIO GUAMANI/FECAL COLIFORMS	PRSR49A	Approved by USEPA	September 2011
85. RIO JUEYES/FECAL COLIFORMS	PRSR55A	Approved by USEPA	September 2011
86. RIO CAYURES/FECAL COLIFORMS	PRSR56A	Approved by USEPA	September 2011
87. RIO COAMO/FECAL COLIFORMS	PRSR57A1	Approved by USEPA	September 2011
88. RIO COAMO/FECAL COLIFORMS	PRSR57A2-1	Approved by USEPA	September 2011
89. RIO COAMO/FECAL COLIFORMS	PRSR57A2-2	Approved by USEPA	September 2011
90. RIO CUYON/FECAL COLIFORMS	PRSR57B	Approved by USEPA	September 2011
91. RIO CAÑAS/FECAL COLIFORMS	PRSR59A-1	Approved by USEPA	September 2011
92. RIO CAÑAS/FECAL COLIFORMS	PRSR59A-2	Approved by USEPA	September 2011
93. RIO JACAGUAS/FECAL COLIFORMS	PRSR62A1	Approved by USEPA	September 2011
94. RIO PORTUGUES/FECAL COLIFORMS	PRSR63A-1	Approved by USEPA	September 2011
95. RIO PORTUGUES/FECAL COLIFORMS	PRSR63A-2	Approved by USEPA	September 2011
96. RIO MATILDE PASTILLO/FECAL COLIFORMS	PRSR64A-1	Approved by USEPA	September 2011
97. RIO MATILDE PASTILLO/FECAL COLIFORMS	PRSR64A-2	Approved by USEPA	September 2011
98. RIO TALLABOA/FECAL COLIFORMS	PRSR65A-1	Approved by USEPA	September 2011
99. RIO TALLABOA/FECAL COLIFORMS	PRSR65A-2	Approved by USEPA	September 2011
100. RIO MACANA/FECAL COLIFORMS	PRSR66A	Approved by USEPA	September 2011
101. CAÑO MERLE/FECAL COLIFORMS	PRWE78A	Approved by USEPA	September 2011
102. CAÑO CONDE AVILA/FECAL COLIFORMS	PRWK75A	Approved by USEPA	September 2011
103. CAÑO MERLE/FECAL COLIFORMS	PRWK78A	Approved by USEPA	September 2011
104. CAÑO DE SANTI PONCE/FECAL COLIFORMS	PRWK93A	Approved by USEPA	September 2011
105. CAÑO CORAZONES/FECAL COLIFORMS	PRWK96A	Approved by USEPA	September 2011

SEGMENT/POLLUTANT	SEGMENT ID	PROJECT STATUS	PROJECTED TMDL SUBMITTAL DATE
106.LAGUNA JOYUDAS/FECAL COLIFORMS	PRWN0005	Approved by USEPA	September 2011
107.QUEBRADA BOQUERON/FECAL COLIFORMS	PRWQ71A	Approved by USEPA	September 2011
108.QUEBRADA ZUMBON/FECAL COLIFORMS	PRWQ72A	Approved by USEPA	September 2011
109.QUEBRADA GONZALEZ/FECAL COLIFORMS	PRWQ73A	Approved by USEPA	September 2011
110.QUEBRADA LOS PAJARITO/FECAL COLIFORMS	PRWQ74A	Approved by USEPA	September 2011
111.QUEBRADA IRIZARRY/FECAL COLIFORMS	PRWQ76A	Approved by USEPA	September 2011
112.QUEBRADA DEL ORO/FECAL COLIFORMS	PRWQ80A	Approved by USEPA	September 2011
113.RIO YAGUEZ/FECAL COLIFORMS	PRWR79A	Approved by USEPA	September 2011
114.RIO GUAYABO/FECAL COLIFORMS	PRWR94A	Approved by USEPA	September 2011

PART H. Ground Water Monitoring and Assessment

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

The PREQB is the designated state agency responsible for protection of the quality of all waters in the Commonwealth of PR, including ground waters. To fulfill this responsibility, PREQB implements various strategies and programs which essentially seek to protect the quality of the available resource. These include the Groundwater Monitoring Network (GMN), the Wellhead Protection Program (WHPP) and a synoptic study that was conducted during this evaluation cycle with funds allocated by the ARRA. Furthermore, PREQB implements various regulatory programs that specifically seek the protection of groundwater quality and groundwater pollution prevention. These programs include, the UIC Program, the UST Program, both of which are federal regulatory programs that have been delegated by USEPA to PREQB. Also, implements the non-delegated the Leaking UST 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
- Hydrogeology characteristics
- Presence of potential pollution sources
- Critical or ecological sensitive areas
- Presence of pollutants

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

WELL NAME	MUNICIPALITY	SAMPLING YEAR
Saltillo	Aduntas	2011
Saltillo Vaca	Adjuntas	2010,2011
Garrochales # 3	Arecibo	2011
Garrochales # 4	Arecibo	2011
Matadero	Arecido	2011
Matadero IV	Arecibo	2011

WELL NAME	MUNICIPALITY	SAMPLING YEAR
Ojo de Agua 1(Urbano)	Arecibo	2010,2011
Belinda	Arroyo	2010,2011
Urbano II	Arroyo	2010
Cruce Dávila	Barceloneta	2011
Pajonal I (San Agustín)	Barceloneta	2011
Pajonal II (Cortés)	Barceloneta	2011
Florida #4	Barceloneta	2011
Florida #5 (La Ceiba)	Florida	2010,2011
Florida # 6	Florida	2010
Florida #9 (Parque Ceiba)	Florida	2010
La Joya (Santa Rita)	Guánica	2011
Los Caños	Guánica	2010, 2011
Río Loco	Guánica	2011
Guayanilla Viejo	Guayanilla	2011
Los Sitios	Guayanilla	2010,2011
Quebrada Nuevo	Guayanilla	2011
Mamey II	Gurabo	2010,2011
Campo Alegre I	Hatillo	2011
Campo Alegre III	Hatillo	2011
Amelia	Juana Díaz	2011
Amelia II	Juana Díaz	2011
Experimental (Juana Díaz)	Juana Díaz	2010,2011
Río Cañas	Juana Díaz	2010,2011
Manatí 2	Manatí	2011
Tiburones	Manatí	2011
Tiburones II	Manatí	2011
Viskase III	Manatí	2011
Bordaleza	Maunabo	2011
Calzada	Maunabo	2010,2011
Jacaboas I	Patillas	2011
Jacaboas II	Patillas	2010,2011
Jacaboas III	Patillas	2010,2011
Alambra II	Ponce	2010,2011
Albergue Olimpico	Salinas	2010,2011
Godreau II	Salinas	2010
Las Mareas	Salinas	2010
Urbano II	Salinas	2010
Coco IV	Salinas	2010
Cain Alto	San Germán	2011
Duey I	San Germán	2011
Duey II (San Agustín)	San Germán	2011
Esmeralda II	Santa Isabel	2011
Ollas	Santa Isabel	2011
Paso Seco V	Santa Isabel	2010,2011
Paso Seco VI	Santa Isabel	2011
Esmeralda	Santa Isabel	2011
Playita Cortada	Santa Isabel	2011
Campanilla VIII	Toa Baja	2011
Monserate	Vega Alta	2011
Pugnado II	Vega Baja	2011
Vega Baja II	Vega Baja	2011
Vega Baja III	Vega Baja	2011
Algarrobos	Vega Baja	2011

WELL NAME	MUNICIPALITY	SAMPLING YEAR
Santa Rita	Yauco	2011

A total of eleven (11) drinking water wells were monitored, in addition to the sixty-two (62) that are parts of the permanent networks, as part of a synoptic study was conducted with ARRA funds. These results were included to perform the assessment of the underground waters. Under this study the USGS conducts sampling and analyses for, inorganic substances, nitrates, VOC's and pesticides.

Table 44:: Identification of Wells used as part of the Synoptic Study

WELL NAME	MUNICIPALITY	SAMPLING YEAR
Quiñones	San Germán	2009, 2010
Providencia II	San Germán	2009, 2010
Javieres	Hormigueros	2009, 2010
Club de Leones	Cabo Rojo	2010
Bloques Barreto	Moca	2009, 2010
Real	Cabo Rojo	2009, 2010
Hormigueros I	Hormigueros	2009, 2010
Hormiguero II	Hormigueros	2010
Cesani	Mayaguez	2009, 2010
Vista del Río	Añasco	2009, 2010
Elli Lilly	Mayaguez	2009, 2010

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 WHPP, 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 45 below shows a summary of the water quality assessment for drinking groundwater.

Table 45: 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
	2010	2011	2010	2011	
Total Dissolved Solids	15	52	0	0	N/A
Pesticides	4	28	1	15	N/A
Volatile Organic Compounds	12	0	0	0	N/A
Inorganic Substance	3	0	3	0	N/A
Fecal Coliforms	6	37	6	37	Septic Systems and livestock enterprises

PART I. Wetlands

Wetlands are the coastal ecosystems that are most abundant in PR. 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 PR, 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, PR has 87,255 hectare of coastal wetlands (Puerto Rico Coastal and Estuarine Land Conservation Plan draft, September 2009, Puerto Rico Coastal Zone Management Program of the Department of Natural and Environmental Resources)

Public policy on wetlands in PR, 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 PRWQSR, 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 cannot 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 PR the protection and conservation of wetlands is the result of the efforts of several local and federal agencies, namely DRNA, PREQB, Corps of Engineers (COE), United States Fish and Wildlife Service (USFWS) and the USEPA, 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 PR 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 PR, 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. The 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 12 wetland areas in critical condition:

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

EQB are currently evaluating how it will work with wetland systems on the island in their identification, and evaluation for water quality purposes. As part of the information evaluated is the Classification of Wetlands and Deepwater habitat of the United States, U.S. Department of the Interior, Fish and Wildlife Service. This data set represents the extent, approximate location and type of wetlands and deepwater habitats in Puerto Rico. These data delineate the areal extent of wetlands and surface waters as defined by Cowardin et al. (1979). Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. The present goal of the Service is to provide the citizens of the United States and its Trust Territories with current geospatially referenced information on the status, extent, characteristics and functions of wetlands, riparian, deepwater and related aquatic habitats in priority areas to promote the understanding and conservation of these resources. After the end of the first phase of this development eventually will establish a monitoring network in order to raise the necessary data and make the water quality evaluation for this type of waters.

PART J. Public Participation

According to USEPA 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, March 19, 2012.

The public hearing was appropriately 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-12-15, copy enclosed in Appendix III.

APENDIX I - 2012 Cycle 303(d) List

**Evaluation and Strategic Planning Area
Puerto Rico Environmental Quality Board**

Table 46: Size of waters Impaired by Causes all cycles (Monitored Miles for Rivers and Streams)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (miles)
Pesticides (0200)	495.5
Surfactants (0400)	1,646.1
Arsenic (0510)	3,302.6
Cadmium (0520)	72.3
Copper (0530)	1,077.1
Lead (0550)	711.3
Mercury (0560)	258.4
Selenium (0570)	22.0
Ammonia (0600)	136.0
Cyanide (0720)	3,056.1
Others Inorganic (0800)	22.0
Phosphorus (0910)	195.4
Nitrate + Nitrite (0990)	15.0
pH (1000)	208.0
Low Dissolved Oxygen (1200)	1,568.2
Thermal Modifications (1400)	413.5
Fecal Coliforms (1700)	1,353.8
Total Coliforms (1700)	670.4
Turbidity (2500)	2,720.7
Silver (no code)	14.6

305(b) and 303(d) Integrated Report

Table 47: 2012 Cycle 303(d) List – List of Rivers and Streams

Note: The 2012 303(d) List is comprised of the causes of impairments listed in 2012, 2010, 2008, 2006 and 2004 cycles

BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO GUAJATACA	RIO GUAJATACA PRNR3A1	9.9	SD	NS 50011400	5	5	5	5		Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700)	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)
	RIO GUAJATACA PRNR3A2	22	SD	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)	Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	QUEBRADA LAS SEQUIAS PRNQ3B	3.5	SD		5	3	5	5	L, N	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)				Arsenic (0510) Low Dissolved Oxygen (1200) Cyanide (0720) <i>Fecal Coliforms (1700)</i>
RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO PRNR7A1	31.4	SD	NS 50029000 50027250 A1-B	4a	4a	5	5	P	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)	Copper (0530) Turbidity (2500)	Arsenic (0510) Low Dissolved Oxygen (1200) Turbidity (2500)	Arsenic (0510) Low Dissolved Oxygen (1200) Cyanide (0720)	Arsenic (0510) Low Dissolved Oxygen (1200) Turbidity (2500) Cyanide (0720)
	RIO GRANDE DE ARECIBO PRNR7A2	122.8	SD	NS 50025000 A3-A A3-B	4a	4a	5	5	P	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)	Turbidity (2500)	Arsenic (0510)	Arsenic (0510) Turbidity (2500) Pesticides (0200) Cyanide (0720)	Arsenic (0510) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	TUNEL PRNR7A3	28.9	SD	NS 50020500	4a	4a	5	5	P	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) Turbidity (2500)	Arsenic (0510) Cyanide (0720)	Arsenic (0510) Cyanide (0720)
	RIO CAONILLAS PRNR7C1	87	SD	NS A4-A A4-B	4a	4a	5	5	P	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)	Cyanide (0720)	Arsenic (0510) Cyanide (0720)
	RIO LIMON PRNR7C2	40.7	SD	NS A1-A	4a	4a	5	1	P	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plants (Small Flows) (0230)		Low Dissolved Oxygen (1200)		

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO TANAMA PRNR7B2	43.5	SD	NS 50028000 A5-A2	4a	4a	5	5	P	Agriculture (1300) Land Development (3200) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Turbidity (2500)	Arsenic (0510) pH (1000)	Turbidity (2500) Cyanide (0720)	Arsenic (0510) Cyanide (0720)
RIO GRANDE DE MANATÍ	RIO GRANDE DE MANATÍ PRNR8A1	31	SD	NS 50038100	4a	4a	5	5	P	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)	Copper (0530) Turbidity (2500)	Arsenic (0510) Turbidity (2500)	Arsenic (0510) Copper (0530) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Turbidity (2500) Cyanide (0720)
	RIO GRANDE DE MANATÍ PRNR8A2	38.1	SD	NS 50035500 50031200	4a	4a	5	5	P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)	Arsenic (0510) Turbidity (2500)	Arsenic (0510) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Turbidity (2500) Cyanide (0720)
	RIO GRANDE DE MANATÍ PRNR8A3	27	SD		4a	4a	5	5	E, L, P	Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)			Arsenic (0510) Turbidity (2500)	Arsenic (0510) Copper (0530) Surfactants (0400) Turbidity (2500) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO CIALITO PRNR8B	25.8	SD	NS 50035950	4a	4a	5	5	P	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)	Turbidity (2500)	Arsenic (0510) Copper (0530) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Cyanide (0720)	Arsenic (0510) Surfactants (0400) Cyanide (0720)
	RIO TORO NEGRO PRNR8C1	41.5	SD		4a	4a	5	5	L, E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)			Arsenic (0510) Copper (0530)	Arsenic (0510) Turbidity (2500) Cyanide (0720)
	RIO BAUTA PRNR8C2	27.6	SD		4a	4a	5	5	L, E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Arsenic (0510) Copper (0530)	
	RIO SANA MUERTOS PRNR8D	16	SD		4a	4a	5	5	L, E, P	Agriculture (1300) Onsite Wastewater Systems (6500)			Arsenic (0510) Copper (0530) Turbidity (2500)	
	RIO OROCOVIS PRNR8E1	19.8	SD	NS 50030700	4a	4a	5	5	P	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)	Turbidity (2500)	Arsenic (0510) Turbidity (2500)	Arsenic (0510) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Turbidity (2500) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO BOTIJAS PRNR8E2	19.1	SD		4a	4a	5	5	L, E, P	Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)			Arsenic (0510) Turbidity (2500)	
RIO CIBUCO	RIO CIBUCO PRNR9A	31.1	SD	NS 50038320 50039500	5	5	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)	Total Coliforms (1700) Turbidity (2500)	Arsenic (0510) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Surfactants (0400) Turbidity (2500) Cyanide (0720)
	RIO INDIO PRNR9B1	12.5	SD		4a	4a	5	5	B, L, N	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) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO DE LOS NEGROS PRNR9D	24.1	SD		4a	4a	5	5	B, L, N	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) Surfactants (0400) Cyanide (0720)
RIO DE LA PLATA	RIO DE LA PLATA PRER10A1	21	SD	NS 50046000	4a	4a	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)	Turbidity (2500)	Arsenic (0510) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Turbidity (2500)	Arsenic (0510) Cyanide (0720)
	RIO DE LA PLATA PRER10A3	55.7	SD	NS 50044000 LP-5 LP-6	4a	4a	5	5	C	Agriculture (1300) Confined Animal Feeding Operations (1640) Land Development (3200) Landfills (6300) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Arsenic (0510) Low Dissolved Oxygen (1200) Turbidity (2500)	Arsenic (0510) Low Dissolved Oxygen (1200) Cyanide (0720)	Arsenic (0510) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO DE LA PLATA PRER10A4	10.2	SD	NS 50043000 LP-4	4a	4a	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) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Surfactants (0400)
	RIO DE LA PLATA PRER10A5	92.7	SD		4a	4a	5	5	C, L, N	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) Surfactants (0400) Turbidity (2500) Cyanide (0720) <i>Copper (0530)</i>
	RIO LAJAS PRER10B	16.6	SD		4a	4a	5	5	C, L, N	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surface Mining (5100)				Arsenic (0510) Low Dissolved Oxygen (1200) Surfactants (0400) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO BUCARABONES PRER10C	19.2	SD		4a	4a	5	5	C, L, N	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500)				Arsenic (0510) Low Dissolved Oxygen (1200) Surfactants (0400) Cyanide (0720)
	RIO GUADIANA PRER10E	21.8	SD	NS 50044850	5	5	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)	Total Coliforms (1700) Turbidity (2500)	Arsenic (0510) Turbidity (2500)	Arsenic (0510) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Cyanide (0720)
	RIO CUESTA ARRIBA PRER10F	10.6	SD	ED - PR1167	4a	4a	5	1	C, I	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Minor Industrial Point Source (0120)	pH (1000)			
	RIO ARROYATA PRER10G	36.8	SD	NS LP-3	4a	4a	5	2	C	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Land Development (3200) Onsite Wastewater Systems (6500)			pH (1000)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO MATON PRER10J	15.8	SD	NS LP-1 LP-2	4a	4a	5	5	C	Confined Animal Feeding Operations (1640) Land Development (3200) Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)		Turbidity (2500) Arsenic (0510) Surfactants (0400) Cyanide (0720) <i>Copper (0530)</i>
	RIO GUAVATE PRER10K	19.8		ED – PR1161, PR1165	4a	4a	5	1	C, I	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Confined Animal Feeding Operations (1640)	pH (1000)			
RIO HONDO	RIO HONDO PRER11A	22	SD		5	5	5	5	J, L, N	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			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)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO BAYAMÓN	RIO BAYAMÓN PRER12A1	33.6	SD	NS 50048510	5	5	5	5	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Total Coliforms (1700)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700) Cyanide (0720)	
	RIO BAYAMÓN PRER12A2	83.7	SD	NS 50047600 ED-PR1159	5	5	5	5	I Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	
	RIO GUAYNABO PRER12B	50.7	SD	NS 50047990	5	5	5	5	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Industrial Point Sources (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Total Coliforms (1700) Turbidity (2500)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500) Cyanide (0720)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA PRER14A1	31	SD	NS 50059100	5	5	5	5	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Industrial Point Source (0110) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Copper (0530) Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500) Cyanide (0720)	
	RIO GRANDE DE LOIZA PRER14A2	86.6	SD	NS 50055000 L-2 L-3	5	5	5	5	D, H, 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) Package Plant (Small Flows) (0230) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Total Coliforms (1700) Turbidity (2500)	Arsenic (0510) Surfactants (0400)	Arsenic (0510) Turbidity (2500) Pesticides (0200) Cyanide (0720)	Arsenic (0510) Surfactants (0400) Turbidity (2500) Cyanide (0720)	

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO CANOVANAS PRER14B	32.6	SD		5	3	1	5	G, L	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) Fecal Coliforms (1700) Cyanide (0720)
	RIO CANOVANILLAS PRER14C	27.9	SD	ED – PR1158	5	3	1	5	G, I	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) Fecal Coliforms (1700) Cyanide (0720)
	QUEBRADA MARACUTO PREQ14D	22.9	SD		2	2	1	5	G, L	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)				Arsenic (0510) Cyanide (0720)
	QUEBRADA GRANDE PREQ14E	17.7	SD		2	2	5	5	G, L	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plant (Small Flows) (0230) Urban Runoff/Storm Sewers (4000)				Arsenic (0510) Surfactants (0400) Cyanide (0720)
	RIO CAÑAS PRER14F	9.4	SD		4a	4a	1	5	D, G, L	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)				Arsenic (0510) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO GURABO PRER14G1	124.3	SD	NS 50057025	5	5	5	5	D, H	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100)	Total Coliforms (1700) Turbidity (2500)	Arsenic (0510) Copper (0530) Turbidity (2500)	Arsenic (0510) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Copper (0530) Turbidity (2500) Cyanide (0720)
	RIO VALENCIANO PRER14G2	42.8	SD	NS L-1	4a	4a	5	5	D	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) Surfactants (0400) Turbidity (2500) Cyanide (0720)
	RIO BAIROA PRER14H	16.3	SD	NS 50055410	4a	4a	5	5	D, H, K, M	Collection System Failure (0500) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Phosphorus (0910)	Arsenic (0510) Phosphorus (0910) Surfactants (0400)	Arsenic (0510) Phosphorus (0910) Surfactants (0400) Cyanide (0720)	Arsenic (0510) Surfactants (0400) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006
														<i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO CAGÜITAS PRER14I	33.9	SD	NS 50055250	5	5	5	5	D, H, K, M	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Total Coliforms (1700)	Arsenic (0510) Surfactants (0400) Thermal Modifications (1400) Turbidity (2500)	Arsenic (0510) Surfactants (0400) Thermal Modifications (1400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Surfactants (0400) Cyanide (0720)
	RIO TURABO PRER14J	54.7	SD	NS L-5	4a	4a	5	5	D	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) Surfactants (0400) Turbidity (2500) Cyanide (0720)
	RIO CAYAGUAS PRER14K	38.5	SD	NS L-4	4a	4a	5	5	D	Agriculture (1300) Confined Animal Feeding Operations (1640) Land Development (3200) Onsite Wastewater Systems (6500)				Arsenic (0510) Copper (0530) Lead (0550) Surfactants (0400) Turbidity (2500) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO EMAJAGUA PRER14L	8.5	SD		4a	4a	5	5	D, G, L	Onsite Wastewater Systems (6500)				Arsenic (0510) Surfactants (0400) Cyanide (0720)
RIO HERRERA	RIO HERRERA PRER15A	17	SD	SS 50063045 50063065	5	2	5	5		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Surfactants (0400) Turbidity (2500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)
RIO ESPIRITU SANTO	RIO ESPIRITU SANTO PRER16A	58.4	SD	NS 50063800 SS 50064500 50064300 50064800 50064850 ED – PR1103, PR1151, PR1152, PR1155, PR1178	5	5	5	5	I	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Copper (0530) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) pH (1000) Surfactants (0400) Turbidity (2500)	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)
RIO MAMEYES	RIO MAMEYES PRER17A	38.9	SD	SS 50065750 50066000 50066025 50066100 50066020 50065600 50065650 50065680 ED – PR1153	5	5	5	1	I	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) pH (1000)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
QUEBRADA MATA DE PLATANO	QUEBRADA MATA DE PLATANO PREQ18A	4.0	SD	SS 50066475 50066490 50066500	5	5	5	1		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)
RIO SABANA	RIO SABANA PRER19A	33.1	SD	SS 50069050 50069000 50068710 50068900 50068000 50067200 ED – PR1154	4a	4a	5	1	G, I, O	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100)				Low Dissolved Oxygen (1200)
RIO JUAN MARTÍN	RIO JUAN MARTÍN PRER20A	7.8	SD	SS 50069305	5	2	1	1	G	Onsite Wastewater Systems (6500)				Fecal Coliforms (1700)
QUEBRADA FAJARDO	QUEBRADA FAJARDO PREQ21A	10.0	SD	SS 50069390 50069410 50070700 50069400	4a	4a	5	1	G, O	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)				Low Dissolved Oxygen (1200)
RIO FAJARDO	RIO FAJARDO PRER22A	59.0	SD	NS 50071000 SS 50072605 50070905 50071195 50072000 50072500 50071950 50071190	5	5	5	5		Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Sources (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Cadmium (0520) Copper (0530) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Mercury (0560) Surfactants (0400) Turbidity (2500)	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)
RIO DEMAJAGUA	RIO DEMAJAGUA PRER23A	2.8	SD	SS 50072700	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)			

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	2012	2010	2008	CAUSES OF IMPAIRMENT
					R1	R2	AL	DW						2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
QUEBRADA CEIBA	QUEBRADA CEIBA PREQ24A	5.0	SD	SS 50072775 50072810	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)			Low Dissolved Oxygen (1200)
QUEBRADA AGUAS CLARAS	QUEBRADA AGUAS CLARAS PREQ25A	4.8	SD	SS 50072875 50072900	4a	4a	5	1	O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Thermal Modifications (1400)			Low Dissolved Oxygen (1200) Thermal Modifications (1400)
RIO DAGUAO	RIO DAGUAO PRER26A	13.8	SD	SS 50073100 50073225 50073375	4a	4a	5	1	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)			Low Dissolved Oxygen (1200)
QUEBRADA BOTIJAS	QUEBRADA BOTIJAS PREQ28A	7.4	SD	SS 50073500	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)			Low Dissolved Oxygen (1200)
RIO SANTIAGO	RIO SANTIAGO PRER29A	15.3	SD	SS 50074004 50073975 50073900	5	5	1	1		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)			Fecal Coliforms (1700)
RIO BLANCO	RIO BLANCO PRER30A	45.0	SD	SS 50075500 50077525 50077550 50077600 50076300	4a	4a	5	5	O	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Turbidity (2500)			Low Dissolved Oxygen (1200)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	QUEBRADA PEÑA POBRE PREQ30B	13.4	SD	SS 50076300	4a	4a	5	1	G, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)				Low Dissolved Oxygen (1200)
RIO ANTON RUIZ	RIO ANTON RUIZ PRER31A	20.4	SD	SS 50078600 50078300 50078510	4a	4a	5	1	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)			
QUEBRADA FRONTERA	QUEBRADA FRONTERA PREQ32A	8.5	SD	SS 50078900	5	2	5	1		Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)
RIO HUMACAO	RIO HUMACAO PRER33A	55.8	SD	NS 50082000 SS 50082350 50081500 50081900	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)	Fecal Coliforms (1700) Total Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)
RIO CANDELERO	RIO CANDELERO PRER34A	10.4	SD	SS 50082525	5	2	5	1		Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)			Fecal Coliforms (1700)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>	
RIO GUAYANES	RIO GUAYANES PRER35A	94.6	SD	NS 50083500 SS 50084025 50085000 50083300 50086060 50086150	5	5	5	5		Agriculture (1300) Landfills (6300) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Copper (0530) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Thermal Modification (1400) Turbidity (2500)				Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500) Cyanide (0720)
QUEBRADA EMAJAGUA	QUEBRADA EMAJAGUA PREQ36A	2.5	SD	SS 50088000	5	2	1	1	G	Onsite Wastewater Systems (6500)					Fecal Coliforms (1700)
RIO MAUNABO	RIO MAUNABO PRER37A	36.0	SD	NS 50091000 SS 50091290	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)	Fecal Coliforms (1700) Thermal Modifications (1400)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Thermal Modifications (1400) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Cyanide (0720)	
QUEBRADA PALENQUE	QUEBRADA PALENQUE PRSQ41A	1.0	SD	SS 50091525	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)				

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					R1	R2	AL	DW			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO CHICO	RIO CHICO PRSR42A	14.6	SD	SS 50091800	4a	4a	5	5	J, O	Agriculture (1300) Confined Animal Feeding Operations (1640) Major Municipal Point source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Low Dissolved Oxygen (1200)			Ammonia (0600) Arsenic (0510) Copper (0530) Low Dissolved Oxygen (1200) Phosphorus (0910) Surfactants (0400) <i>Lead (0550)</i> <i>Mercury (0560)</i> <i>Silver (no code)</i>
RIO GRANDE DE PATILLAS	RIO GRANDE DE PATILLAS PRSR43A2	35.9	SD	NS 50092000 ED – PR1148, PR1148R, PR1163, PR1164	4a	4a	1	5	I, O	Onsite Wastewater Systems (6500)		Arsenic (0510)	Arsenic (0510) Cyanide (0720)	Arsenic (0510) Cyanide (0720)
RIO NIGUAS DE ARROYO	RIO NIGUAS DE ARROYO PRSR45A	21.0	SD	SS 50094375 50094410 50094500	5	5	1	1	O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plant (Small Flows) (0230) Urban Runoff/Storm Sewers (4000)	Total Coliforms (1700)			

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO GUAMANI	RIO GUAMANI PRSR49A	22.0	SD	SS 50095210 50095500 50095550	4a	4a	5	1	O	Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Confined Animal Feeding Operations (1640)	Thermal Modifications (1400)			
QUEBRADA MELANIA	QUEBRADA MELANIA PRSQ50A	7.0	SD	SS 50095900 50096010	4a	4a	5	1	O	Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Surfactants (0400)		Low Dissolved Oxygen (1200)	
RIO SECO	RIO SECO PRSR51A	24.7	SD	SS 50096990 50097010 50097500 50097800 50098000	5	5	5	1		Agriculture (1300) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200)			
QUEBRADA AMOROS	QUEBRADA AMOROS PRSQ52A	0.7	SD	SS 50098600	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)		Low Dissolved Oxygen (1200)	
QUEBRADA AGUAS VERDES	QUEBRADA AGUAS VERDES PRSQ53A	15.0	SD	SS 50099050 50099200 50099300 50099400	5	5	5	5		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Nitrate+Nitrite (0990) Total Coliforms (1700)			

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO NIGUAS DE SALINAS	RIO NIGUAS DE SALINAS PRSR54A	102.5	SD	SS 50100150 50100250 50100400 50100450 50100700 50100750 50101600	5	5	5	1		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700)		Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
RIO CAYURES	RIO CAYURES PRSR56A	5.0	SD	SS 50103100	4a	4a	5	1	O	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)			
RIO COAMO	RIO COAMO PRSR57A2	59.0	SD	NS 50106500	4a	4a	5	5	O	Agriculture (1300) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500)		Arsenic (0510) Thermal Modification (1400) Cyanide (0720)	Arsenic (0510) Cyanide (0720)	Arsenic (0510) Thermal modifications (1400) Cyanide (0720)
	RIO CUYON PRSR57B	49.2	SD		4a	4a	5	5	L, N, O	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) Thermal Modifications (1400) Turbidity (2500) Cyanide (0720)
RIO DESCALABRADO	RIO DESCALABRADO PRSR58A	18.8	SD	SS 50108000 50108375 50108500	5	5	1	1		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700)			

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO BUCANA-CERRILLOS	RIO BUCANA-CERRILLOS PRSR62A1	27.8	SD	NS 50114000 SS 50114600	4a	4a	1	5	O	Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)		Arsenic (0510) Cyanide (0720)	Arsenic (0510) Cyanide (0720)	Arsenic (0510) Cyanide (0720)
RIO PORTUGUES	RIO PORTUGUES PRSR63A	54.0	SD	NS 50115000 50116200 SS 50116500	5	5	5	5	O	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)	Arsenic (0510) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Turbidity (2500)	Arsenic (0510) Turbidity (2500) Cyanide (0720)
RIO MATILDE - PASTILLO	RIO MATILDE - PASTILLO PRSR64A	51.2	SD	SS 50116970 50118300	4a	4a	5	1	O	Agriculture (1300) Landfills (6300) Major Industrial Point Sources (0110) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Package Plant (small flow) (0230) Collection System Failure (0500) Confined Animal Feeding Operations (1640)	Low Dissolved Oxygen (1200)			
RIO TALLABOA	RIO TALLABOA PRSR65A	59.6	SD	SS 50121000 50122000	4a	4a	5	5	O	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Minor Municipal Point Sources (0220)	Turbidity (2500)			

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO GUAYANILLA	RIO GUAYANILLA PRSR67A	60.0	SD	NS 50124700 SS 50123190 50124700	5	5	5	5	Agriculture (1300) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Phosphorus (0910)	Arsenic (0510) Fecal Coliforms (1700) Phosphorus (0910) Thermal Modifications (1400) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Phosphorus (0910) Thermal Modifications (1400) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Thermal Modification (1400) Turbidity (2500) Cyanide (0720)	
RIO YAUCO	RIO YAUCO PRSR68A1	61.4	SD	SS 50126050 50127400 50128110	5	5	5	5	Agriculture (1300) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500) Major Municipal Point Sources (0210)	Fecal Coliforms (1700) Phosphorus (0910) Turbidity (2500)				

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	2012	2010	2008	CAUSES OF IMPAIRMENT	
					R1	R2	AL	DW						2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>	
RIO LOCO	RIO LOCO PRSR69A1	92.4	SD	SS 50129260 50129600	5	2	5	5		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)	Low Dissolved Oxygen (1200)			Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500) Cyanide (0720) <i>Lead (0550)</i>	
	RIO LOCO PRSR69A2	19.5	SD		5	3	3	3	E, L	Agriculture (1300) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700)		
QUEBRADA ZUMBON	QUEBRADA ZUMBON PRWQ72A	1.7	SD	SS 50130050	4a	4a	5	1	O	Collection System Failure (0500) Onsite Wastewater Systems (6500)	Surfactants (0400)				
QUEBRADA GONZALEZ	QUEBRADA GONZALEZ PRWQ73A	1.8	SD	SS 50130100	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)				
QUEBRADA LOS PAJARITOS	QUEBRADA LOS PAJARITOS PRWQ74A	2.7	SD	SS 50130150	4a	4a	5	1	O	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)				

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO GUANAJIBO	RIO GUANAJIBO PRWR77A	121.4	SD	NS 50138000 50133600 SS 50130390 50131250 50135650	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)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500)	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) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500) Cyanide (0720)	
	RIO ROSARIO PRWR77C	58.3	SD	NS 50136400 SS 50136000 50136700 ED – PR1174	5	5	5	5	I 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)	Fecal Coliforms (1700) Turbidity (2500) Pesticides DDD (0200)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500) Cyanide (0720)	
	RIO VIEJO PRWR77D	21.1	SD	SS 50135625	2	2	5	1	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)				

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO DUEY Y RIO HOCONUCO PRWR77E	39.9	SD	SS 50134000 50134550	5	2	5	5	N	Agriculture (1300) Onsite Wastewater Systems (6500)				Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400) Turbidity (2500) Cyanide (0720)
	RIO CUPEYES PRWR77G	8.0	SD	SS 50131800	2	2	5	1		Agriculture (1300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Pesticides Heptachlor Epoxide (0200)			
CAÑO MERLE	CAÑO MERLE PRWK78A	11.1	SD	SS 50138385	4a	4a	5	1	O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500) Surfaces Mining (5100)	Low Dissolved Oxygen (1200) Surfactants (0400)			
RIO YAGÜEZ	RIO YAGÜEZ PRWR79A	42.2	SD	NS 50138800	4a	4a	5	5	O	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Copper (0530) Lead (0550) Mercury (0560) Turbidity (2500)	Arsenic (0510) Turbidity (2500) Cyanide (0720)	Arsenic (0510)	Arsenic (0510) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 MONITORING STATIONS NS = Network SS = Synoptic Study ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	2012	CAUSES OF IMPAIRMENT		
					R1	R2	AL	DW				2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO PRWR83A	126.0	SD	NS 50146000 50144000 50143000 SS 50146120	4a	4a	5	5	P	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)	Low Dissolved Oxygen (1200) Turbidity (2500)	Arsenic (0510) Turbidity (2500)	Arsenic (0510) Cyanide (0720)	Arsenic (0510) Turbidity (2500) Cyanide (0720)
	RIO CASEY PRWR83C	38.1	SD	SS 50145600	4a	4a	5	5	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Arsenic (0510)	Arsenic (0510) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO HUMATA PRWR83D	13.3	SD	SS 50144900	4a	4a	5	5	N, P	Agriculture (1300) Onsite Wastewater Systems (6500)				Arsenic (0510) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500) Cyanide (0720) <i>Cadmium (0520)</i> <i>Copper (0530)</i>
	RIO MAYAGUECILLO PRWR83F	18.0	SD	SS 50143600	4a	4a	1	5	E, P	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)			Arsenic (0510)	
	RIO GUABA PRWR83G	68.1	SD	SS 50143320 ED – PR1123, PR1175	4a	4a	1	5	E, F, P	Agriculture (1300) Onsite Wastewater Systems (6500)			Arsenic (0510)	
	RIO BLANCO PRWR83H	79.9	SD	SS 50140900 50142250	4a	4a	1	5	N, P	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)				Arsenic (0510) Cyanide (0720)
	RIO PRIETO PRWR83I	59.8	SD	SS 50142710 50142900	4a	4a	5	5	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Pesticides Alpha-BHC and Hexachlorobenzene (0200)		Arsenic (0510) Turbidity (2500)	Arsenic (0510) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
QUEBRADA GRANDE DE CALVACHE	QUEBRADA GRANDE DE CALVACHE PRWQ88A	14.8	SD		5	5	5	1	A, L	Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
QUEBRADA LOS RAMOS	QUEBRADA LOS RAMOS PRWQ89A	6.9	SD	SS 50146155	2	2	5	1		Landfills (6300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)		Low Dissolved Oxygen (1200)	
QUEBRADA PILETAS	QUEBRADA PILETAS PRWQ91A	2.0	SD	SS 50146165	2	2	5	1		Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)			
RIO GUAYABO	RIO GUAYABO PRWR94A	43.1	SD	SS 50146300 50146400 50146550 50146610 50146620	4a	4a	5	5	O	Onsite Wastewater Systems (6500) Package Plant Small Flows (0230) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Phosphorus (0910) Surfactants (0400)		Low Dissolved Oxygen (1200)	
RIO CULEBRINAS	RIO CULEBRINAS PRWR95A	142.6	SD	NS 50149100 50147600 SS 50146675 50146800 50147050 50147800 50148050	5	5	5	5	P	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)	Copper (0530) Lead (0550) Surfactants (0400) Total Coliforms (1700) Turbidity (2500) Pesticides Aldrin, Alpha-BHC and Hexachlorobenzene (0200)	Arsenic (0510) Copper (0530) Lead (0550) Mercury (0560) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Lead (0550) Surfactants (0400) Turbidity (2500) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO CAÑO (RIO CAÑAS) PRWR95B	33.3	SD	SS 50148500	4a	4a	5	5	E, P	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Arsenic (0510)	Arsenic (0510) Lead (0550) Surfactants (0400) Turbidity (2500) Cyanide (0720)
	QUEBRADA GRANDE (SECTOR CUCHILLAS) PRWQ95C	11.4	SD	SS 50147997	4a	4a	1	5	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Arsenic (0510)	
	QUEBRADA LAS MARIAS PRWQ95D	9.8	SD	SS 50147900	4a	4a	1	5	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Arsenic (0510)	
	QUEBRADA LA SALLE PRWQ95F	11.8	SD	SS 50147675	4a	4a	5	5	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Pesticides Alpha-BHC and Hexachlorobenzene (0200)		Arsenic (0510)	
	QUEBRADA EL SALTO PRWQ95G	7.8	SD	SS 50147630	4a	4a	1	5	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Arsenic (0510)	
	QUEBRADA GRANDE DE LA MAJAGUA PRWQ95H	5.6	SD	SS 50147595	4a	4a	5	5	N, P	Agriculture (1300) Onsite Wastewater Systems (6500)	Pesticides Alpha-BHC and Hexachlorobenzene (0200)			Arsenic (0510) Cyanide (0720)
	QUEBRADA SALADA PRWQ95I	7.9	SD	SS 50147475	4a	4a	1	5	E, P	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Arsenic (0510)	Arsenic (0510) Cyanide (0720)

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BASIN	WATERBODY NAME	WATERBODY SIZE (MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
	RIO SONADOR PRWR95J	37.7	SD	SS 50147400 50147450	4a	4a	1	5	E, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Arsenic (0510)	Arsenic (0510) Cyanide (0720)
	RIO GUATEMALA PRWR95K	20.3	SD	SS 50147200	4a	4a	1	5	E, P	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Arsenic (0510)	

- 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 an approved TMDL for Río Cibuco, the TMDL was approved on September 2002, the pollutant was Fecal Coliforms
 - C** - Watershed that has an approved TMDL for Río de la Plata, the TMDL was approved on September 2003, the pollutant was Fecal Coliforms
 - D** - Watershed that has an approved TMDL for Río Grande de Loíza, the TMDL was approved on September 2007, the pollutant was Fecal Coliforms
 - E** - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2008-303(d) list.
 - F** - 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 2006-303(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** - External Data
 - J** - For this assessment unit the monitoring station was eliminated since 2008 cycle
 - K** - Watershed that has an approved TMDL. Río Grande de Loíza, the TMDL was approved on August 2007, the pollutant was Copper
 - L** - If the Monitoring Station column is left blank, the Assessment Unit was not monitored for 2012 cycle
 - M** - Watershed that has approved TMDL from Río Grande de Loíza, a TMDL was approved on August 2007, the pollutant was Ammonia
 - N** - Remains in 2012 303(d) list due to old segmentation evaluation.
 - O** - Watersheds that have approved TMDL on September 2011, the pollutant were Fecal Coliforms
 - P** - Watersheds that have an approved TMDL on September 2010, the pollutant were Fecal Coliforms. The watersheds are Río Grande de Arecibo, Río Grande de Manatí, Río Grande de Añasco and Río Culebrinas.
 - R1** - Primary Contact Recreation
 - R2** - Secondary Contact Recreation
 - AL** - Aquatic Life
 - DW** - Raw Source for Drinking Water

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Table 48: Size of waters Impaired by Causes (Monitored acres for Estuaries)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (miles)
Surfactants (0400)	547.2
Arsenic (0510)	23.29
Cyanide (0720)	23.29
Low Dissolved Oxygen (1200)	652.7
Thermal Modifications (1400)	49.9
Fecal Coliforms (1700)	709.2
Total Coliforms (1700)	101.1
Turbidity (2500)	187.6

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Table 49: 2012 Cycle 303(d) List – List of Estuaries

Note: The 2012 303(d) List is comprised of the causes of impairments listed in 2012, 2010, 2008, 2006 and 2004 cycles

BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO HERRERA PRER15A	RIO HERRERA PREE15A	65.28	SB	SS 50062800	5	5	5	N/A		Landfills (6300) Onsite Wastewater Systems (6500)	Surfactants (0400)			Fecal Coliforms (1700)
RIO ESPIRITU SANTO PRER16A	RIO ESPIRITU SANTO PREE16A	368.51	SB	SS 50064000 50064910 50065100	5	5	5	N/A		Major Industrial Point Source (0110) Onsite Wastewater Systems (6500) Major Municipal Point Sources (0210)	Surfactants (0400) Low Dissolved Oxygen (1200) Fecal Coliforms (1700)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)
RIO DEMAJAGUA PRER23A	RIO DEMAJAGUA PREE23A	1.79	SB	SS 50072690	5	1	5	N/A		Collection System Failure (0500) Onsite Wastewater Systems (6500)	Turbidity			Fecal Coliforms (1700)
RIO HUMACAO PRER33A	RIO HUMACAO PREE33A	79.36	SB	SS 50082400	5	5	1	N/A		Collection System Failure (0500) Landfills (6300) Onsite Wastewater Systems (6500)				Fecal Coliforms (1700)
RIO CANDELERO PRER34A	RIO CANDELERO PREE34A	49.92	SB	SS 50082700	5	1	5	N/A		Collection System Failure (0500) Onsite Wastewater Systems (6500)	Thermal Modifications (1400)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)
RIO GUAYANES PRER35A	RIO GUAYANES PREE35A	23.29	SB	SS 50086475	5	5	5	N/A		Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500)		Arsenic (0510) Fecal Coliforms (1700) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700)	Arsenic (0510) Fecal Coliforms (1700) Cyanide (0720)

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BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
CAÑO SANTIAGO PRK35.1	CAÑO SANTIAGO PRSE35.1	73.72 11.9 miles	SB	SS 50087000 50087200	5	5	5	N/A		Agriculture (1300) Landfills (6300) Major Municipal Point Sources (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500)	Low Dissolved Oxygen (1200) Turbidity (2500) Surfactants (0400)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)
RIO MATILDE-PASTILLO PRSR64A	RIO MATILDE-PASTILLO PRSE64A	27.64	SB	SS 50119000	5	1	5	N/A		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)		Fecal Coliforms (1700)	
RIO TALLABOA PRSR65A	RIO TALLABOA PRSE65A	21.50	SB	SS 50122050	2	2	5	N/A		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)			
CAÑO MERLE	CAÑO MERLE PRWE78A	101.12	SB	SS 50138265 ED 1, 2, 3	2	2	5	N/A	I, O	Onsite Wastewater Systems (6500) Collection System Failure (0500)	Low Dissolved Oxygen (1200) Total Coliforms (1700)			
CAÑO BOQUILLA PRWK82	CAÑO BOQUILLAS PRWE82A	39.68	SB	SS 50139710	2	2	5	N/A		Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Turbidity (2500) Surfactants (0400)			
QUEBRADA GRANDE CALVACHE PRWQ88A	QUEBRADA GRANDE CALVACHE PRWE88A	1.28	SB	SS 50146150	5	5	5	N/A		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)		Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	

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BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	CLASS	2012 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			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO GUAYABO PRWR94A	RIO GUAYABO PRWE94A	18.43	SB	SS 50146630	5	5	5	N/A	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)		Fecal Coliforms (1700) Low Dissolved Oxygen (1200)		

Notes:

- A - Watershed and sub-watersheds under category 4c are water bodies that lack adequate flow, which impaired some of the designated uses.
- R1 - Primary Contact Recreation
- R2 - Secondary Contact Recreation
- AL - Aquatic Life
- DW - Raw Source for Drinking Water
- N/A - Not Applicable

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Table 50: Size of waters Impaired by Causes San Juan Bay Estuary System

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (miles)
Surfactants (0400)	2,453.8 acres 122.6 miles
Arsenic (0510)	2,453.8 acres 122.6 miles
Cadmium (0520)	2,389.2 acres 47.9 miles
Copper (0530)	2,453.8 acres 122.6 miles
Lead (0550)	2,453.8 acres 122.6 miles
Mercury (0560)	2,453.8 acres 122.6 miles
Selenium (0570)	18.8 miles
Ammonia (0600)	2,453.8 acres 122.6 miles
Cyanide (0720)	2,453.8 acres 122.6 miles
Phosphorus (0910)	2,389.2 acres 66.7miles
Nitrate + Nitrite (0990)	64.6 acres 55.9 miles
pH (1000)	2,453.8 acres 122.6 miles
Low Dissolved Oxygen (1200)	2,453.8 acres 122.6 miles
Thermal Modifications (1400)	2,389.2 acres 66.7miles
Fecal Coliforms (1700)	2,453.8 acres 122.6 miles
Fecal Enterococcus (1700)	2,389.2 acres 66.7 miles
Total Coliforms (1700)	2,453.8 acres 103.8 miles
Oil and Grease (1900)	2,453.8 acres 122.6 miles
Turbidity (2500)	2,453.8 acres 122.6 miles

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Table 51: 2012 Cycle 303(d) List – List of San Juan Bay Estuary System

Note: The 2012 303(d) List is comprised of the impairments listed in 2012, 2010, 2008, 2006 and 2004 cycles

BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
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 070 071 072 ED-BSJ 1, 2, 3 LC 1, 2 CSA CM PLE 50048580	5	5	5	N/A	I	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)	pH (1000) Low Dissolved Oxygen (1200) Oil & Grease (1900) Fecal Coliforms (1700) Fecal Enterococcus (1700) Oil & Grease (1900) Turbidity (2500)	Low Dissolved Oxygen (1200) Oil & Grease (1900) Turbidity (2500)	Fecal Coliforms (1700)	Ammonia (0600) Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Lead (0550) Low Dissolved Oxygen (1200) Mercury (0560) pH (1000) Selenium (0570) Surfactants (0400) Thermal Modifications (1400) Cyanide (0720)
ESTUARY SYSTEM	PREE13A2 Río Piedras Lago Las Curías	55.9 mi 64.6 acres	NS 89027 89028 50049100 50048800 ED-RP 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16 RPN 1, 2, 3	5	5	5	5	I	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)	Surfactants (0400) Lead (0550) Ammonia (0600) pH (1000) Low Dissolved Oxygen (1200) Fecal Coliforms (1700) Total Coliforms (1700) Nitrate + Nitrite (0990) Oil & Grease (1900) Turbidity (2500)	Ammonia (0600) Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Mercury (0560) Oil & Grease (1900) Surfactants (0400) Turbidity (2500) Cyanide (0720)	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) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500) Cyanide (0720)

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BASIN	WATERBODY NAME ASSESSMENT UNIT-ID	WATERBODY SIZE (ACRES/MILES)	MONITORING STATIONS NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				NOTES	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
				R1	R2	AL	DW			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
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 ED - CS 1, 2 CMP LSJ 1, 2 BC SA LLC LT 1, 2, 3 JM LP	5	5	5	N/A	I	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater System (6500) Urban Runoff/Storm Sewers (4000)	Cadmium (0520) Lead (0550) Copper (0550) Mercury (0560) pH (1000) Low Dissolved Oxygen (1200) Thermal Modifications (1400) Fecal Coliforms (1700) Total Coliforms (1700) Fecal Enterococcus (1700) Oil & Grease (1900) Turbidity (2500)	Ammonia (0600) Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Oil &Grease (1900) pH (1000) Phosphorus (0910) Surfactants (0400) Turbidity (2500) Cyanide (0720)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400)	Ammonia (0600) Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) pH (1000) Surfactants (0400) Turbidity (2500) Cyanide (0720)

Notes:

- I - External Data
- R1 - Primary Contact Recreation
- R2 - Secondary Contact Recreation
- AL - Aquatic Life
- DW - Raw Sources for Drinking Water
- N/A - Not applicable

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Table 52: Size of waters Impaired by Causes (Monitored acres for Lagoons)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED
Surfactants (0400)	554.0
Arsenic (0510)	554.0
Cyanide (0720)	554.0
pH (1000)	216.0
Low Dissolved Oxygen (1200)	770.0
Fecal Coliforms (1700)	554.0

Table 53: 2012 Cycle 303(d) List – List of Lagoons

Note: The 2012 303(d) List is comprised of the impairments listed in 2012, 2010, 2008, 2006 and 2004 cycles

MUNICIPALITY	WATERBODY NAME	ASSESSMENT UNIT (AU-ID)	CLASS	2012 MONITORING STATIONS NS = Network ED = External Data	WB SIZE (ACRES)	DESIGNATED USES AND CATEGORIES SUMMARY			NOTES	SOURCES OF POLLUTION	2012	CAUSES OF IMPAIRMENT			
						R1	R2	AL				2010	2008	2006	2004
VEGA BAJA MANATÍ	Laguna Tortuguero	PRNN0006	SE	NS 50038200	554	5	1	5		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)	Arsenic (0510) Fecal Coliforms (1700) Surfactants (0400)	Arsenic (0510) Cyanide (0720)		
FAJARDO	Laguna Grande	PREN0012	SB		216	3	3	5	L	Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Low Dissolved Oxygen (1200) pH (1000)		

Notes:
L - If the Monitoring Station column is left blank, the Assessment Unit was not monitored for 2012 cycle..
R1 - Recreación de Contacto Primario
R2 - Recreación de Contacto Secundario
AL - Aquatic Life
DW - Raw Source for Drinking Water

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Table 54: Size of waters Impaired by Causes (Monitored acres for Lakes)

CAUSES OF IMPAIRMENTS	SIZE OF WATERS IMPAIRED (acres)
Pesticides (0200)	2,133.0
Surfactants (0400)	634.0
Arsenic (0510)	2,907.0
Copper (0530)	2,047.0
Lead (0550)	713.0
Cyanide (0720)	1,194.0
Phosphorus (0910)	560.0
pH (1000)	1,310.0
Low Dissolved Oxygen (1200)	7,323.0
Fecal Coliforms (1700)	1,048.0
Turbidity (2500)	713.0

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Table 55: 2012 Cycle 303(d) List – List of Lakes

Note: The 2012 303(d) List is comprised of the impairments listed in 2012, 2010, 2008, 2006 and 2004 cycles

BASIN	WATERBODY NAME	WB SIZE (ACRES/MILES)	CLASS	2012 MONITORING STATION NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				Notes	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
					R1	R2	AL	DW			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO GUAJATACA	LAGO GUAJATACA PRNL3A1	1000 ac. 2.6 mi	SD	NS 50010720 50010790 50011000 ED PR1162	1	1	5	5	I	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Arsenic (0510) Low Dissolved Oxygen (1200)	Arsenic (0510) Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO DOS BOCAS PRNL17A1	634 ac. 6.9 mi	SD	NS 50025110 50027090	4a	4a	5	5	p	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) pH(1000)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Arsenic (0510) Copper (0530) Low Dissolved Oxygen (1200) Surfactants (0400) Cyanide (0720)
RIO GRANDE DE ARECIBO	LAGO CAONILLAS PRNL27C1	700 ac. 11.8 mi	SD	NS 89001 89002 89003 50026050	4a	4a	5	1	p	Agriculture (1300) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Copper (0530) Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO GARZAS PRNL37A3	108 ac. 2.7 mi	SD	NS 50020050	4a	4a	5	5	p	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Pesticides (0200)	Low Dissolved Oxygen (1200)
RIO GRANDE DE MANATÍ	LAGO GUINEO PRNL18C1	54 ac. 1.7 mi	SD	NS 89007 89008	4a	4a	5	1	p	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Pesticides (0200)	Low Dissolved Oxygen (1200)
RIO GRANDE DE MANATÍ	LAGO MATRULLAS PRNL28C1	77 ac. 3.0 mi	SD	NS 89009 89010	4a	4a	5	3	p	Agriculture (1300) Confined Animal Feeding Operations (1640)	Low Dissolved Oxygen (1200) pH (1000)	Low Dissolved Oxygen (1200) pH (1000)		pH (1000)

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BASIN	WATERBODY NAME	WB SIZE (ACRES/MILES)	CLASS	2012 MONITORING STATION NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				Notes	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
					R1	R2	AL	DW			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO DE LA PLATA	LAGO DE LA PLATA PREL110A1	560 ac. 15.0 mi	SD	NS 50044400 50044950	1	1	5	5		Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Arsenic (0510) Low Dissolved Oxygen (1200) Phosphorus (0910) Cyanide (0720)
RIO DE LA PLATA	LAGO CARITE PREL210A5	333 ac. 11.3 mi	SD	NS 50039900 50039950 ED PR1162	1	1	5	1		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) pH (1000)	Low Dissolved Oxygen (1200)		Low Dissolved Oxygen (1200)
RIO BAYAMON	LAGO CIDRA PREL12A2	268 ac. 8.3 mi	SD	NS 89029 89030 89031	1	1	5	3		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	SD	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)	Low Dissolved Oxygen (1200) Turbidity (2500) Copper (0530) Lead (0550)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500)	Arsenic (0510) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Turbidity (2500)	
RIO GRANDE DE PATILLAS	LAGO PATILLAS PRSL43A1	312ac.	SD	NS 89022 89023 89024 89025	4a	4a	5	3	O	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)
QUEBRADA MELANIA	LAGO MELANIA PRSL50A	35ac.	SD	NS 89026	1	1	5	3			Low Dissolved Oxygen (1200)		Pesticides (0200)	

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BASIN	WATERBODY NAME	WB SIZE (ACRES/MILES)	CLASS	2012 MONITORING STATION NS = Network ED = External Data	DESIGNATED USES AND CATEGORIES SUMMARY				Notes	SOURCES OF POLLUTION	CAUSES OF IMPAIRMENT			
					R1	R2	AL	DW			2012	2010	2008	2006 <i>Parameter in italic and color non compliance in 2004, but compliance in 2006</i>
RIO JACAGUAS	LAGO GUAYABAL PRSL ₁ 60A	373 ac. 5.9 mi	SD	NS 89011 89012 89013	1	1	5	5		Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)
RIO JACAGUAS	LAGO TOA VACA PRSL ₂ 60A	836 ac. 31.5 mi	SD	NS 89014 89015 89016	1	1	5	3		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	
RIO BUCANA-CERRILLOS	LAGO CERRILLOS PRSL ₆₂ A1	700ac.	SD	NS 89032 89033 89034	4a	4a	5	3	O	Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO YAUCO	LAGO LUCHETTI PRSL ₆₈ A1	266 ac. 14.0 mi	SD	NS 89017 89018 89019	5	1	5	3		Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) pH (1000)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Pesticides (0200)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200)
RIO LOCO	LAGO LOCO PRSL ₆₉ A	69 ac. 1.5 mi	SD	NS 89020 89021	5	1	5	3		Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	Fecal Coliforms (1700)
RIO GRANDE DE AÑASCO	LAGO GUAYO PRWL ₈₃ H	285 ac. 12.7 mi	SD	NS 89004 89005 89006	4a	4a	5	5	P	Agriculture (1300) Major Industrial Point Sources (0110) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)

Notes:

- O** - Watersheds that have an approved TMDL on September 2011, the pollutant was Fecal Coliforms
- P** - Watersheds that have an approved TMDL on September 2010, the pollutant was Fecal Coliforms. The watersheds are Río Grande de Arecibo, Río Grande de Manatí, Río Grande de Añasco and Río Culebrinas.
- R1** - Primary Contact Recreation
- R2** - Secondary Contact Recreation
- AL** - Aquatic Life
- DW** - Raw Source for Drinking Water

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Table 56: 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)	137.92
Low Dissolved Oxygen (1200)	205.10
Thermal Modifications (1400)	49.70
Enterococcus (1700)	98.59
Fecal Coliforms (1700)	92.81
Turbidity (2500)	150.59

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Table 57: 2012 Cycle 303(d) List – List of Coastal Shoreline

Note: The 2012 303(d) List is comprised of the impairments listed in 2012, 2010, 2008, 2006 and 2004 cycles.

Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	Designated Uses and Categories Summary			Overall 2012	Notes	Sources of Pollution	Causes of Impairment				
				R ₁	R ₂	AL				2012	2010	2008	2006	2004
PRNC02 (Punta Sardina to Punta Manglillo)	14.10	SB	MAC-086, SBZ-006, MAC-047	1	3	5	5		Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200)	Enterococcus (1700)	Not Listed	Not Listed
PRNC04 (Punta Morrillos to Punta Manatí)	13.66	SB	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)	Turbidity (2500)	Low Dissolved Oxygen (1200)	Not Listed	Not Listed	Not Listed
PRNC08 (Punta Cerro Gordo to Punta Boca Juana)	7.32	SB	SBZ-013, SBZ-014, RW-18, MAC-061	1	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)				pH (1000)	pH (1000)
PREC09 (Punta Boca Juana to Punta Salinas)	5.78	SB	MAC-077, RW-19	1	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	pH (1000) Low Dissolved Oxygen (1200)			pH (1000)	pH (1000)

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Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	Designated Uses and Categories Summary			Overall 2012	Notes	Sources of Pollution	Causes of Impairment				
				R ₁	R ₂	AL				2012	2010	2008	2006	2004
PREC10B (Punta Salinas to Rio Bayamón Mouth)	2.91	SB	SBZ-016, MAC-063	5	1	5	5		Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Fecal Coliforms (1700)		Turbidity (2500)	
PREC10C (Rio Bayamón Mouth to Isla de Cabras)	6.63	SC	No Stations	3	3	5	5	B	Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)				Turbidity (2500)	
PREC11 (Isla de Cabras to Punta del Morro)	7.79	SB	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 (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)				Low Dissolved Oxygen (1200) Fecal Coliforms (1700) Arsenic (0510) Copper (0530)	Low Dissolved Oxygen (1200) Fecal Coliforms (1700) Ammonia (0600)
PREC12 (Punta del Morro to West side of Condado Bridge)	3.50	SB	SBZ-018, SBZ-019, RW-20B, RW-20A	1	1	5	5		Urban Runoff/Storm Sewers (4000)	pH (1000)				

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Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	Designated Uses and Categories Summary			Overall 2012	Notes	Sources of Pollution	Causes of Impairment				
				R ₁	R ₂	AL				2012	2010	2008	2006	2004
PREC14 (Punta Las Marías to Punta Cangrejos)	4.19	SB	EB-40, EB-41, EB-42, 004C, B-3, RW-21, RW-21C	1	1	5	5		Urban Runoff/Storm Sewers (4000) Marinas and Recreational Boating (7900)	pH (1000)				
PREC16 (Punta Vacía Talega to Punta Miquillo)	9.46	SB	SBZ-027, SBZ-028	5	3	3	5		Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)			Enterococcus (1700)		
PREC17 (Punta Miquillo to Punta La Bandera)	8.41	SB	MAC-009, RW-1A, RW-1C	1	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) pH (1000)				
PREC18 (Punta La Bandera to Cabezas de San Juan)	10.46	SB	SBZ-030, MAC-010, RW-2	1	1	5	5			Low Dissolved Oxygen (1200) Turbidity (2500)				
PREC19 (Cabezas de San Juan to Punta Barrancas)	7.08	SB	MAC-078	1	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Fecal Coliforms (1700)		
PREC25 (Punta Lima to Morro de Humacao)	9.83	SB	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) pH (1000) Turbidity (2500)	Low Dissolved Oxygen (1200)	Fecal Coliforms (1700) Enterococcus (1700)	Fecal Coliforms (1700) Enterococcus (1700)	Fecal Coliforms (1700) Enterococcus (1700) pH(1000)

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Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	Designated Uses and Categories Summary			Overall 2012	Notes	Sources of Pollution	Causes of Impairment				
				R ₁	R ₂	AL				2012	2010	2008	2006	2004
PREC27 (Punta Candeleró to Punta Guayanés)	3.74	SB	No Stations	5	3	5	5	B	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)			Fecal Coliforms (1700) Enterococcus (1700)	Turbidity (2500)	
PREC28C (Punta Guayanés to Punta Quebrada Honda)	4.68	SC	MAC-012, MAC-013, SBZ-037	5	3	5	5		Major Industrial Point Source (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200)	Fecal Coliforms (1700) Enterococcus (1700)	Turbidity (2500)	
PREC30 (Punta Tuna to Cabo Mala Pascua)	2.65	SB	MAC-082	1	1	5	5			Low Dissolved Oxygen (1200) pH(1000) Turbidity (2500)				
PRSC31 (Cabo Mala Pascua to Punta Viento)	4.06	SB	No Stations	5	3	3	5	B	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)			Fecal Coliforms (1700) Enterococcus (1700)	Enterococcus (1700)	
PRSC32 (Punta Viento to Punta Figuras)	6.16	SB	SBZ-040, RW-6, MAC-083, RW-7	5	1	1	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)		Fecal Coliforms (1700) Enterococcus (1700)	Fecal Coliforms (1700) Enterococcus (1700)	Enterococcus (1700)	
PRSC33 (Punta Figuras to Punta Ola Grande)	8.10	SB	MAC-017	1	1	5	5		Major Industrial Point Source (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)		Turbidity (2500)	

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Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	Designated Uses and Categories Summary			Overall 2012	Notes	Sources of Pollution	Causes of Impairment				
				R ₁	R ₂	AL				2012	2010	2008	2006	2004
PRSC34 (Punta Ola Grande to Punta Petrona)	40.96	SB	MAC-016, MAC-018, MAC-019, SBZ-042 Stations 09, 10, 19 and 20 from Natural Reserve of Jobos Bay - External Data	3	3	5	5	A	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) Turbidity (2500), Enterococcus (1700)	pH (1000) Low Dissolved Oxygen (1200) Turbidity (2500), Enterococcus (1700)		Turbidity (2500) Fecal Coliforms (1700)	Fecal Coliforms (1700) pH (1000)
PRSC35 (Punta Petrona to Punta Cabullones)	16.19	SB	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)	Low Dissolved Oxygen (1200)			
PRSC36C (Punta Carenero to Punta Cuchara)	6.70	SC	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) pH (1000) Thermal modifications (1400)				

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Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	Designated Uses and Categories Summary			Overall 2012	Notes	Sources of Pollution	Causes of Impairment				
				R ₁	R ₂	AL				2012	2010	2008	2006	2004
PRSC38 (Punta Guayanilla to Punta Verraco)	13.20	SC	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) pH (1000) Turbidity (2500)	Low Dissolved Oxygen (1200)		Thermal Modifications (1400)	Thermal Modifications (1400)
PRSC39 (Punta Verraco to Punta Ballena)	6.41	SB	MAC-030, G1	2	2	5	5	C	Unknown Source (9000)	Turbidity (2500)				
PRSC40 (Punta Ballena to Punta Brea)	13.26	SB	MAC-085, RW-9, MAC-034, G2, G3, G4, GE1A, GE1B, GW3A, GW3B, GW1A, GW1B	1	1	5	5	C	Minor Municipal Point Source (0220) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500) Thermal Modifications (1400)				
PRSC41B2 (Bahía Fosforescente La Parguera to Punta Cueva de Ayala)	7.00	SB	SBZ-046	3	3	5	5		Urban Runoff/Storm Sewers (4000) Landfill (6300) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)		Thermal Modifications (1400)			

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Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	Designated Uses and Categories Summary			Overall 2012	Notes	Sources of Pollution	Causes of Impairment				
				R ₁	R ₂	AL				2012	2010	2008	2006	2004
PRWC43 (Punta Águila to Punta Guaniquilla)	9.54	SB	SBZ-047, RW-12A, RW-12B, SBZ-048, RW-14A, MAC-037, RW-13	1	1	5	5		Collection System Failure (0500) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900)	Thermal Modifications (1400) pH (1000)				
PRWC48 (Punta Guanajibo to Punta Algarrobo)	5.60	SB	MAC-038, MAC-040	5	1	5	5		Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200)	pH (1000) Enterococcus (1700)	Enterococcus (1700) Fecal Coliforms (1700)	Not Listed	Not Listed
PRWC49 (Punta Algarrobo to Punta Cadena)	6.98	SB	MAC-041, RW-15	1	1	5	5		Major Municipal Point Sources (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved oxygen (1200) pH (1000)				

305(b) and 303(d) Integrated Report

Assessment Unit ID (AU)	Size of New AU (miles)	Class	2012 MONITORING STATION NS = Network ED = External Data	Designated Uses and Categories Summary			Overall 2012	Notes	Sources of Pollution	Causes of Impairment				
				R ₁	R ₂	AL				2012	2010	2008	2006	2004
PRWC52 (Punta del Boquerón to Punta Borinquén)	6.80	SB	MAC-043,SBZ-002, RW-16, RW-16A	1	1	5	5	Major Municipal Point Source (0210) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)					

Note:

R₁ - Primary Contact Recreation

R₂ - Secondary Contact Recreation

AL - Aquatic Life

A - The Monitoring Stations 09, 10, 19 and 20 provided water quality data from the National Reserve of Jobos Bay.

B- If the AU with Monitoring Stations and External Data 2012column is blank, the AU was not monitored for 2012 Cycle.

C - Monitoring Stations (G1, G2, G3, G4, GE1A, GE1B, GW3A, GW3B, GW1A, and GW1B) were provided by the Guánica Bay Pollutant Source Identification Sampling Sept. 2010 and February 2011.

APENDIX II Public Notice

305(b) and 303(d) Integrated Report



GOVERNMENT OF PUERTO RICO OFFICE OF THE GOVERNOR ENVIRONMENTAL QUALITY BOARD

303(d) List

Water bodies that exceed Water Quality Standards

The most recent evaluations conducted on water quality in water bodies of Puerto Rico show that various sub-watersheds of the watersheds in Puerto Rico failed, consistently over the period 2010-2011, water quality criteria for designated uses, as specified in the Puerto Rico Water Quality Standards Regulation. No individual parameter for which criteria is established in the aforementioned Regulation, be they numerical or narrative, affects all designated uses of a water body. Non-compliance with a particular criteria utilized to protect the water quality in relation to a designated use, does not mean that all other designated uses of that water body are impaired. Because each of these criteria was promulgated to protect designated uses, it is imperative to identify the criteria that are not achieved to develop the tools necessary to bring it to compliance.

Section 303 (d) of the Clean Water Act (CWA) of 1972, as amended, requires that the jurisdictions develop a list that includes water bodies that did not meet the applicable standards (water quality standards) to any designated use specified in the Act, during an evaluation period under consideration. For water bodies that do not meet the applicable standard to a designated use, the Act requires that control measures are in place for pollutants (chemicals, organisms or physical) that prevented compliance with standards. Control measures to be implemented should be those that address the problem that caused non-compliance on the impaired designated use. The designated uses for waters of Puerto Rico are primary contact (swimming), secondary contact (fishing and boating), preservation of desirable species (aquatic life) and raw source for drinking water.

One of the strategies established in Section 303 (d) to be considered in planning to seek the restoration of water bodies impaired is the mechanism for Total Maximum Daily Load (TMDL) in the corresponding watersheds. A TMDL represents the maximum amount of one or more specific contaminants that can be discharged to a water body daily, without compromising the assimilative capacity of the water body related to the parameter(s) considered. The purpose of a TMDL is to control the levels of specific contaminants that give access to a water body, causing violations to the applicable water quality standards and hinder the achievement of specific designated uses.

For the above, EOB has developed a draft list of impaired Water bodies List 303 (d) for the cycle 2012.

The public can review and evaluate the draft List of Impaired Water bodies for the cycle 2012 and additional documents generated by EOB to develop that list. These documents will be available at the following locations, and in the following electronic address: <http://www2.gub.gobierno.pr/programas/mb/programas/mb/EvaluacionPlanificacionEcologica/Pag303d-fault.aspx>, from the date of publication of this notice.

Environmental Quality Board
Evaluation and Strategic Planning Area
3rd Floor, Suite 325
Cruz A. Matos Environmental Agencies Building
Ponce de León Ave. 1375
San Juan
Telephone: (787) 767-8181 Ext. 3550

Ponce Regional Office (EOB)
Regional Distribution Center Suite 404
3191 Santiago de los Caballeros Ave.
State Road 14, Ponce
Telephone: (787) 840-9070

Humacao Regional Office
Popular Mortgage Building
Boulevard del Río Ave.
Ramal PR 3, South By Pass, Humacao
Telephone: (787) 285-2818

Meyagüez Regional Office
State Road 2, Km. 159, Suite 201
Meyagüez
Telephone: (787) 833-1189

Guayama Regional Office
State Road 3, Km. 134.3
Algarrobo Ward, Guayama
Telephone: (787) 864-0103

Arecibo Regional Office
1535 San Bernardo Street
Mayajal State Road 2, Km. 81.3, Arecibo
Telephone: (787) 899-0013

The Public Hearing regarding the intention to develop and implement "TMDLs" for the pollutants described in the List 303 (d) will be held on March 19, 2012 in the Environmental Quality Board, Public Hearing Hall, 4th Floor, Cruz A. Matos Environmental Agencies Building, 1375 Ponce de León Avenue, Uff, San José Industrial Park, San Juan from 9:30 a.m.

The hearing will be extended as long as there are deponents present. If there are no deponents present within one hour after the commencement of the hearing, it will be declared empty and the hearing will be adjourned.

Interested and affected parties can submit written comments to the Public Hearing Office of the Environmental Quality Board, no later than thirty (30) days from the publication of this notice.

EOB invites neighbors, government agencies and the general public to participate in the Public Hearing and submit comments and recommendations. Turns to testify should be requested at least three (3) days before the celebration of the hearing. Interested persons should contact with the Office of Public Hearings of the Environmental Quality Board at telephone (787) 767-8075 or (787) 767-8181 extension 3705. If someone does not seek a turn to testify in advance, it may do so after the deponents who have a turn have completed their testimony, if reasonable time is available at the hearing.

Pedro J. Nieves Miranda, Esq.
Executive Director

This notice has been issued pursuant to Law 416 of September 22, 2004, as amended, Environmental Public Policy Act. Authorized by the State Elections Commission of Puerto Rico: CCE-C-12-015



GOBIERNO DE PUERTO RICO
OFICINA DEL GOBERNADOR
JUNTA DE CALIDAD AMBIENTAL

**LISTA 303 (d)
CUERPOS DE AGUA QUE EXCEDEN
LOS ESTÁNDARES 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 cuencas hidrográficas de Puerto Rico no lograron, de forma consistente durante el periodo 2010-2011, 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 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 logran para desarrollar las herramientas para llevarlos a cumplimiento.

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 aplicables (estándares de calidad de agua) a cualquier uso designado especificado en la Ley, durante un período 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 (químicos, organismos o condiciones físicas) que impidieron el cumplimiento con los estándares. Las medidas de control a implantarse deben ser aquellas que atienden 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 (batación), contacto secundario (pesca y paseos en bote), preservación de especies de aguas (vida acuática) y abasto crudo de agua potable.

Una de las estrategias que se indican en la Sección 303(d) a considerarse 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 a los parámetros considerados bajo el mismo. El objetivo de un TMDL es controlar los niveles de contaminantes específicos que generan escasez 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(c), para el ciclo 2012.

El público puede revisar y evaluar el borrador de la Lista de Cuerpos de Agua Impactados para el ciclo 2012 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 a partir de la fecha de publicación de este aviso:

<http://www2.pr.gov/agencias/calidadprogramatica/EvaluacionPlanificacionEstrategica/Pages/default.aspx>

Junta de Calidad Ambiental
Área de Evaluación y Planificación
Estratégica - Piso 3 Ala A Oficina 305
Edificio Agencias Ambientales
Carretera 8838
Sector El Cinco, Río Piedras
Teléfono: (787) 767-8181 Ext. 3550

Oficina Regional de Humacao (JCA)
Edificio Popular Mortgage
Ave. Boulevard del Río
Ramal PR 3, Desvío Sur, Humacao
Teléfono: (787) 285-2018

Oficina Regional de Guayama (JCA)
Carr. 3 Km. 134.3
Bo. Algarcho, Guayama
Teléfono: (787) 854-0103

Oficina Regional de Ponce (JCA)
Centro Regional de Distribución - Piso 3
Ave. Santiago de los Caballeros
Carr. 14, Ponce
Teléfono: (787) 840-4070

Oficina Regional de Mayagüez (JCA)
Carr. 2 Km. 159, Suite 201
Mayagüez
Teléfono: (787) 833-1188

Oficina Regional de Arecibo (JCA)
Calle San Bernardo 1595
Marginal Carr. 2, Km. 81.3, Arecibo
Teléfono: (787) 880-0013

La JCA celebrará, una Vista Pública sobre la intención de desarrollar e implantar "TMDLs" para los contaminantes descritos en la Lista 303(d). La misma se celebrará el 19 de marzo de 2012 en el Salón de Vistas Públicas del Piso 4, Ala B del Edificio de Agencias Ambientales Cruz A. Mateo localizado en la Carretera Estatal 8838, Sector El Cinco en Río Piedras, San Juan a partir de las 9:30 a.m.

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

Los partes interesadas o electores 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 la mañana con tres (3) días de anticipación a la celebración de la Vista. Las personas interesadas deben comunicarse con la División de Vistas Públicas de la Oficina de Secretaría de la Junta de Calidad Ambiental al teléfono (787) 767-8075 o (787) 767-8181 extensión 3705. Si alguna persona no solicita turno para deponer de antemano, podrá deponer después que los deponentes con turno hayan terminado su deposición, de haber tiempo disponible razonable en la Vista.

Ldo. 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.
Autorizado por la Comisión Estatal de Elecciones: CEE-C-12-015

N. EL VOCERO / jueves, 16 de febrero de 2012

APENDIX III Environmental Quality Board Determination
R-12-15