

Puerto Rico 305(b)/303(d) Integrated Report

Plans and Special Projects Division
Evaluation and Strategic Planning Area
Environmental Quality Board
September 2014

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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 2014. This report presents the same segmentation system established for inland waters (river basins) in the 2006 IR Cycles. For 2014 there are 215 Assessment Units, the increase is because some estuary river area where outline, thus in turn the subbasin were segmented again.

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 Martín Peña, Quebrada Juan Méndez, Quebrada San Anton, Río Piedras and Quebrada Blasina.

This 2014 cycle present the same coastal segmentation system use in 2012 Cycle. As result, this segmentation presents 64 AU.

Rivers & Streams

The water quality assessment for the 2014 cycle indicates that 2,269.8 miles of all rivers and stream are impaired. The impairment for primary and secondary recreation uses was due to total coliforms violations to the standard. For aquatic life copper, low dissolved oxygen and turbidity were the most common causes of impairment. For drinking water use the most common cause of impairment is turbidity. During this cycle 62 total maximum daily loads (TMDL) were approved for fecal coliforms in order to address the problematic of in water bodies of the island.

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Lakes (reservoirs)

During this cycle, a total of 7,269 acres of lakes are considered to be impaired for aquatic life due to violations of dissolved oxygen (DO) standard as shown by readings taken at the bottom depths of the lakes. A total of 1,413 acres are impaired for drinking water due to violations to turbidity.

Coastal Waters

The coastal shoreline consists of a total of 546.63 miles. During this cycle 2014 a total of 48.67 miles are in impairment for the designated use of primary contact recreation due to violations of the water quality standard of enterococcus. In addition, 492.50 miles are impaired for the designated use of aquatic life due to violations of the following water quality standards: DO, turbidity, pH, oil and grease 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. Except the San Juan Bay Estuary System (SJBES).

Islandwide, there are a total of 3,430.3 acres and 107.8 stream miles that form part of estuaries. For at least one designated use, 102.4 acres of estuaries were found to be impaired. The impairment was due violations of the following: fecal and total coliforms and surfactants.

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: total coliforms, fecal coliforms, fecal enterococcus, low dissolved oxygen, oil & grease, pH, thermal modification (temperature) 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

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

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reported by governmental agencies, members of the public or academic institutions. In addition to these categories, Puerto Rico is required to evaluate and consider any other readily available data and information. The list of sources PREQB has actively solicited data from includes government agencies and academic institutions these can be found in the Table 12. PREQB requested recent (three years or less) chemical and biological data on water bodies along with information pertaining to the quality control procedure and protocols that were used to generate the data. A summary of the agencies and academic institutions that submitted data is found in Part B: Water Quality External Data of this document.

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; between 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), south (33 watersheds), and west (26 watersheds) (Figure 1).

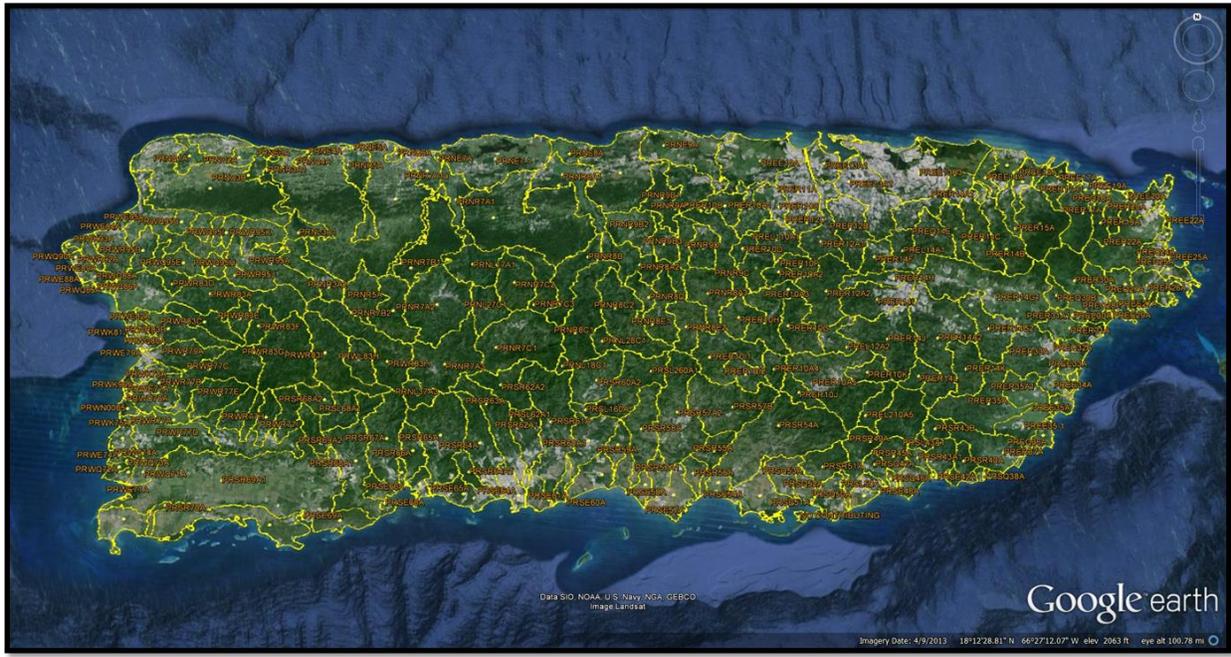


Figure 1: Watersheds in Puerto Rico

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 reservoirs include direct contact (swimming) as indirect contact (recreational fishing and strolls in boat).

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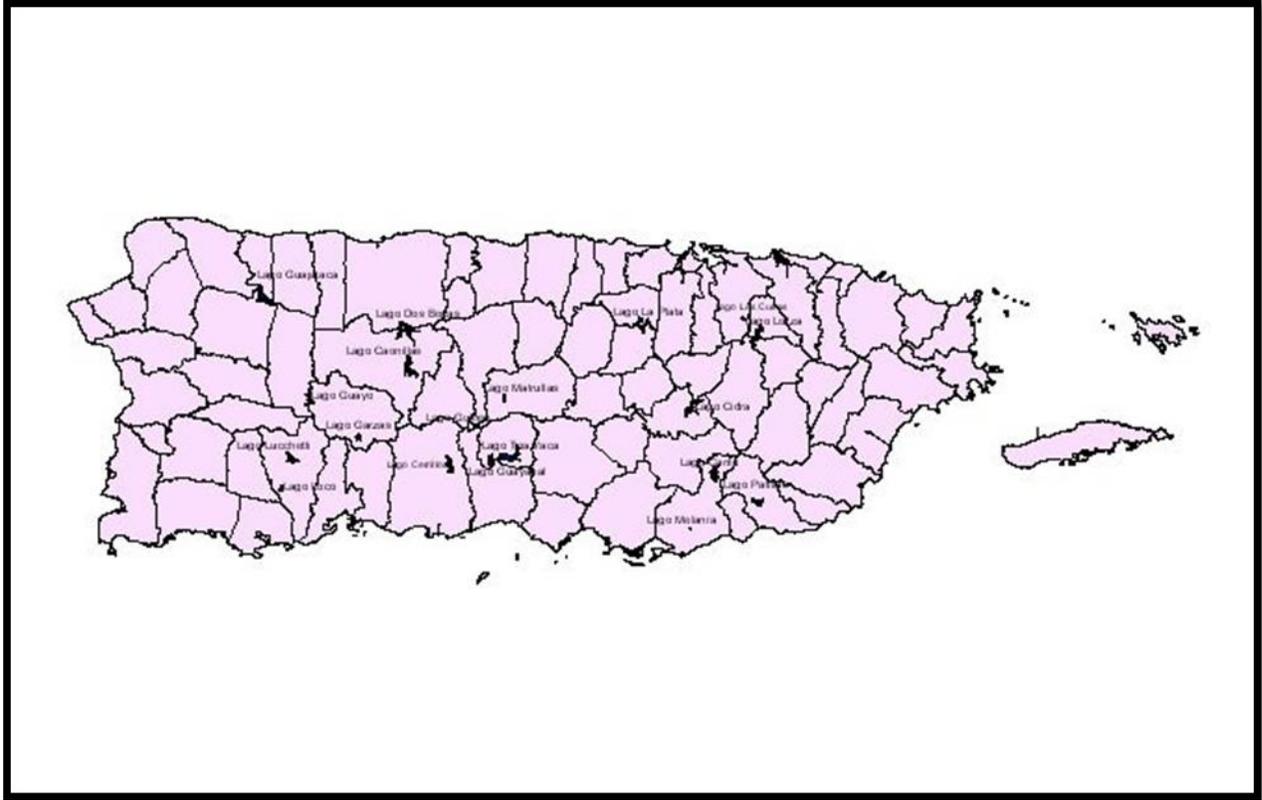


Figure 2: Reservoirs in Puerto Rico

The coastal shoreline, presents a great variety of geologic aspects such as: cliffs, dunes, beaches, wooded hills, sinkhole, forests, lagoons, mangrove, salt mines, earth flooding, bays, small barren islands and keys, which altogether give the characteristics and specific form to the archipelago. The coastal zone is one of the areas of greater tourist-recreational value and the areas bordering to the coasts constitute very active zones of economic and social development, where it undergoes a fast growth of population and an active commercial and industrial growth. Table 1 shows total waters for PR.

Table 1: Total Waters for Puerto Rico	
Waters	Value
Total Miles of Rivers and Streams	5,052.8
Number of Reservoirs	19
Acres of Reservoirs	7,323
Acres of Estuaries	3,430.3*
Miles of Coastal Waters	546.63

* Not included: 2,453.8 acres for the SJBES.

Water Pollution Control Program

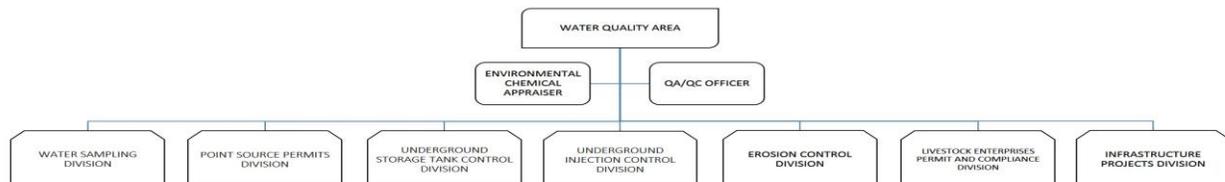
Since 2006, PREQB begins a reorganization of the agency's programs in order to improve its operational organization, therefore, more effective implementation of the various permits issuance and compliance programs. PREQB expects that this change will allow meeting in the following goals:

- ❖ 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 (Figure 3). 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 to fulfill its commitment with the protection of the environment. Also, develops regulation and conduct enforcement action in order to control the generation, handling and final disposal of waste and wastewater generated by the industrial and agricultural activities.

Following is an overview of the Water Quality Area Divisions.

The **Underground Injection Control Division** was created to regulate/control the facilities with underground injection system (UIS) and responds to the wastewater releases or escapes from these

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systems 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 UIS to PREQB.

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 **Underground Storage Tanks Division** was created to regulate/control the UST facilities and responds to of leaking tank that could be affecting the underground water resources. In order to control this type of systems, permits and authorization are issued, sampling monitoring report are evaluated, and remedial plans are required to those where the bad operations of the systems has cause spills to the water or to the subsoil. USEPA thru a memorandum of understanding delegated the pursuit of UST to PREQB.

The **Erosion Control Division** implements and manages the Erosion Control and Sedimentation Prevention Regulation, which performs enforcement actions to the facilities regulated under the General Permit. This new permit became effective on 2007. The aforementioned division is responsible to perform inspections to all the permitted projects and presented to EQB in order to verify compliance with the permit granted and take corrective action or legal action if needed. The way to grant this permit was changed, in order to increase the oversight of the project and verify compliance with regulations.

The **Infrastructure Projects Division** has the responsibility of manage the federal funds assigned 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.

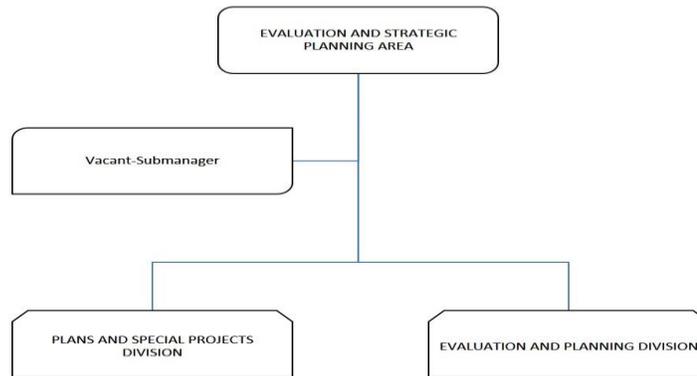
The **Livestock Permit and Compliance Division** perform inspections, evaluate and approve the Animal Waste Management Plans that submit livestock enterprises such as: dairy facilities, poultry facilities, horse farms, among others. In January 2009, PREQB approved the *Reglamento para el Control de los 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 **Water 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.

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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. This Division develops the 305(b)/303(d) Integrated Report as required by Clean Water Act. It include the water quality evaluation for river, stream, coastal, lakes, lagoons, estuary and groundwater of the island. 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; implementation of the TMDL for the impaired water bodies, the Wellhead Protection Program and the PR Unified Watershed Assessment and Restoration Activities.

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 responsible to verify that the environmental components that are studied are the related ones to the analyzed problem, and relates all the concern analyzed to the person in charge in the decision making.

The following tables (2 and 3) show a summary of Actions Initiated by Point and Non-Point Source Control Units

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Table 2: Actions Initiated Point Sources Control Units				
Actions	NPDES Facilities	UST	UIC	Non-Filer (Illegal Discharges)
Certificates or permits Issued	97	1,117	65	27
Total number of inspections	245	0	93	161
Referrals to Legal Affairs	0	68	0	2
Notification of violation	0	8	8	64
Administrative Orders	0	0	0	45

Table 3: Actions Initiated Non-Point Sources Control Units		
Actions	SEC Activities	Livestock Enterprises
Certificates or permits Issued	1,544	160
Total number of inspections	630	781
Referrals to Legal Affairs	82	13
Notification of violation	193	382
Administrative Orders	37	18

Cost/Benefit Assessment

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

Although this information is not readily available, we do provide some of the costs involved in efforts pertaining to water quality improvement and protection. These costs are only those incurred directly by PREQB utilizing state and federal funds to operate and manage water quality planning and control programs. 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

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expenditures to promote natural resources protection, preservation and enjoyment are not being considered.

Tables 4, 5, 6 and 7 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.

Table 4: Federal and State Funds					
Categories	Performance Partnership Grant (PPG)				Beach Monitoring and Public Notification Program
	2012		2013		2012
	Federal	State	Federal	State	Federal
Salaries	\$ 1,477,932	\$ 408,269	\$ 1,938,505	\$ 526,303	\$ 159,735
Fringe Benefits	\$ 488,907	\$ 135,057	\$ 510,504	\$ 138,602	\$ 46,035
Travel	\$ 17,000	\$ 4,696	\$ 50,000	\$ 13,575	\$ 2,616
Equipment	\$ 116,208	\$ 32,102	\$ 56,000	\$ 15,204	\$ 2,000
Supplies	\$ 124,200	\$ 34,309	\$ 120,000	\$ 32,580	\$ 16,000
Contractual	\$ 749,733	\$ 207,109	\$ 536,000	\$ 122,446	\$ 19,500
Construction	\$ -	\$ -	\$ -		\$ -
Others	\$ 111,546	\$ 30,814	\$ 68,118	\$ 18,494	\$ 5,000

Table 5: Federal and State Funds (Cont.)						
Categories	Water Quality Management 604(B)		State Revolving Fund (SRF)			
	2012	2013	2012		2013	
	Federal	Federal	Federal	State	Federal	State
Salaries	\$ 89,345	\$ 88,279	\$ 161,453	\$ 32,291	\$ 345,382	\$ 69,076
Fringe Benefits	\$ 23,476	\$ 22,910	\$ 37,947	\$ 7,589	\$ 81,160	\$ 16,232
Travel	\$ 500	\$ 1,000	\$ 599	\$ 120	\$ 2,118	\$ 424
Equipment	\$ -	\$ 4,500	\$ 833	\$ 167	\$ 937	\$ 188
Supplies	\$ 11,630	\$ 24,150	\$ 472	\$ 94	\$ 800	\$ 160
Contractual	\$ -	\$ -	\$ 336,196	\$ 67,239	\$ 5,242	\$ 1,049
Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Others	\$ 74,400	\$ 2,071	\$ 17,837,158	\$ 3,567,432	\$ 16,850,421	\$ 3,370,084

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Table 6: Federal and State Funds (Cont.)								
Categories	LUST - Corrective				UST - Preventive			
	2012		2013		2012		2013	
	Federal	State	Federal	State	Federal	State	Federal	State
Salaries	\$ 208,679	\$ 23,187	\$ 198,903	\$ 22,100	\$ 113,891	\$ 37,964	\$ 167,138	\$ 55,173
Fringe Benefits	\$ 60,280	\$ 6,698	\$ 61,992	\$ 6,888	\$ 33,185	\$ 11,062	\$ 51,999	\$ 17,333
Travel	\$ 4,253	\$ 472	\$ 1,111	\$ 123	\$ 4,000	\$ 1,333	\$ 6,500	\$ 2,167
Equipment	\$ -	\$ -	\$ 6,000	\$ 667	\$ 25,000	\$ 8,333	\$ 6,638	\$ 2,213
Supplies	\$ 1,800	\$ 200	\$ 11,414	\$ 1,269	\$ 1,500	\$ 500	\$ 7,755	\$ 2,585
Contractual	\$ -	\$ -	\$ 110,000	\$ 12,222	\$ -	\$ -	\$ 80,283	\$ 26,761
Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Others	\$ 500	\$ 56	\$ -	\$ -	\$ 3,500	\$ 1,167	\$ 20,472	\$ 6,824

Table 7: Total Federal and State Funds	
Summary of Federal and State Funds	
Federal	\$ 43,805,311
State	\$ 9,099,002
Total	\$ 52,904,313

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Special State Concerns and Recommendations

[RESERVED]

**PART B. Assessment Methodology Used for 305(b)/303(d) Integrated Report for 2014
Cycle and Assessment Results**

Assessment Units (AU)

Assessment Unit for Inland Waters

The PREQB uses the river basins system for planning activities and implementation of restoration efforts. In order to achieve these efforts in a more effective manner, we have replaced the old system based on the segmentation of small portions of rivers and individual creeks by basin segmentation system that has been implemented since the 2006 reporting cycle (See Figure 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 it is divided in assessment units that consist of complete sub-basins. The smaller river basins have been maintained as a single assessment unit or, at the most, it may be segmented in two assessment units. For 2014 there are 215 Assessment Units, the increase is because some estuary river area where outline, thus in turn the subbasin were segmented again.

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

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Table 8: 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
QUEBRADA SECA	PRNQ6A	06	2.0	N	1
RIO GRANDE DE ARECIBO*	PRNR7A	07	424.6	N	12
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	2
RIO MAMEYES	PRER17A	17	38.9	E	2
QUEBRADA MATA DE PLATANO	PREQ18A	18	4.0	E	1
RIO SABANA	PRER19A	19	33.1	E	2
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	2
RIO BLANCO	PRER30A	30	58.4	E	2
RIO ANTON RUIZ	PRER31A	31	20.4	E	2
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	2
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

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Table 8: Basins for the Inland Waters Segmentation System					
Basin Name	Basin ID	Basin Sequence	Basin Size (Miles)	Region	Sub-Basins
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
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	2
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	2
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	3
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

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Table 8: Basins for the Inland Waters Segmentation System					
Basin Name	Basin ID	Basin Sequence	Basin Size (Miles)	Region	Sub-Basins
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-three of the 96 basins are monitored routinely. These 23 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 9). The table below presents geographic regions with corresponding number of basins and basins part of the monitoring network.

Table 9: Geographic Regions			
Region	Basin	Basins in Permanent Stream Water Quality Network	AU By External Data
North	9	4	10
South	33	5	9
East	28*	10	21
West	26	4	7

*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 was evaluated and integrated within this report.

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Assessment Unit for Coastal Shoreline

The segmentation for the coastal shoreline it is divided in sixty-four (64) AU of which forty-four (44) are monitored (with monitoring stations) and twenty (20) AU are unmonitored (not assessed) (Figure 5). Nevertheless, during the year 2013, the EQB completed the relocation process of the coastal stations with the purpose that the greater amount of AU are monitored. These changes will be reflected in the year 2014 and will be included in the next evaluation cycle 2016.

The table 10 summarize the ID of the AU, the size and the region location. The column of AU Description indicates where begins the AU and where it ends the same.

Table 10: 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 Marias	4.31	East
PREC14*	Punta Las Marias to Punta Cangrejos	4.19	East
PREC15*	Punta Cangrejos to Punta Vacía Talega	6.23	East
PREC16*	Punta Vacía Talega to Punta Miquillo	9.46	East
PREC17*	Punta Miquillo to Punta La Bandera	8.41	East
PREC18*	Punta La Bandera to Cabezas de San Juan	10.46	East
PREC19*	Cabezas de San Juan to Punta Barrancas	7.08	East
PREC20	Punta Barrancas to Punta Medio Mundo	5.33	East
PREC21	Punta Medio Mundo to Punta Puerca	3.00	East
PREC22	Punta Puerca to Isla Cabras	3.30	East
PREC23	Isla Cabras to Punta Cascajo	8.83	East
PREC24	Punta Cascajo to Punta Lima	9.07	East
PREC25*	Punta Lima to Morro de Humacao	9.83	East
PREC26	Morro de Humacao to Punta Candelero	1.84	East
PREC27	Punta Candelero to Punta Guayanés	3.74	East
PREC28C*	Punta Guayanés to Punta Quebrada Honda	4.68	East
PREC28B*	Punta Quebrada Honda to Punta Yeguas	.74	East
PREC29	Punta Yeguas to Punta Tuna	4.35	East
PREC30*	Punta Tuna to Cabo Mala Pascua	2.65	East

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Table 10: Assessment Units			
Segment ID	Segment Name	Segment Size (miles)	Region
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 Águila	2.89	West
PRWC43*	Punta Águila 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.

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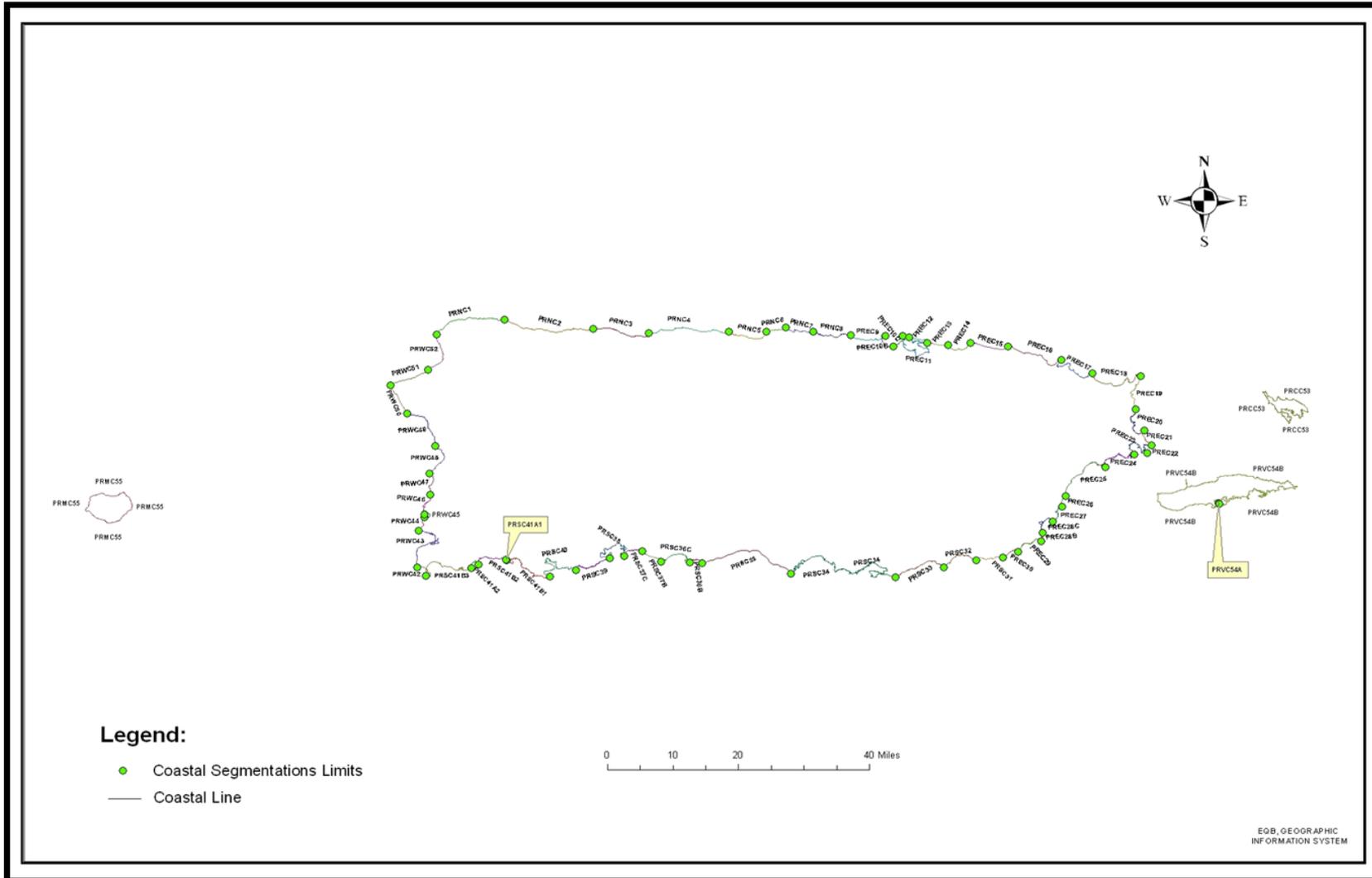


Figure 5: Puerto Rico Coastal Shoreline Segmentation System

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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. Also, where available, effluent quality data from the discharge monitoring reports submitted by NPDES permitted point sources are use as contributing sources that may impact the use support potential of the water bodies. 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.

In this cycle the PREQB generates data from five (5) routine monitoring networks unlike the 2012 cycle. This will provide physical, chemical and biological water quality data from the different water bodies. EQB in coordination with the EPA have been working on the equipment issue for heavy metal and it is expect that at Fy-2015 EQB Lab begins to generate analytical results for metals. The network are:

- ❖ **Surface Water Monitoring Network:** Operated by the USGS under a cooperative agreement with Puerto Rico, this network includes water quality-sampling stations in the 22 major river basins in the north, south, east, and west hydrographic regions of Puerto Rico. The Nonpoint Monitoring Network was included as part of this Network. 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

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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⁻)
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	Methoxyclor	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 public water supply, propagation and preservation of desirable species, including threatened and endangered species, as well as primary and secondary contact recreation. 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).

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- ❖ **Groundwater Monitoring Network:** This network is limited to approximately fifty-four (54) drinking water wells located in different municipalities throughout Puerto Rico and are sampled at least one time per year, sampling once for each of the following:

Fecal Coliforms	Orthophosphate
Total Coliforms	pH
Total dissolved solids	Pesticides
Temperature	Conductivity

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

Fecal Coliforms	Ammonia
Enterococcus	Oil and Grease
pH	Dissolved Oxygen
Temperature	Salinity
Turbidity	

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

Table 11: Puerto Rico Coastal Permanent Network Water Quality Monitoring Stations	
Station ID	Frequency of Monitoring
MAC-043	6/BT, 1/PCM
SBZ-002	6/BT
SBZ-003	6/BT
SBZ-004	6/BT, 1/PCM
SBZ-005	6/BT
MAC-044	6/BT
MAC-086	1/BTPCM
SBZ-006	6/BT
MAC-047	6/BTPC, 1/M
SBZ-007	6/BT
MAC-049	1/BTPCM
SBZ-008	6/BT
SBZ-009	6/BT
MAC-055	6/BTPC, 1/M
SBZ-010	6/BT
MAC-087	6/BT, 1/PCM
MAC-088	6/BT, 1/PCM

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Table 11: Puerto Rico Coastal Permanent Network Water Quality Monitoring Stations	
Station ID	Frequency of Monitoring
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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Table 11: Puerto Rico Coastal Permanent Network Water Quality Monitoring Stations	
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, Dissolved Oxygen, Turbidity, NO₂ + NO₃, NH₃ and O&G (Oil & Grease)

M - Metals

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

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

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

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

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

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

Special Monitoring Projects

Delisting

The PREQB in cooperation with the USGS is conducting a water quality sampling program to assess the water quality at selected stream sites throughout Puerto Rico. The sampling program will be conducted until September 2015. These streams are water bodies that were included in the 303(d) List due to monitoring through synoptic studies.

Since, there were not a permanent monitoring station for these water bodies, they were kept on the 303(d) List for several cycles. If, a previously listed parameter in the previous cycle is complying with the applicable water quality standard, that specific parameter will be delisted in the next two cycle as established in the 303(d) List – Delisting Criteria section of this Assessment Methodology.

Water 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, Puerto Rico is required to consider any other readily available data and information, but may decide to rely or not 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 12 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.

As part of the collection of water quality data from external / secondary sources, PREQB requests to government agencies (state and federal), universities and other entities the QA / QC data. However, most of the time, these agencies, institutions and organizations provide the water quality data but not the QA/QC protocols. Nevertheless, it is important to note that there are government agencies and entities with QAPPs approved by EPA, so they validate the data according to the protocols previously approved by EPA. Similarly, the QMP of the Water Quality Area and Evaluation and Strategic Planning Area (approved by EPA in June 2012) states that: “all data (field or laboratory) received from the USGS is already validated by the USGS in accordance with internal IUSGS protocols”. These data are used as delivered to PREQB by the USGS without subsequent validation by PREQB.

PREQB incorporate the explanation of whether or not the information submitted by government agencies, universities or other entities was used and the criteria for choosing to use the information. In addition, in all cases where no QA/QC data is available for PREQB verification the following disclaimer is stated: “PREQB does not know the quality requirements of the sampling and analysis of the water quality data submitted to the agency, thus the quality of the secondary data is unknown”.

Table 12: Government Agencies and Academic Institutions contacted by EQB

Name	Position	Agency
Eng. Santiago Domenech	Chairman	Associated General Contractors of America Puerto Rico Chapter
Irma Lopez	Compliance Manager Drinking Water Compliance and Control Division	Puerto Rico Aqueduct and Sewer Authority
Eng. Carmen Gloria Alicea	Environmental Studies and Programming Area Sub Director	Puerto Rico Highway and Transportation Authority
Eng. Carmen Ana Morales	Environmental Studies Office Acting Chief	Puerto Rico Highway and Transportation Authority
Maria Oquendo	Planning Engineering and Operation Division Director	Solid Waste Management Authority

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Table 12: Government Agencies and Academic Institutions contacted by EQB		
Name	Position	Agency
Ruberto Berrios	Water Quality Department Manager	Puerto Rico Electric Power Authority
Milagros Rodríguez	Environmental Affair Office Manager	Puerto Rico Ports Authority
Damaris Delgado	Acting Director	Jobos Bay National Estuarine Reserve
Eng. Angel L. González Carrasquillo	Chairman	College of Engineers and Land Surveyors of Puerto Rico
Edwin Hernández	Land Preservation Office	Department of Agriculture
Raúl Santini	Coordinator Coastal Zone Division	Department of Natural and Environmental Resources
Ernesto L. Díaz	Director Coastal Zone Program	Department of Natural and Environmental Resources
John Kushwara	Assessment, Monitoring and Environmental Science Division	US Environmental Protection Agency
Dr. Jorge Bauzá	Environmental Scientific	San Juan Estuary Bay
Rafael Morales Martinez	Flood Unit Coordinator	Puerto Rico Planning Board
Wilfredo Mass	Flood Unit Planning Analyst	Puerto Rico Planning Board
Rose Ortiz	Coastal Zone Division Planning Analyst	Puerto Rico Planning Board
Erick Hawk	Section 7 Coordinator Southeast Regional Office	National Marine Fisheries Services
Janet Gautier	Chairman	Puerto Rico Water & Environmental Association
María Ruiz De La Cruz	Science College Director	Pontifical Catholic University of Puerto Rico
Jackeline Rosas Negrón	Science College Director, Mayagüez Campus	Pontifical Catholic University of Puerto Rico
Dra. Sandra Molina	Biology Department Director	Pontifical Catholic University of Puerto Rico
Dr. Carlos Lugo	Environmental Sciences Program Coordinator	Pontifical Catholic University of Puerto Rico
Dra. Graciela I. Ramírez Toro	Director of CECIA	Interamerican University of Puerto Rico
Dr. Skip Van Bloem	Department of Agro-environmental Sciences Director	University of Puerto Rico – Mayagüez Campus
Dr. John Kubaryk	Acting Director Department of Marine Sciences	University of Puerto Rico – Mayagüez Campus
Dr. Luis R. Pérez Alegría	Professor Department of Agricultural and Bio-Systems Engineering	University of Puerto Rico– Mayagüez Campus
Dr. Jorge Rivera Santos	Director Water Resources Institute	University of Puerto Rico– Mayagüez Campus
Ruperto Chaparro	Director Sea Grant College Program	University of PR – Mayagüez Campus
Dra. Ana Navarro	Water Quality - Marine Outreach Program - Sea Grant College Program	University of Puerto Rico– Mayagüez Campus
Gloriselle Negrón Ríos	Associate Professor in Environmental Health	Agriculture Extension Services

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Table 12: Government Agencies and Academic Institutions contacted by EQB		
Name	Position	Agency
Eric A. Irizarry Otaño	Agricultural Engineer - Engineering Office	Agriculture Extension Services
Edwin Almodóvar	Director	Natural Resources Conservation Service (NRCS) Caribbean Area
Damaris Medina	Engineer	Natural Resources Conservation Service (NRCS) Caribbean Area
Marisol Morales	Biologist	Natural Resources Conservation Service (NRCS) Caribbean Area
Marelisa Rivera	Supervisor PR Field Office	US Fish and Wildlife Service
Teresa Lipsett	School of Science and Technology Dean	Turabo University
Dr. Carlos M. Padín Bibiloni	Dean - School of Environmental Affairs	Metropolitan University of Puerto Rico
María Ortiz Rivera	Associate Dean School of Environmental Affairs	Metropolitan University of Puerto Rico
Ing. José Borrageros	Director - Department of Civil and Environmental Engineering	Polytechnic University of Puerto Rico
Dr. Thomas Miller	Department of Geology	University of Puerto Rico- Mayagüez Campus
Dr. Luis A. Ríos Hernández	Assistant Professor Biology Department	University of Puerto Rico- Mayagüez Campus
Dr. Sangchul Hwang	Associated Professor Department of Civil Engineering and Surveying	University of Puerto Rico- Mayagüez Campus
Dra. Ingrid Padilla	Associated Professor Department of Civil Engineering and Surveying	University of Puerto Rico- Mayagüez Campus
Olga M. Ramos	GIS Analyst and Remote Sensing Lab	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
Mark Martin Bras	Director Community Affairs	Vieques Conservation and Historical Trust
María Del Río	Technology and Sciences Professor	Metropolitan University of Puerto Rico
Dr. Gabriel Infante	Technology and Sciences Professor	Metropolitan University of Puerto Rico
Roberto Viqueira	Executive Director	Protectores de Cuencas, Inc.
Deborah Rivera	Director - Environmental Affairs Department	Autonomous Municipality of Carolina
Patricia Bradley	Marine Biology	Environmental Protection Agency
Eng. José Font	Director Caribbean Environmental Protection Division	Environmental Protection Agency
Douglas A. Pabst	Supervisory Physical Scientist	Environmental Protection Agency New York
Dr. Edwin Hernández-Delgado	Affiliate Researcher	University of Puerto Rico

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Table 12: Government Agencies and Academic Institutions contacted by EQB		
Name	Position	Agency
James Kurtenbach	Aquatic Biologist	Monitoring Operation Section, USEPA, Region II

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

1. Mrs. Yazmin Laguer-EPA CEPD
 - a. DMR data (from the past two years)
2. Mrs. Miyoko Sacashita, Esq., Senior Attorney, Center Biological Diversity, San Francisco, CA
 - a. No water quality data will be included.
 - b. The recommendations are related to include as category 5 all coastal waters due to dissolved carbon dioxide.
 - c. PREQB held search data, belonging to the coastal waters of Puerto Rico, in the websites recommended by the CBD in order to obtain the greatest amount of scientific information that is available.
 - d. Include the following internet web pages references;
 - i. PMEL NOAA <http://www.pmel.noaa.gov/>
 - ii. National Ocean Data Center <http://nodc.noaa.gov/>
 - iii. Integrated Ocean Data Center <http://www.ioos.noaa.gov/>

The details of data obtained are discussed in the section *Water Quality External Data- Access Online* of this document.
3. San Juan Bay Estuary System Program
 - a. The monitoring network consists of 26 monitoring stations in the San Juan Bay Estuary System. (See Figure 6)
 - b. Parameters analyzed: Temperature, Dissolved Oxygen, Specific Conductance, Salinity, Turbidity, pH, Secchi disk, Oil and Grease, Total Kjeldahl Nitrogen, Nitrate + Nitrite (as N), Total Phosphorus, TOC, Chlorophyll “a”, TSS, Turbidity, Ammonia, BOD, Fecal Coliform and Fecal Enterococcus.
 - c. The San Juan Bay Estuary System Program has an approved Quality Assurance Project Plan by EPA.
4. NOAA - Bahía de Jobos
 - a. The data was obtained of the following site hosted by NOAA: National Estuarine Research Reserve System, Centralized Data Management Office <http://cdmo.baruch.sc.edu/>.
 - b. Monitoring network consist of 4 monitoring stations (See Figure 7).
 - c. Parameters analyzed: Temperature, pH, salinity, Dissolved Oxygen and Turbidity.
 - d. Disclaimer: PREQB does not know the quality requirements of the sampling and analysis of the water quality data submitted to the agency, thus the quality of the secondary data is unknown.
5. Mr. Ariel Lugo, Director USDA Forest Service, International Institute of Tropical Forestry
 - a. It established eight (8) monitoring stations. (See Figure 8)

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- b. Chemical and physical monitoring ions in Río Piedras basin- The objective is to evaluate the long-term dynamics of the chemistry of the basin in relation to anthropogenic changes (changes in the population) and natural changes (storms).
 - c. Parameters analyzed: temperature, conductivity, pH, Cl, SO₄, NO₃, Na, K, Mg, Ca and Fl.
6. Best Management Practices to Reduces Soil Erosion and Sediment Export to the Fajardo Watershed; Luis R. Pérez Alegría, University of Puerto Rico, December 29, 2011
 - a. Conducted under a contract between DRNE and the University of Puerto Rico, Agricultural Experiment Station (AES).
 - b. Samples are collected, processes, stored and processed for analytical analysis of nitrogen species, total phosphorous and suspended sediment. (June, August and September 2011).
 - c. EQB already have the most recent information for this subwatershed, in as much as this water body has a permanent monitoring station.
 - d. Information pertaining to the quality control procedure and protocols that were used to generate the data is also requested, but not were provided.
7. Mr. David Whithall, PhD., Coastal & Oceanographic Assessment, Status and Trends (COAST), Center for Coastal Monitoring and Assessment, National Centers for Coastal Ocean Science, National Ocean Service, National Oceanic Atmospheric Administration (NOAA) and the University of Puerto Rico, Mayagüez Campus
 - a. The study was conducted with twenty three (23) monitoring stations; three (3) were located in different areas of the Río Loco Basin and the others twenty (20) were located in coastal areas of Guánica Bay. (Figure 9). The received data are for the years 2009, 2010, 2011 and 2012.
 - b. Nutrients were analyzed in surface water and sediment in the basin of the Guánica Bay. The parameters analyzed were: NO₃, HPO₄⁼, SiO₂, NH₄⁺, NO₂⁻, Urea, NO₃⁻+NO₂⁻, Total N, and Total P.
 - c. PREQB has standards for NO₃⁻+NO₂⁻, Total P with applicability for lakes and rivers. Therefore, the water quality data from the three (3) stations located within the Río Loco Basin will be used in the IR 2014.
 - d. The data from the stations located in the Guánica Bay will not be used in the IR 2014 because the PREQB does not have an applicable water quality standard for coastal waters for the parameters analyzed.
 - e. Disclaimer: PREQB does not know the quality requirements of the sampling and analysis of the water quality data submitted to the agency, thus the quality of the secondary data is unknown.
8. Mr. David Whithall, PhD., Coastal & Oceanographic Assessment, Status and Trends (COAST), Center for Coastal Monitoring and Assessment, National Centers for Coastal Ocean Science, NOAA
 - a. Spreadsheet data from 1992 to 2010 includes data of Vieques, Jobos and the southwestern part of Puerto Rico.
 - b. The matrix utilized in the research were coral tissue, sediments, oyster and water.
 - c. Only the data from the period 2005, 2007 and 2008 were analyzed in water samples.

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- d. The parameters analyzed in water samples were the following: Total P, Total N, $\text{NO}_3^- + \text{NO}_2^-$, hydrogen silicate, surface ammonium, surface NO_3^- and NO_2 , surface orthophosphate and urea.
 - e. The data from the stations will not be used in the IR 2014, because the PREQB does not have an applicable water quality standard for coastal waters for the parameters analyzed.
9. Mr. José Rodríguez, USGS - PR (See Figures 10 and 11)
- a. Study of the Groundwater Quality Monitoring Program for the North Coast Limestone Aquifer System, the South Coast Aquifer, alluvial valleys of the southeast, southwest, and Isla of Vieques, Puerto Rico (tables 13, 14 and 15). The main objective is to continue monitoring the groundwater quality data at selected area of Puerto Rico, which began in 2011, to detect potential trends of chemical characteristics, because The USGS with available information indicates increasing trends of dissolved solids concentrations in groundwater from areas of the North Coast Limestone Aquifer System and the South Coast aquifer. In some areas dissolved solids concentrations are above the secondary maximum contaminant level (SMCL) for drinking water established by the United States Environmental Protection Agency.
 - b. Other objective of the study is to help government agencies planners and managers and the general public to make informed decisions about the use of groundwater from these aquifers.
 - c. The Water Quality Management Plan revised in October 2011 indicated the following, related to the data received from the USGS: All data (field and laboratory) received from the USGS is already validated by the USGS in accordance with internal USGS protocols. These data are used as delivered to PREQB by the USGS without subsequent validation by PREQB.

Table 13: Groundwater Quality Monitoring Program for the North Coast Limestone Aquifer System, and South Coast Aquifer		
Analysis	Number of samples	Aquifer
Major ions and bromide	55	North Coast, South Coast, alluvial valleys of the southwest, and Isla de Vieques
Nutrients	29	North Coast, South Coast, alluvial valleys of the southwest, and Isla de Vieques
Trace metals	10	South Coast and Isla de Vieques
Pesticides	6	South Coast
Volatile Organic Compounds (VOCs)	4	Isla de Vieques
H-2/H-1 and O-18/O-16 isotopes	50	North Coast, South Coast, alluvial valleys of the southwest, and Isla de Vieques

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Table 14: Sampled well located along the south coast of Puerto Rico				
Well	USGS Site Identification	Depth well (feet)	Municipality	Aquifer
PRASA Estación M2	175853066543300	n/a	Guánica	Guánica Alluvial
PRASA Guánica Viejo	175857066541200	114	Guánica	Guánica Alluvial
Cesani 1	180035066502900	n/a	Yauco	Yauco Alluvial
Sugar Mill 2	180042066474500	n/a	Guayanilla	Guayanilla Alluvial
Hilton	175839066361500	n/a	Ponce	South Coast
Hac. Santa Cruz	175835066353900	192	Ponce	South Coast
Restaurada 2	175948066351500	n/a	Ponce	South Coast
Platanal	175947066343200	n/a	Ponce	South Coast
Bocachica Dom	175923066314300	120	Juana Díaz	South Coast
Serrano	175956066304500	n/a	Juana Díaz	South Coast
PRASA Sol y Mar	175958066295200	n/a	Juana Díaz	South Coast
Hotel Marbella	175941066275100	n/a	Juana Díaz	South Coast
Bizarreta Dom	175952066272800	n/a	Juana Díaz	South Coast
Máquina	175931066264300	n/a	Juana Díaz	South Coast
Alturas 1	180007066245500	n/a	Santa Isabel	South Coast
Corp. Azucarera 3	175848066253100	n/a	Santa Isabel	South Coast
Aguacatito	175839066253900	160	Santa Isabel	South Coast
Bernard	175758066242700	193	Santa Isabel	South Coast
Reliant 2	175748066234200	n/a	Santa Isabel	South Coast
Calabreñas 6	175825066233900	216	Santa Isabel	South Coast
Alomar Oeste	175734066233300	70	Santa Isabel	South Coast
Destino 1A	175857066223500	n/a	Santa Isabel	South Coast
Texidor 3	175848066213300	n/a	Santa Isabel	South Coast
PRASA Margarita	175826066180600	n/a	Salinas	South Coast
PRASA Salinas 1	175851066174600	120	Salinas	South Coast
Ermitaño Central	175708066163000	115	Salinas	South Coast
Ermitaño South	175708066163002	220	Salinas	South Coast
Salich 1	175748066160400	162	Salinas	South Coast
PRASA Las Mareas	175738066155400	n/a	Salinas	South Coast
JBNERR West 1	175721066151400	87	Salinas	South Coast
Aguirre 3	175804066150700	150	Salinas	South Coast
JBNERR East 1	175711066143600	74	Salinas	South Coast
PRASA AEE	175828066142200	n/a	Salinas	South Coast
PRASA Perpetuo	175822066134800	118	Salinas	South Coast
PRASA Coquí 3	175820066133500	n/a	Salinas	South Coast
Aguirre-Coquí	175812066133200	150	Salinas	South Coast
Hormigonera Bruja	175755066105000	85	Guayama	South Coast
PRASA Hac. Guamaní	175747066101000	n/a	Guayama	South Coast
Pioneer Barrancas	175740066073200	n/a	Guayama	South Coast
Phillips 13	175719066085500	99	Guayama	South Coast
PRASA Palmas Oeste 1	175832066031300	120	Arroyo	South Coast
PRASA Guilarte 1	175832066022000	n/a	Arroyo	South Coast

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Table 15: Sampled wells located along the north coast of Puerto Rico				
Well	USGS Site Identification	Depth well (feet)	Municipality	Aquifer
Toledo	182635066471900		Hatillo	North Coast Limestone-Upper
Land Designs	182704066413000	125	Arecibo	Rio Grande de Arecibo Alluvial
PRASA Santana 2	182629066384800	200	Arecibo	North Coast Limestone-Upper
Zanja Fría	182724066392000	n/a	Arecibo	North Coast Limestone-Upper
Mena	182743066342600	n/a	Barceloneta	North Coast Limestone-Upper
Pollera Ochoa	182641066345700	350	Barceloneta	North Coast Limestone-Upper
PRASA Fortuna	182647066330800	300	Barceloneta	North Coast Limestone-Upper
PRASA Viskase	182537066331700	n/a	Barceloneta	North Coast Limestone-Upper
Ojo de Guillo	182541066313500	n/a	Barceloneta	North Coast Limestone-Upper
Nelson Cubano	182712066303400	100	Manatí	North Coast Limestone-Upper
Coto Sur 7	182548066265700	n/a	Manatí	North Coast Limestone-Upper
PRASA Ciudad Real	182700066250400	n/a	Vega Baja	North Coast Limestone-Upper
PRASA Vega Baja 2	182652066241500	120	Vega Baja	North Coast Limestone-Upper
Molino Rojo	182758066251700	20	Vega Baja	North Coast Limestone-Upper
Ojo de Agua	182657066250600	n/a	Vega Baja	North Coast Limestone-Upper
PRASA Sabana Hoyos 2	182712066203700	100	Vega Alta	North Coast Limestone-Upper
Cerro Gordo Nursery	182753066204000	n/a	Vega Alta	North Coast Limestone-Upper
PRASA Maguayo 6	182614066164800	n/a	Dorado	North Coast Limestone-Upper
Arenas	182653066190200	220	Vega Alta	North Coast Limestone-Upper
San Carlos	182630066172800	n/a	Dorado	North Coast Limestone-Upper
San Antonio 2	182707066164100	86	Dorado	North Coast Limestone-Upper

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10. Puerto Rico Aqueduct and Sewer Authority (PRASA)
 - a. Results from sampling events conducted by PRASA in the years 2011 y 2012 to several wells belonging to the Groundwater Network of the EQB.
 - i. Parameters analyzed were: E. coli, Total Coliforms, aerobic endospore, temperature and pH.
 - ii. The data of Total Coliform, Temperature and pH will be used in the IR 2014.
 - iii. The E. coli and aerobic endospore data will not be used for the IR 2014 because the EQB has not an applicable water quality standard.
 - b. Disclaimer: PREQB does not know the quality requirements of the sampling and analysis of the water quality data submitted to the agency, thus the quality of the secondary data is unknown.

11. Mr. Rafael Marrero Carrasquillo, Head, Environmental Protection and Quality Assurance Division, Puerto Rico Power Electric Authority (PREPA)
 - a. Aguirre Power Plant - “*Acute and Chronic Definitive Bioassay using Mysid Shrimp (Mysidopsis bahia), Sheepshead Minnow (Cyprinodont variegatus) and Sea Urchin (Arbacia punctulata)*”. (2011).
 - i. Applied Sciences laboratory conducted acute and chronic definitive test for Puerto Rico Electric Power Authority. Samples were collected and tested from a total of four different outfalls of the facility. The test were conducted from November 15 through 22, 2011.
 - ii. The samples analyzed were collected from the effluents of the facility and are not representative of the conditions of the coastal area, therefore the evaluated information will not be used in the IR 2014.
 - b. Costa Sur Power Plant- “*Comprehensive Biological Sampling-Spring Sampling*”
 - i. The objective of the study was observe the population of the fish species in the area.
 - ii. The winter survey was performed between February 26 and March 8, 2009.
 - iii. Parameters analyzed; dissolved oxygen, pH, and salinity.
 - iv. EQB already have the most recent information for these parameters in corresponding assessment unit (PRSC37C), in as much this segment has two permanent monitoring station. Therefore, EQB did not use the submitted data.
 - v. Information pertaining to the quality control procedure and protocols that were used to generate the data is also requested, but not were provided.
 - c. Costa Sur Power Plant-“*Aquatic Habitat Study for the Possible North Offshore Submerge Discharge (OSD) Rout, Seasonal Aquatic Community Study on the North and South Offshore submerged discharge (OSD) Route and Acropora Coral Survey in Eastern Guayanilla Bay* (2009).
 - i. The objective of the investigation is to collect data within Costa Sur and along the North OSD route. Coastal and marine habitats near Costa Sur and within Guayanilla Bay were surveyed and characterized including the following method: adult fish traps; beach seine tows; mangrove root survey and hydrologic measure of all fish trap station. Furthermore Acropora Survey is performed to identify the presence of two endangered

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- species of coral (Elkhorn and staghorn coral) or any habitat critical to those coral species in eastern Guayanilla Bay.
 - ii. Parameter analyzed; temperature, salinity, dissolved oxygen (DO) and pH.
 - iii. The samplings were conducted during July to October 2009.
 - iv. EQB already have the most recent information for these parameters in the corresponding assessment unit (PRSC37C), in as much as this segment has two permanent monitoring station.
 - v. Information pertaining to the quality control procedure and protocols that were used to generate the data is also requested, but not were provided.
 - d. Palo Seco Power Plant- *“Acute and Chronic Definitive Biassays Using Mysid Shrimp (Mysidopsis bahia) and Sheepshead Minnow (Cyprinodon variegatus)”*
 - i. Applied Sciences Laboratory conducted acute and chronic definitive test for Puerto Rico Electric Power Authority.
 - ii. The objective of the study was measuring survival, fecundity and growth of M. bahia and C. variegatus in the laboratory test.
 - iii. The samples analyzed were collected from the effluents of the facility and are not representative of the conditions of the coastal area, therefore the evaluated information will not be used in the IR 2014.
 - e. Costa Sur Power Plant – *“Technologies and Operational Measures to Reduce Entrainment and Impingement Mortality Action Plan”* (June 2012)
 - i. The objective of the report is examines six technologies or operational measures to achieve the following performance standards: Impingement Mortality Performance Standard; Entrainment Performance Standard and The calculation baseline shall be the level of entrainment or impingement mortality that would occur in a 1130 MW, 871 MGD.
 - ii. The data show in the study (temperature data) are from the discharge of the facility and are not representative of the conditions of the coastal area, therefore the evaluated information will not be used in IR 2014.
12. Mr. Edwin Hernández-Delgado, Ph.D., University of Puerto Rico, Center for Applied Tropical Ecology and Conservation.
- a. *Impacts of Non-Point Source Sewage Pollution in Coastal Marine Communities of the Southwestern Puerto Rico shelf* (2006).
 - i. The study was aimed at addressing major water physical variables across a suspected water quality gradient associated to non-point source sewage pollution along the southwestern Puerto Rico shelf.
 - ii. The samples were collected during the period of June 2005 to June 2006.
 - iii. Due the coastal area of PR is divided into segments identified as assessment units, it is necessary to know the exact points of sampling (coordinates) to relate the data to the corresponding segment and determine compliance with the water quality standards of each assessment unit. The study does not indicate clearly the exact points of sampling which could not relate data to the assessment unit that represent.
 - iv. Information pertaining to the location of the sampling, quality control procedure and protocols that were used to generate the data was also

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- requested, but were not provided. Therefore, EQB did not use the submitted for the 2014 assessment cycle.
- b. *“Biological characterization of shallow-water coral reef communities across a water quality gradient within the Luis Peña Channel Natural Reserve, Culebra Island, Puerto Rico”* (2009).
- i. The objective of the study was assess the quality of the water (physical and microbiological conditions) in and out of the Luis Peña channel No-Take Natural Reserve (LPCNR) and determine if any gradient stress quality there was significant water associated with pollution from non-point that could pose a threat to the communities of coral reefs.
 - ii. The parameters were analyzed are the following: temperature, pH, salinity, conductivity, DO.
 - iii. The samples were collected during the period of May to December 2008.
 - iv. Disclaimer: PREQB does not know the quality requirements of the sampling and analysis of the water quality data submitted to the agency, thus the quality of the secondary data is unknown.
- c. *“Status of coral reef communities along a non-point source pollution stress gradient off the Fajardo River Mouth, Fajardo, Puerto Rico* (2010)”.
 - i. The objective of the study was determining the condition of coral reefs off the Fajardo coast.
 - ii. Parameters analyzed were temperature, salinity, conductivity, dissolved oxygen, turbidity, fecal coliforms and enterococci.
 - iii. EQB already have the most recent information for these parameters in the corresponding assessment unit (PREC19), in as much as this segment has a permanent monitoring station. Therefore, EQB did not use the submitted data for the 2014 assessment cycle.
- d. *“Chronic impacts of sewage and turbidity on coral reefs within the Tres Palmas Marine Reserve, Rincon (TPMR), Puerto Rico: I. Threatened Elkhorn coral (Acropora palmata) populations”* (2011).
- i. The objective of the study was determining the distribution and condition of Elkhorn coral at the period of the research within the TPMR to provide a basis to assess its population status and trends, and to determine if there were impacts associated to runoff and sewage pollution on coral colonies.
 - ii. Parameters analyzed: turbidity, fecal coliform, enterococci, temperature, pH, salinity (ppt), conductivity, and dissolved oxygen.
 - iii. The samples were collected through May and December 2011.
 - iv. The study shows and discuss the results for the parameter of turbidity, fecal coliform and enterococci. The results for the parameters of pH, salinity, conductivity and dissolved oxygen are not shows in this report. The author mention that the details about water quality samplings were previously discussed in other phases of the report. However does not indicated in which document are discussed.
 - v. Only the data of fecal coliforms, enterococci and turbidity will be used in the IR 2014.

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- vi. Disclaimer: PREQB does not know the quality requirements of the sampling and analysis of the water quality data submitted to the agency, thus the quality of the secondary data is unknown.
13. Mr. James K. Kurtenbach, Aquatic Biologist, EPA, Region II
- a. 2012-2013 Probabilistic Stream Survey in Puerto Rico
 - i. The monitoring network consist of approximately 50 monitoring stations (See Figure 12)
 - ii. Water chemistry, physical habitat and macro invertebrate data were collected.
 - iii. Time period: February and March 2013; April, August, and September 2012.



Figure 6: San Juan Bay Estuary System Monitoring Stations

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Figure 7: NOAA - Bahía de Jobos Monitoring Stations

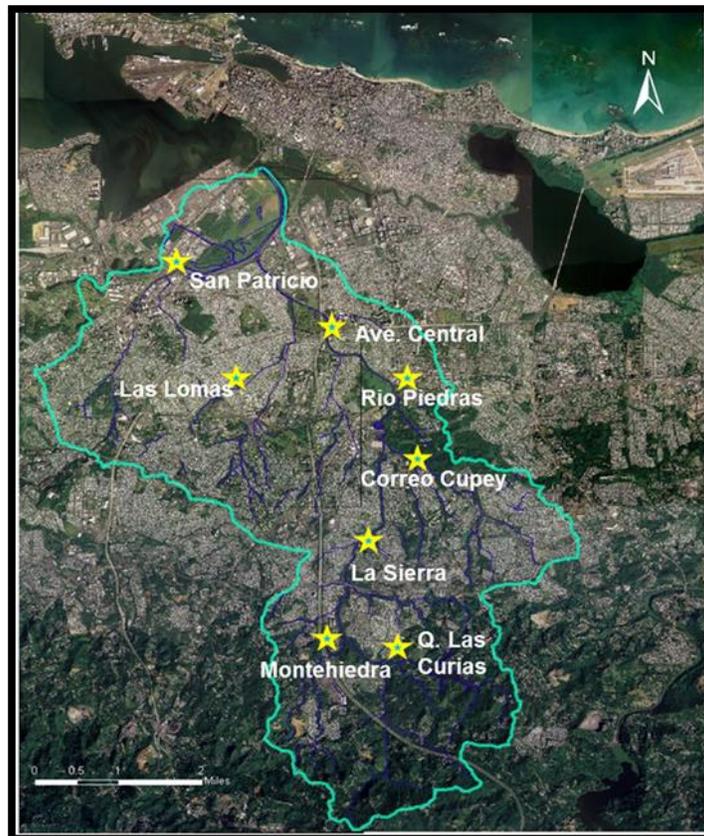


Figure 8: Río Piedras Basin Monitoring Stations

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Figure 9: NOAA and the University of Puerto Rico monitoring stations

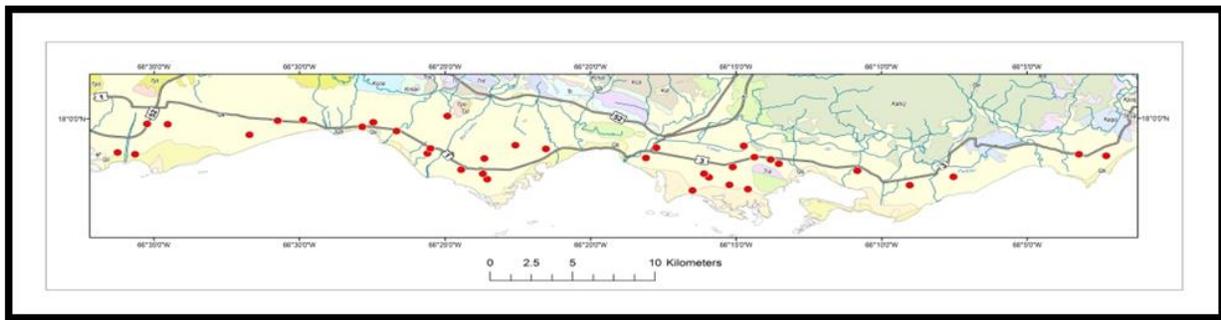


Figure 10: South Coast Wells location

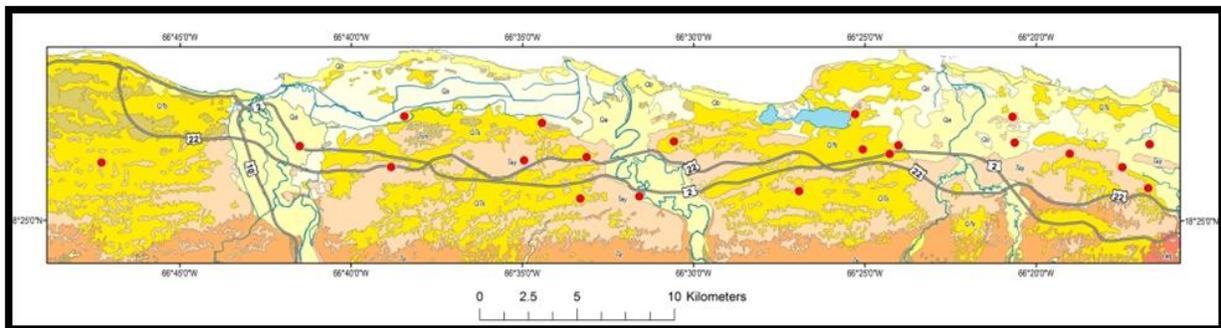


Figure 11: North Coast Wells location

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official sources. If any inaccuracy is observed, please inform CaRA as soon as possible for verification and correction, as necessary. Use of and reliance upon the information provided in this web site signifies that its user(s) understands and have accepted of the above mentioned caveat and conditions.

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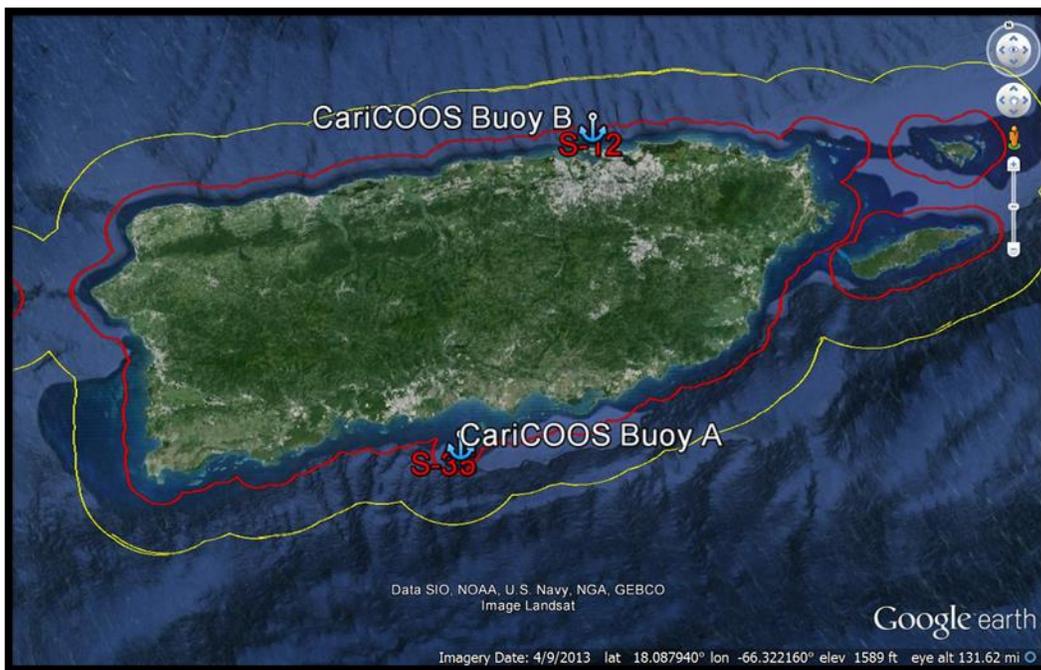


Figure 13: Buoy of CariCoos (Temperature Data)

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Figure 14: NOAA The National Buoy Center and PR Seismic Network (Temperature Data)



Figure 15: Monitoring Station of CariCoos in La Parguera



Figure 16: Buoy in La Parguera (Monitoring Station) NOAA, PMEL

Designated Uses, and Applicable Water Quality Standards

The Puerto Rico Water Quality Standards Regulation (PRWQSR, March 2010, as amended) established, as goals, the need to preserve, maintain and enhance the quality of the waters of Puerto Rico to assure that they are compatible with the social and economic needs of Puerto Rico and comply with the requirements of the Federal Clean Water Act.

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

1. Propagation and preservation of desirable species, including threatened and endangered species. Primary and secondary contact recreation; and
2. 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 will be 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 water body classification established in the PRWQSR are as follows:

CLASS SA - Coastal and estuarine waters of high quality or exceptional ecological or recreational value whose existing conditions shall not be altered, except by natural causes, in order to preserve its natural characteristics.

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CLASS SB - Coastal waters and estuarine waters intended for use in primary and secondary contact recreation, and for propagation and preservation of desirable species including threatened or endangered species. Coastal and estuarine waters not classified as Class SA or SC under Rules 1302.1 (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 - Coastal waters 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 Isla de Cabras to Punta El Morro

CLASS SD - Surface waters intended for use as a raw source of public water supply, propagation and preservation of desirable species, including threatened and endangered species, as well as primary and secondary contact recreation. Primary contact recreation is 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 (16 and 17) summarize the existing applicable water quality standards that will be used to perform the assessment for the 2014 IR. Here are shown the maximum allowable concentrations for specific substances in coastal and estuarine waters, surface waters, and ground waters:

Table 16: Specific Water Quality Standards for Selected Parameters (as established in the PRWQSR)		
Parameter	Coastal Waters (µg/L)	Rivers and Stream (µg/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)

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Table 16: Specific Water Quality Standards for Selected Parameters (as established in the PRWQSR)		
Parameter	Coastal Waters (µg/L)	Rivers and Stream (µg/L)
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 (DW)
Nitrogen (NO ₃ , NO ₂ , NH ₃)	5,000	-
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 dependent 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 number represent a total recoverable value.

Table 17: Water Quality Standard for Specific Classifications					
Parameter	SA	SB	SC	SD	SE
Chlorides	Note 1	-	-	250 mg/L	Note 1
Color	Note 1	Shall not be altered except by natural causes	Shall not be altered except by natural causes	15 Pt-Co.	Note 1
Dissolved Oxygen	Note 1	Not less than 5 mg/L	Not less than 4mg/L	Not less than 5 mg/L	Note 1
Enterococcus	Note 1	Note 2	Note 2	-	Note 1
Fecal Coliforms	Note 1	Note 3	Note 5	Note 3	Note 1
Other Pathogenic Organisms	Note 1	-	-	Free of Pathogens	Note 1
pH	Note 1	7.3 - 8.5	7.3 - 8.5	6.0 - 9.0	Note 1
Sulfates	Note 1	2,800 mg/L	2,800 mg/L	250 mg/L	Note 1
Surfactants as MBAS	Note 1	500 µg/L	500 µg/L	100 µg/L	Note 1

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Parameter	SA	SB	SC	SD	SE
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	Note 1
Total Ammonia [@]	Note 1	-	-	1mg/L at specific segments established in the WQSR	Note 1
Total Coliforms	Note 1	-	-	Note 4	Note 1
Total Phosphorous	Note 1	-	-	1 mg/L*	Note 1
Turbidity	Note 1	10 NTU	10 NTU	50 NTU	Note 1

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

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

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

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

Note 2- The Enterococci 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 3- 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 4 - 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.

Note 5 - For coastal waters Class SC will be assessed from the zone subject to ebb and flow of tides (mean sea level) to 3.0 miles seaward, Coliform geometric mean of a series of representatives samples (at least five samples) of the water taken sequentially shall not exceed 200 col/100mL of Fecal Coliform, and not more than 20% of the sample shall exceed 400 col/100mL. From 3.0 miles seaward to 10.35 miles seaward, on the geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 2,000 colonies/100mL of Fecal Coliform. Not more than 20% of the samples shall exceed 4,000 colonies/100mL of Fecal Coliform.

Water Quality Assessment by Designated Uses

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

1. Primary Contact Recreation(Swimming):

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a) Inland Waters:

For primary contact recreation the use support evaluation will be based on the Coliform geometric mean of a series of representative samples (at least five samples) of the water taken sequentially shall not exceed 10,000 col/100mL of Total Coliform or 200 col/100mL of Fecal Coliform. Not more than 20% of the sample shall exceed 400 col/100mL of Fecal Coliform.

b) Coastal Waters:

a. Class SB

For primary contact recreation the use support evaluation will be based on the Coliform geometric mean of a series of representative samples (at least five samples) of the water taken sequentially shall not exceed 200 col/100mL of Fecal Coliform, and not more than 20% of the sample shall exceed 400 col/100mL. The Enterococcus density in terms of geometric mean of at least five representative samples taken sequentially shall not exceed 35/100mL. No single sample should exceed the upper confidence limit of 75% using 0.7 as the log standard deviation, until sufficient site data exist to establish a site-specific log standard deviation.

b. Class SC

For primary contact recreation coastal waters Class SC will be assessed from the zone subject to ebb and flow of tides (mean sea level) to 3.0 miles seaward, Coliform geometric mean of a series of representative samples (at least five samples) of the water taken sequentially shall not exceed 200 col/100mL of Fecal Coliform, and not more than 20% of the sample shall exceed 400 col/100mL. The Enterococcus density in terms of geometric mean of at least five representative samples taken sequentially shall not exceed 35/100mL. No single sample should exceed the upper confidence limit of 75% using 0.7 as the log standard deviation, until sufficient site data exist to establish a site-specific log standard deviation.

2. Secondary Contact Recreation:

a) Inland Waters

For secondary contact recreation the use support evaluation will be based on the Coliform geometric mean of a series of representative samples (at least five samples) of the water taken sequentially shall not exceed 10,000 col/100mL of Total Coliform or 200 col/100mL of Fecal Coliform. Not more than 20% of the sample shall exceed 400 col/100mL of Fecal Coliform.

b) Coastal Waters

a. Class SB

For secondary contact recreation the use support evaluation will be 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

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colonies/100mL and the 20% of the individual samples did not exceed the value of 400 colonies/100mL. The Enterococcus density in terms of geometric mean of at least five representative samples taken sequentially shall not exceed 35/100mL. No single sample should exceed the upper confidence limit of 75% using 0.7 as the log standard deviation, until sufficient site data exist to establish a site-specific log standard deviation.

b. Class SC

For secondary contact recreation the use support evaluation will be based from 3.0 miles seaward to 10.35 miles seaward, on the geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 2,000 colonies/100mL of Fecal Coliform. Not more than 20% of the samples shall exceed 4,000 colonies/100mL of Fecal Coliform.

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

The assessment of the drinking water use will be 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 is the presence of a water intake in the assessment unit. To assess the Raw Sources of Drinking Water use, will be considered the compliance of water quality standards for the 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	Pentachlorophenol

In all cases, each parameter considered is evaluated strictly in accordance with the applicable standard. A single violation of the standard is enough to identify the segment non-support for RSDW.

4. Propagation and preservation of desirable species, including threatened and endangered species (aquatic life):

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Currently, the aquatic life use is based on the physical /chemical data collected on 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 will be evaluated strictly in accordance with the applicable standard. The toxic parameters taken into consideration are:

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

A single violation of the standard was enough to identify the segment as non-support for the aquatic life use.

Assessment Categories

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

- Category 1:** Waters that are attaining the applicable water quality standards for all designated uses.
- Category 2:** Waters that are attaining some of the designated uses, but no data is available to make attainment determinations for the remaining designated uses.
- Category 3:** Waters for which the information available is insufficient to determine if any designated uses are being attained.
- Category 4:** Waters in which particular designated uses are impaired or threatened and it is expected that they will meet the water quality standards with the implementation of the adequate and corresponding control measures without the development of TMDLs.

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

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

Assessment Results for Data Collected During 2011 -2013 (2014 Cycle)

In Tables 18 through 36 are include the information related with the assessment for the 2014 cycle. For this assessment, PREQB considered the most recent two consecutive years (2012-2013) 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 18-36). 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- 2014 Cycle 303(d) List.

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Table 18: 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	0	0	36.2	2,690.9	0	55.9	2,269.8	5,052.8	5,052.8
Reservoirs - acres	0	0	0	54 ac., 1.7 mi	0	0	7,269.0 ac., 134.4 mi	7,323 ac., 134.4 mi	7,323 ac., 134.4 mi
Estuaries - acres	0		292.6 ac., 19.6 mi	2,995.7 ac., 88.2 mi		39.7 ac.	102.4 ac.	3,430.3 ac., 107.8 mi	3,430.3 ac., 107.8 mi
Coastal Waters- miles	141.27	110.5	110.93				183.93	546.63	546.63
Lagoons- acres		300					2,482	2,782	2,782

Total miles of rivers and streams assessed without monitoring station: 3,866.3
 Total miles of rivers and streams assessed with monitoring station: 1,186.5
 5,052.8

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Rivers and Streams

Table 19: Size of Waters Impaired by Causes (Monitored Miles for Rivers and Streams)		
Causes of Impairments 2012-2013 Cycle		Causes of Impairments Summary
Causes of Impairments	Size of Waters Impaired (Miles)	Size of Waters Impaired (Miles)
Pesticides (0200)	0	495.5
Surfactants (0400)	158.7	979.4
Arsenic (0510)	142.6	978.4
Cadmium (0520)	0	72.3
Copper (0530)	688.5	1,177.6
Lead (0550)	333.3	827.9
Mercury (0560)	92.7	208.5
Selenium (0570)	0	22.0
Ammonia (0600)	74.6	74.6
Cyanide (0720)	0	3,007.9
Other Inorganic (0800)	0	22.0
Phosphorus (0910)	16.3	195.4
Nitrate + Nitrite (0990)	0	15.0
pH (1000)	196.2	352.9
Low Dissolved Oxygen (1200)	567.7	1,518.1
Thermal Modifications (1400)	123.9	320.9
Fecal Coliforms (1700)	13.9	13.9
Total Coliforms (1700)	839.1	1,158.3
Turbidity (2500)	1,805.6	2,564.9
Silver (no code)	0	14.6

Table 20: Size of Waters Impaired by Sources (Assessed and Monitored Rivers and Streams)	
Sources of Impairments	Size of Water Impaired (Miles)
Major Industrial Point Source (0110)	130.5
Minor Industrial Point Source (0120)	2,543.5
Major Municipal Point Source (0210)	1,263.3
Minor Municipal Point Source (0220)	900.9
Package Plants (Small Flows) (0230)	414.2
Collection System Failure (0500)	2,306.5
Agricultura (1300)	2,538.2
Confined Animal Feeding Operations (1640)	3,238.1
Urban Runoff/Storm Sewers (4000)	3,034.7
Surface Mining (5100)	615.8
Landfills (6300)	2,018.6
Onsite Wastewater Systems (6500)	4,962.6

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
QUEBRADA DE LOS CEDROS	QUEBRADA DE LOS CEDROS PRNQ1A	12.0	SD		4a	4a	4c	4c	J, M, O	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	J	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 50010600 ED - PR13059	4a	4a	1	1	H, P	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)	
	QUEBRADA LAS SEQUIAS PRNQ3B	3.5	SD	SPD 50011390	4a	4a	4c	4c	E, H, L, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA BELLACA	QUEBRADA BELLACA PRNQ4A	1.7	SD		3	3	3	3	J	Onsite Wastewater Systems (6500)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
RIO CAMUY	RIO CAMUY PRNR5A	48.6	SD		4a	4a	3	3	H, J	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
QUEBRADA SECA	QUEBRADA SECA PRNQ6A	2.0	SD		3	3	3	3	J	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO PRNR7A1	22.4	SD	NS 50027250 50029000	4a	4a	5	5	N	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)	Low Dissolved Oxygen (1200) Turbidity (2500)
	RIO SANTIAGO PRNR7A1a	9.0	SD		4a	4a	3	3	J, N	Onsite Wastewater Systems (6500)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)											
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO GRANDE DE ARECIBO PRNR7A2	122.8	SD	NS 50025000 ED - PR13020 PR13020R PR13020D	5	5	5	5	N, P	Agriculture (1300) 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)	Copper (0530) Lead (0550) Total Coliforms (1700) Turbidity (2500)
	TUNEL PRNR7A3	28.9	SD	NS 50020500 ED - PR13074 PR13094	4a	4a	1	1	N, 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)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO CAONILLAS PRNR7C1	87.0	SD	NS 50026000 ED - PR13012	4a	4a	1	1	N, P	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surface Mining (5100) Urban Runoff/Storm Sewers (4000)	
	RIO LIMON PRNR7C2	40.7	SD	NS 50026350	4a	4a	1	1	N	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230)	
	RIO YUNES PRNR7C3	32.7	SD	NS 50026950 ED - PR13024	4a	4a	1	1	N, P	Agriculture (1300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO TANAMA PRNR7B1	16.2	SD		N/A	N/A	3	3	J, N	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
	RIO TANAMA PRNR7B2	43.5	SD	NS 50028000	4a	4a	5	5	N	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Turbidity (2500)

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
RIO GRANDE DE MANATÍ	RIO GRANDE DE MANATÍ PRNR8A1	31.0	SD	NS 50038100	4a	4a	5	5	N	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)	Turbidity (2500)
	RIO GRANDE DE MANATÍ PRNR8A2	38.1	SD	NS 50031200 50035500 ED - PR13014	4a	4a	5	5	N, 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	SPD 50030130 ED - PR13062	4a	4a	1	1	D, N, P	Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO CIALITO PRNR8B	25.8	SD	NS 50035950	5	5	5	5	N	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)	Total Coliforms (1700) Turbidity (2500)
	RIO TORO NEGRO PRNR8C1	41.5	SD	SPD 50033200	4a	4a	1	1	D, N	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230)	
	RIO BAUTA PRNR8C2	27.6	SD	SPD 50034500	4a	4a	1	1	D, N	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO SANA MUERTOS PRNR8D	16.0	SD	SPD 50031500	4a	4a	1	1	D, N	Agriculture (1300) Onsite Wastewater Systems (6500)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO OROCOVIS PRNR8E1	19.8	SD	NS 50030700 ED - PR13003 PR13080	4a	4a	5	5	N, 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	SPD 50030300	4a	4a	1	1	D, N	Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)	
RIO CIBUCO	RIO CIBUCO PRNR9A	31.1	SD	NS 50038320 50039500	5	5	5	5	A	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Industrial Point Sources (0110) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500)	Total Coliforms (1700) Turbidity (2500)

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO INDIO PRNR9B1	12.5	SD	SPD 50039000	4a	4a	1	1	A, L	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	ED - PR13001 PR13001R PR13001D PR13017 PR13017R PR13017D	4a	4a	5	1	A, L, P	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)	Low Dissolved Oxygen (1200) pH (1000)
	RIO UNIBON PRNR9B3	17.4	SD		4a	4a	3	3	A, J	Collection System Failure (0500) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO MAVILLAS PRNR9C	34.0	SD		4a	4a	3	3	A, J	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)											
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO DE LOS NEGROS PRNR9D	24.1	SD	SPD 50038302	4a	4a	1	1	A, L	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	1	1	B	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)	
	RIO DE LA PLATA PRER10A2	14.3	SD		4a	4a	3	3	B, J	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)											
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO DE LA PLATA PRER10A3	55.7	SD	NS 50044000	4a	4a	5	5	B	Agriculture (1300) Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500)	Turbidity (2500)
	RIO DE LA PLATA PRER10A4	10.2	SD	NS 50043000	4a	4a	5	5	B	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Turbidity (2500)
	RIO DE LA PLATA PRER10A5	92.7	SD	NS 50042500 ED - PR13085, 6	4a	4a	5	5	B, L, P	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)	Copper (0530) Lead (0550) Mercury (0560) Turbidity (2500)

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO LAJAS PRER10B	16.6	SD	SPD 50045800	4a	4a	1	1	B, L	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	SPD 50045500	4a	4a	1	1	B, L	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO CAÑAS PRER10D	10.4	SD		4a	4a	3	3	B, J	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO GUADIANA PRER10E	21.8	SD	NS 50044850 ED - PR13083	5	5	5	5	B, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)	Total Coliforms (1700) Turbidity (2500)
	RIO CUESTA ARRIBA PRER10F	10.6	SD		4a	4a	3	3	B, J	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO ARROYATA PRER10G	36.8	SD	NS 50043998	4a	4a	5	5	B	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Turbidity (2500)
	RIO HONDO PRER10H	25.6	SD		4a	4a	3	3	B, J	Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
	RIO USABON PRER10I1	54.6	SD		4a	4a	3	3	B, J	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)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO AIBONITO PRER10I2	18.7	SD		4a	4a	3	3	B, J	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 50042800	4a	4a	1	1	B	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO GUAVATE PRER10K	19.8	SD		4a	4a	3	3	B, J	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO HONDO	RIO HONDO PRER11A	22.0	SD	SPD 50047530	5	5	5	1	H	Collection System Failure (0500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Total Coliforms (1700)
RIO BAYAMÓN	RIO BAYAMÓN PRER12A1	33.6	SD	NS 50048510	5	5	5	5	H	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Copper (0530) Total Coliforms (1700) Turbidity (2500)

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO BAYAMÓN PRER12A2	83.7	SD	NS 50047600 50047820 ED - PR13005	4a	4a	5	5	H, P	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)
	RIO GUAYNABO PRER12B	50.7	SD	NS 50047990	5	5	5	5	H	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)	Total Coliforms (1700) Turbidity (2500)
	RIO MINILLAS PRER12C	8.7	SD		4a	4a	3	3	H, J	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	4a	4a	5	5	H	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)	Turbidity (2500)

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO GRANDE DE LOIZA PRER14A2	86.6	SD	NS 50055000 50051800 ED - PR13076	4a	4a	1	1	C, G, I, P	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	
	RIO CANOVANAS PRER14B	32.6	SD	SPD 50061910	5	5	1	1	F, H	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Total Coliform (1700)
	RIO CANOVANILLAS PRER14C	27.9	SD	SPD 50061510 ED - PR13097	5	5	5	1	F, H, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Total Coliforms (1700)

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	QUEBRADA MARACUTO PREQ14D	22.9	SD	SPD 50060200	4a	4a	1	1	F, H	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	QUEBRADA GRANDE PREQ14E	17.7	SD	SPD 50059210	4a	4a	5	1	F, H	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
	RIO CAÑAS PRER14F	9.4	SD	SPD 50058350	4a	4a	5	1	C, F	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
	RIO GURABO PRER14G1	124.3	SD	NS 50057025 ED - PR13025	5	5	5	5	C, G, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100)	Cooper (0530) Total Coliforms (1700) Turbidity (2500)

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO VALENCIANO PRER14G2	42.8	SD	NS 50056500 ED - PR13018 PR13061	4a	4a	5	5	C, P	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)	Turbidity (2500)
	RIO BAIROA PRER14H	16.3	SD	NS 50055410	5	5	5	5	C, G, I, K	Collection System Failure (0500) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Phosphorus (0910) Total Coliforms (1700) Turbidity (2500)
	RIO CAGÜITAS PRER14I	33.9	SD	NS 50055250	5	5	5	5	C, G, I, K	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Surfactants (0400) Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	RIO TURABO PRER14J	54.7	SD	NS 50054500 ED - PR13093	4a	4a	5	5	C, 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)	Cooper (0530) pH (1000) Turbidity (2500)
	RIO CAYAGUAS PRER14K	38.5	SD	NS 50051500 ED - PR13002 PR13002R PR13002D	4a	4a	1	1	C, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO EMAJAGUA PRER14L	8.5	SD	SPD 50051000	4a	4a	1	1	C, F	Onsite Wastewater Systems (6500) Minor Industrial Point Source (0120) Package Plants (Small Flow) (0230)	
RIO HERRERA	RIO HERRERA PRER15A	17.0	SD	SPD 50063065 ED - PR13087	5	5	5	5	F, H, P	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Total Coliforms (1700) Turbidity (2500)

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
RIO ESPIRITU SANTO	RIO ESPIRITU SANTO PRER16A	53.9	SD	NS 50063800 ED - 1152	4a	4a	1	1	H, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	
	RIO ESPIRITU SANTO PRER16A1	4.5	SD		4a	4a	3	3	H, J	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
RIO MAMEYES	RIO MAMEYES PRER17A	35.6	SD	SPD 50065650 ED - PR13079	4a	4a	1	2	F, H, P	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	
	RIO MAMEYES PRER17A1	3.3	SD		4a	4a	3	3	F, H, J	Onsite Wastewater Systems (6500)	
QUEBRADA MATA DE PLATANO	QUEBRADA MATA DE PLATANO PREQ18A	4.0	SD	SPD 50066500	5	5	5	2	F	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200)
RIO SABANA	RIO SABANA PRER19A	15.1	SD		4a	4a	3	3	F, J, M	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100)	
	RIO SABANA PRER19A1	18.0	SD		4a	4a	3	3	F, J, M	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
RIO JUAN MARTÍN	RIO JUAN MARTÍN PRER20A	7.8	SD		4a	4a	3	3	F, J, M	Onsite Wastewater Systems (6500)	
QUEBRADA FAJARDO	QUEBRADA FAJARDO PREQ21A	10.0	SD		4a	4a	3	3	F, J, M	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
RIO FAJARDO	RIO FAJARDO PRER22A	59.0	SD	NS 50071000 50072500 ED - PR13013, 1	4a	4a	5	1	M, P	Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Sources (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Surfactants (0400)
RIO DEMAJAGUA	RIO DEMAJAGUA PRER23A	2.8	SD	SPD 50072700	4a	4a	1	2	M, Q	Onsite Wastewater Systems (6500)	
QUEBRADA CEIBA	QUEBRADA CEIBA PREQ24A	5.0	SD	SPD 50072810	4a	4a	5	2	F, M	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)
QUEBRADA AGUAS CLARAS	QUEBRADA AGUAS CLARAS PREQ25A	4.8	SD		4a	4a	3	3	F, J, M	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO DAGUAO	RIO DAGUAO PRER26A	13.8	SD	SPD 50073225	4a	4a	1	2	F, M	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA PALMA	QUEBRADA PALMA PREQ27A	11.8	SD		4a	4a	3	3	J, M	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230)	

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					R1	R2	AL	DW			
QUEBRADA BOTIJAS	QUEBRADA BOTIJAS PREQ28A	7.4	SD		4a	4a	3	3	F, J, M	Onsite Wastewater Systems (6500)	
RIO SANTIAGO	RIO SANTIAGO PRER29A	12.7	SD		4a	4a	3	3	F, J, M	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)	
	RIO SANTIAGO PRER29A1	2.6	SD		4a	4a	3	3	J, M	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
RIO BLANCO	RIO BLANCO PRER30A	45.0	SD		4a	4a	3	3	F, J, M	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	QUEBRADA PEÑA POBRE PREQ30B	13.4	SD		4a	4a	3	3	F, J, M	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
RIO ANTON RUIZ	RIO ANTON RUIZ PRER31A	16.9	SD	SPD 50078510	4a	4a	1	2	M, Q	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO ANTON RUIZ QUEBRADA MULAS PRER31A1	3.5	SD		4a	4a	3	3	J, M, Q	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
QUEBRADA FRONTERA	QUEBRADA FRONTERA PREQ32A	8.5	SD		4a	4a	3	3	F, J, M	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Major Municipal Point Sources (0210)	
RIO HUMACAO	RIO HUMACAO PRER33A	55.8	SD	NS 50082000 ED - PR13073	5	5	5	5	H, P	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)	Cooper (0530) Lead (0560) Surfactants (0400) Total Coliforms (1700) Turbidity (2500)
RIO CANDELERO	RIO CANDELERO PRER34A	10.4	SD		4a	4a	3	3	H, J, Q	Onsite Wastewater Systems (6500)	
RIO GUAYANES	RIO GUAYANES PRER35A	62.0	SD	NS 50083500 50085000 ED - PR13007 PR13023	5	5	5	5	H, P	Agriculture (1300) Landfills (6300) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Cooper (0530) Lead (0550) Low Dissolved Oxygen (1200) pH (1000) Total Coliforms (1700) Turbidity (2500)
	RIO GUAYANES PRER35A1	32.6	SD		4a	4a	3	3	H, J	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
QUEBRADA EMAJAGUA	QUEBRADA EMAJAGUA PREQ36A	2.5	SD		4a	4a	3	3	F, J, M	Onsite Wastewater Systems (6500)	
RIO MAUNABO	RIO MAUNABO PRER37A	36.0	SD	NS 50091000	4a	4a	5	1	H	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)	Thermal Modifications (1400)
QUEBRADA MANGLILLO	QUEBRADA MANGLILLO PRSQ38A	1.0	SD		4a	4a	3	3	J, M	Onsite Wastewater Systems (6500)	
QUEBRADA FLORIDA	QUEBRADA FLORIDA PRSQ39A	3.0	SD		N/A	N/A	N/A	N/A	E		
RIO JACABOA	RIO JACABOA PRSR40A	13.0	SD		4a	4a	4c	4c	J, M, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA PALENQUE	QUEBRADA PALENQUE PRSQ41A	1.0	SD		4a	4a	4c	4c	J, M, O, Q	Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
RIO CHICO	RIO CHICO PRSR42A	14.6	SD	SPD 50091800	4a	4a	5	1	M, O	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600)
RIO GRANDE DE PATILLAS	RIO GRANDE DE PATILLAS PRSR43A1	4.0	SD		4a	4a	3	3	J, M	Onsite Wastewater Systems (6500) Major Municipal Point Source (0210)	
	RIO GRANDE DE PATILLAS PRSR43A2	35.9	SD	NS 50092000 ED - PR13006	4a	4a	1	1	M, P	Onsite Wastewater Systems (6500)	
	RIO MARIN PRSR43B	8.7	SD		4a	4a	3	3	J, M	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA YAUREL	QUEBRADA YAUREL PRSQ44A	6.0	SD		4a	4a	4c	4c	J, M, O	Onsite Wastewater Systems (6500)	
RIO NIGUAS DE ARROYO	RIO NIGUAS DE ARROYO PRSR45A	21.0	SD		4a	4a	3	3	J, M, Q	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	
QUEBRADA SALADA	QUEBRADA SALADA PRSQ46A	1.7	SD		4a	4a	4c	4c	J, M, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surface Mining (5100)	

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					R1	R2	AL	DW			
QUEBRADA CORAZON	QUEBRADA CORAZON PRSQ47A	9.7	SD		4a	4a	4c	4c	J, M, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA BRANDERI	QUEBRADA BRANDERI PRSQ48A	4.5	SD		4a	4a	4c	4c	J, M, O	Collection System Failure (0500) Onsite Wastewater Systems (6500)	
RIO GUAMANI	RIO GUAMANI PRSR49A	22.0	SD		4a	4a	4c	4c	J, M, O, Q	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
QUEBRADA MELANIA	QUEBRADA MELANIA PRSQ50A	7.0	SD	SPD 50096010	4a	4a	5	2	D, M, O	Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
RIO SECO	RIO SECO PRSR51A	24.7	SD		4a	4a	4c	4c	J, M, O, Q	Agriculture (1300) Onsite Wastewater Systems (6500)	
QUEBRADA AMOROS	QUEBRADA AMOROS PRSQ52A	0.7	SD		4a	4a	4c	4c	D, J, M, O, Q	Onsite Wastewater Systems (6500)	
QUEBRADA AGUAS VERDES	QUEBRADA AGUAS VERDES PRSQ53A	15.0	SD	SPD 50099400	4a	4a	5	1	H, O, Q	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)

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					R1	R2	AL	DW			
RIO NIGUAS DE SALINAS	RIO NIGUAS DE SALINAS PRSR54A	102.5	SD	NS 50102010 SPD 50101600 ED - PR13022	4a	4a	4c	4c	D, H, P	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	
RIO JUEYES	RIO JUEYES PRSR55A	11.0	SD		4a	4a	4c	4c	J, M, 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	SPD 50103100	4a	4a	5	2	M, O, Q	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)
RIO COAMO	RIO COAMO PRSR57A1	7.5	SD		4a	4a	3	3	J, M, O	Agriculture (1300) Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Sources (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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					R1	R2	AL	DW			
	RIO COAMO PRSR57A2	59.0	SD	NS 50106500	4a	4a	1	1	M	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO CUYON PRSR57B	49.2	SD	SPD 50106000 ED - PR13084	4a	4a	5	1	L, M, P	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
RIO DESCALABRADO	RIO DESCALABRADO PRSR58A	18.8	SD		4a	4a	4c	4c	J, M, O, Q	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO CAÑAS	RIO CAÑAS PRSR59A	8.0	SD		4a	4a	4c	4c	J, M, O	Agriculture (1300) Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
RIO JACAGUAS	RIO JACAGUAS PRSR60A1	22.8	SD		4a	4a	4c	4c	H, J, O	Agriculture (1300) Collection System Failure (0500) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO JACAGUAS PRSR60A2	29.3	SD	ED - PR13088	4a	4a	4c	4c	H, O, P	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		4a	4a	3	3	H	Agriculture (1300) Collection System Failure (0500) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Surface Mining (5100) Urban Runoff/Storm Sewers (4000)	
RIO BUCANA-CERRILLOS	RIO BUCANA-CERRILLOS PRSR62A1	27.8	SD	NS 50114000 50114400	4a	4a	1	1	M	Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	
	RIO BUCANA-CERRILLOS PRSR62A2	32.6	SD	NS 50113800 ED - PR13028 PR13078	4a	4a	1	1	M, P	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
RIO PORTUGUES	RIO PORTUGUES PRSR63A	54.0	SD	NS 50114900 50115000 50116200	4a	4a	5	5	M	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	pH (1000) Thermal Modifications (1400) Turbidity (2500)
RIO MATILDE - PASTILLO	RIO MATILDE-PASTILLO PRSR64A	43.2	SD		4a	4a	4c	4c	J, M, O, Q	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)	
	QUEBRADA DEL AGUA PRSR64A1	8.0	SD		4a	4a	3	3	J, M, O	Onsite Wastewater Systems (6500)	
RIO TALLABOA	RIO TALLABOA PRSR65A	59.6	SD		4a	4a	3	3	J, M, O, Q	Agriculture (1300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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					R1	R2	AL	DW			
RIO MACANA	RIO MACANA PRSR66A	21.7	SD		4a	4a	4c	4c	J, M, O	Agriculture (1300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO GUAYANILLA	RIO GUAYANILLA PRSR67A	60.0	SD	NS 50124700 ED - PR13016	4a	4a	5	1	H, P	Agriculture (1300) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Low Dissolved Oxygen (1200)
RIO YAUCO	RIO YAUCO PRSR68A1	61.4	SD	SPD 50128110	4a	4a	5	1	H, O, Q	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)	Low Dissolved Oxygen (1200)
	RIO YAUCO PRSR68A2	18.3	SD		4a	4a	4c	4c	H, J, O	Agriculture (1300) Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
RIO LOCO	RIO LOCO PRSR69A1	92.4	SD	SPD 50129600 ED - NOAA (N-30, N-33, N-34)	4a	4a	5	5	H, P	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) Turbidity (2500)
	RIO LOCO PRSR69A2	19.5	SD		4a	4a	3	3	H, J	Agriculture (1300) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	
RIO ARROYO CAJUL	RIO ARROYO CAJUL PRSR70A	7.4	SD		4a	4a	3	3	J, M	Onsite Wastewater Systems (6500)	
QUEBRADA BOQUERON	QUEBRADA BOQUERON PRWQ71A	11.7	SD		4a	4a	3	3	J, M	Onsite Wastewater Systems (6500) Minor Industrial Point Sources (0120)	
QUEBRADA ZUMBON	QUEBRADA ZUMBON PRWQ72A	1.7	SD	SPD 50130050	4a	4a	5	4c	M, O, Q	Collection System Failure (0500) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
QUEBRADA GONZALEZ	QUEBRADA GONZALEZ PRWQ73A	1.8	SD		4a	4a	4c	4c	J, M, O, Q	Onsite Wastewater Systems (6500)	
QUEBRADA LOS PAJARITOS	QUEBRADA LOS PAJARITOS PRWQ74A	2.7	SD		4a	4a	4c	4c	J, M, O, Q	Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
CAÑO CONDE AVILA	CAÑO CONDE AVILA PRWK75A	4.0	SD		4a	4a	3	3	J, M	Onsite Wastewater Systems (6500)	
QUEBRADA IRIZARRY	QUEBRADA IRIZARRY PRWK76A	2.0	SD		4a	4a	3	3	J, M	Onsite Wastewater Systems (6500)	
RIO GUANAJIBO	RIO GUANAJIBO PRWR77A	119.3	SD	NS 50138000 50133600	5	5	5	5	H	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)	Total Coliforms (1700) Turbidity (2500)
	RIO HONDO PRWR77B	17.2	SD		4a	4a	3	3	H, J	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO ROSARIO PRWR77C	58.3	SD	NS 50136400 50136700	4a	4a	5	5	H	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)	Turbidity (2500)

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					R1	R2	AL	DW			
	RIO VIEJO PRWR77D	21.1	SD	NS 50135625	4a	4a	5	1	H	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
	RIO DUEY Y RIO HOCONUCO PRWR77E	39.9	SD	SPD 50135000	4a	4a	1	1	H, L	Agriculture (1300) Onsite Wastewater Systems (6500)	
	RIO CAIN PRWR77F	24.5	SD		4a	4a	3	3	H, J	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
	RIO CUPEYES PRWR77G	8.0	SD	ED - PR13072	4a	4a	1	1	H, P	Agriculture (1300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO CRUCES PRWR77H	13.8	SD		4a	4a	3	3	H, J	Collection System Failure (0500) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	RIO GRANDE PRWR77I	22.5	SD		4a	4a	3	3	H, J	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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					R1	R2	AL	DW			
CAÑO MERLE	CAÑO MERLE PRWK78A	1.6	SD		4a	4a	4c	4c	M, O, Q	Collection System Failure (0500) Surface Mining (5100) Urban Runoff/Storm Sewers (4000)	
	CAÑO MERLE PRWK78A1	9.5	SD		4a	4a	4c	4c	M, O	Onsite Wastewater Systems (6500)	
RIO YAGÜEZ	RIO YAGÜEZ PRWR79A	42.2	SD	NS 50138800 50139000	5	5	5	5	M	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Total Coliforms (1700) Turbidity (2500)
QUEBRADA DEL ORO	QUEBRADA DEL ORO PRWQ80A	10.0	SD		4a	4a	3	3	J, M	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	J	Onsite Wastewater Systems (6500)	
CAÑO BOQUILLA	CAÑO BOQUILLA PRWK82A	5.4	SD		3	3	3	3	J, O	Landfills (6300) Onsite Wastewater Systems (6500)	
	CAÑO BOQUILLA PRWK82A1	3.0	SD		3	3	3	3	J, O	Onsite Wastewater Systems (6500)	
	CAÑO BOQUILLA PRWK82A2	3.9	SD		3	3	3	3	J, O	Major Industrial Point Source (0110) Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO PRWR83A	126.0	SD	NS 50143000 50144000 50146000	4a	4a	5	5	N	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)	Turbidity (2500)
	RIO CAÑAS PRWR83B	54.4	SD	ED - PR13082	4a	4a	1	1	N, P	Agriculture (1300) Onsite Wastewater Systems (6500)	
	RIO CASEY PRWR83C	38.1	SD	SPD 50145600	4a	4a	1	1	L, N	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO HUMATA PRWR83D	13.3	SD	SPD 50144900 ED - PR13011	4a	4a	5	5	L, N, P	Agriculture (1300) Onsite Wastewater Systems (6500)	Turbidity (2500)
	RIO ARENAS PRWR83E	18.3	SD		4a	4a	3	3	J, N	Agriculture (1300) Collection System Failure (0500) Landfills (6300) Minor Municipal Point Sources (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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	RIO MAYAGUECILLO PRWR83F	18.0	SD	SPD 50143600	4a	4a	1	1	N	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
	RIO GUABA PRWR83G	68.1	SD	SPD 50143320 ED - PR13089 PR13092	4a	4a	1	2	D, N, P	Agriculture (1300) Onsite Wastewater Systems (6500)	
	RIO BLANCO PRWR83H	79.9	SD	SPD 50142250 ED - PR13015 PR13015R PR13015D 47	4a	4a	1	1	L, N, P	Agriculture (1300) Onsite Wastewater Systems (6500)	
	RIO PRIETO PRWR83I	59.8	SD	SPD 50142900	4a	4a	1	1	N	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	
QUEBRADA JUSTO	QUEBRADA JUSTO PRWQ84A	1.0	SD		4c	4c	4c	4c	J, O	Onsite Wastewater Systems (6500)	
QUEBRADA ICACOS	QUEBRADA ICACOS PRWQ85A	1.4	SD		4c	4c	4c	4c	J, O	Onsite Wastewater Systems (6500)	
QUEBRADA CAGUABO	QUEBRADA CAGUABO PRWQ86A	1.0	SD		4c	4c	4c	4c	J, O	Onsite Wastewater Systems (6500)	
CAÑO GARCIA	CAÑO GARCIA PRWK87A	2.0	SD		4c	4c	4c	4c	J, O	Onsite Wastewater Systems (6500)	

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					R1	R2	AL	DW			
QUEBRADA GRANDE DE CALVACHE	QUEBRADA GRANDE DE CALVACHE PRWQ88A	14.8	SD		4c	4c	4c	4c	D, J, O	Onsite Wastewater Systems (6500)	
QUEBRADA LOS RAMOS	QUEBRADA LOS RAMOS PRWQ89A	6.9	SD		4c	4c	4c	4c	D, J, O	Landfills (6300) Onsite Wastewater Systems (6500)	
QUEBRADA PUNTA ENSENADA	QUEBRADA PUNTA ENSENADA PRWQ90A	5.0	SD		4c	4c	4c	4c	J, O	Onsite Wastewater Systems (6500)	
QUEBRADA PILETAS	QUEBRADA PILETAS PRWQ91A	2.0	SD		4c	4c	4c	4c	J, O, Q	Onsite Wastewater Systems (6500)	
RIO GRANDE	RIO GRANDE PRWR92A	21.8	SD		4c	4c	4c	4c	J, O	Onsite Wastewater Systems (6500)	
CAÑO DE SANTI PONCE	CAÑO DE SANTI PONCE PRWK93A	4.8	SD		4a	4a	4c	4c	J, M, O	Collection System Failure (0500) Onsite Wastewater Systems (6500)	
RIO GUAYABO	RIO GUAYABO PRWR94A	43.1	SD	SPD 50146400 50146550	4a	4a	1	1	D, M	Onsite Wastewater Systems (6500) Package Plants (Small Flow) (0230) Urban Runoff/Storm Sewers (4000)	

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
RIO CULEBRINAS	RIO CULEBRINAS PRWR95A	142.6	SD	NS 50147600 50149100 ED - PR13063 PR13081	4a	4a	5	5	N, 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)	Arsenic (0510) Copper (0530) Turbidity (2500)
	RIO CAÑO (RIO CAÑAS) PRWR95B	33.3	SD	SPD 50148700	4a	4a	1	1	L, N	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
	QUEBRADA GRANDE (SECTOR CUCHILLAS) PRWQ95C	11.4	SD	SPD 50147997	4a	4a	1	1	N	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	QUEBRADA LAS MARIAS PRWQ95D	9.8	SD	SPD 50147900 ED - PR13070	4a	4a	1	1	N, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	QUEBRADA YAGRUMA PRWQ95E	20.6	SD		4a	4a	3	3	J, N	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	

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Table 21: Rivers and Streams Assessment (Monitored and Unmonitored)

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network ED = External Data SPD = Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
					R1	R2	AL	DW			
	QUEBRADA LA SALLE PRWQ95F	11.8	SD	SPD 50147675	4a	4a	1	1	N, Q	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	QUEBRADA EL SALTO PRWQ95G	7.8	SD	SPD 50147630	4a	4a	1	1	N	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	QUEBRADA GRANDE DE LA MAJAGUA PRWQ95H	5.6	SD	SPD 50147595	4a	4a	1	1	L, N	Agriculture (1300) Onsite Wastewater Systems (6500)	
	QUEBRADA SALADA PRWQ95I	7.9	SD	SPD 50147475	4a	4a	1	1	L, N	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO SONADOR PRWR95J	37.7	SD	SPD 50147450	4a	4a	1	1	L, N	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
	RIO GUATEMALA PRWR95K	20.3	SD	SPD 50147200	4a	4a	1	1	N	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	J, M	Urban Runoff/Storm Sewers (4000)	

Notes:

- A** - Watershed that has an approved TMDL for Río Cibuco, the TMDL was approved on September 2002, the pollutant was Fecal Coliforms
- B** - Watershed that has an approved TMDL for Río de la Plata, the TMDL was approved on September 2003, the pollutant was Fecal Coliforms

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- C** - Watershed that has an approved TMDL for Río Grande de Loíza, the TMDL was approved on September 2007, the pollutant was Fecal Coliforms
- D** - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2008-303(d) list.
- E** - This watershed was always dry in this cycle
- F** - Watershed and sub watershed that were included in the 2006-303(d) list by a synoptic study and do not have permanent monitoring station
- G** - Watershed that has an approved TMDL for Río Grande de Loíza a TMDL was approved on August 2007, the pollutant was Dissolved Oxygen
- H** - Watersheds that have approved TMDL on September 2012, the pollutant were Fecal Coliforms
- I** - Watershed that has an approved TMDL. Río Grande de Loíza, the TMDL was approved on August 2007, the pollutant was Copper
- J** - If the Monitoring Station column is left blank, the Assessment Unit was not monitored for 2014 cycle
- K** - Watershed that has approved TMDL from Río Grande de Loíza, a TMDL was approved on August 2007, the pollutant was Ammonia
- L** - Remains in 2014 303(d) list due to old segmentation evaluation.
- M** - Watersheds that have approved TMDL on September 2011, the pollutant were Fecal Coliform
- N** - 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 Río Culebrinas.
- O** - Watershed and sub watersheds who are or have been under Category 4c, are water bodies that lack adequate flow, which impaired some of the designated uses.
- P** - External Data
- Q** - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2012 -303(d) list.
- R1** - Primary Contact Recreation
- R2** - Secondary Contact Recreation
- AL** - Aquatic Life
- DW** - Raw Source for Drinking Water
- N/A** - Not assessed

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Estuaries

Table 22: Size of Waters Impaired by Causes (Monitored acres for Estuaries)		
Causes of Impairments 2012-2013 Cycle		Causes of Impairments Summary
Causes of Impairments	Size of Waters Impaired (Acres)	Size of Waters Impaired (Acres/Miles)
Surfactants (0400)	101.1	648.3 acres, 11.9 miles
Arsenic (0510)	0	23.29 acres
Cyanide (0720)	0	23.29 acres
Low Dissolved Oxygen (1200)	0	652.7 acres, 11.9 miles
Thermal Modifications (1400)	0	49.9 acres
Fecal Coliforms (1700)	1.28	49.1 acres
Total Coliforms (1700)	101.1	101.1 acres
Turbidity (2500)	0	187.6 acres, 11.9 miles

Table 23: Size of Waters Impaired by Sources (Assesed and Monitored Estuaries)	
Sources of Impairments	Size of Waters Impaired (Acres/Miles)
Major Industrial Point Sources (0110)	368.5 acres
Minor Industrial Point Source (0120)	26.9 acres
Major Municipal Point Source (0210)	791.8 acres, 55.9 miles
Minor Municipal Point Source (0220)	368.5 acres
Collection System Failure (0500)	1,566.6 acres, 57.2 miles
Agriculture (1300)	168.6 acres, 11.9 miles
Confined Animal Feeding Operations (1640)	1,508.3 acres, 95.9 miles
Urban Runoff/Storm Sewers (4000)	1,955.4 acres, 107.8 miles
Surface Mining (5100)	147.1 acres
Landfills (6300)	595.2 acres, 70.2 miles
Onsite Wastewater Systems (6500)	2,719.6 acres, 107.8 miles
Upstream Impoundment (7350)	358.1 acres

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Table 24: Estuaries Assessment (Except San Juan Estuary System)

Basin	Waterbody Name Assessment Unit-Id	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SDP – Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Cause of Impairment
					R1	R2	AL	DW			
RIO GUAJATACA PRNR3A	RIO GUAJATACA PRNE3A	30.72	SB		3	3	3	N/A	J	Surface Mining (5100) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
QUEBRADA BELLACA PRNR4A	QUEBRADA BELLACA PRNE4A	2.68	SB		3	3	3	N/A	J		
RIO CAMUY PRNR5A	RIO CAMUY PRNE5A	26.88	SB		4a	4a	3	N/A	H, J	Onsite Wastewater Systems (6500)	
RIO GRANDE DE ARECIBO PRNR7A	RIO GRANDE DE ARECIBO PRNE7A	54.20	SB		4a	4a	3	N/A	J, N	Agriculture (1300) Urban Runoff/Storm Sewers (4000)	
CAÑO TIBURONES PRNE7.1	CAÑO TIBURONES PRNE7.1	187.1 acres 38.7miles	SB		4a	4a	3	N/A	J, M	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	J, N	Urban Runoff/Storm Sewers (4000)	

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Table 24: Estuaries Assessment (Except San Juan Estuary System)

Basin	Waterbody Name Assessment Unit-Id	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SDP – Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Cause of Impairment
					R1	R2	AL	DW			
RIO CIBUCO PRNR9A	RIO CIBUCO PRNE9A	189.69 acres 19.6 miles	SB		N/A	N/A	3	N/A	A, J	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)	
RIO DE LA PLATA PRER10A	RIO DE LA PLATA PREE10A	528.38 acres 24.4miles	SB		4a	4a	3	N/A	B, J	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		4a	4a	3	N/A	H, J, Q	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		4a	4a	3	N/A	H, J, Q	Landfills (6300) Onsite Wastewater Systems (6500)	

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Table 24: Estuaries Assessment (Except San Juan Estuary System)

Basin	Waterbody Name Assessment Unit-Id	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SDP – Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Cause of Impairment
					R1	R2	AL	DW			
RIO ESPIRITU SANTO PRER16A	RIO ESPIRITU SANTO PREE16A	316.8 acres 51.71 acres	SB		4a	4a	3	N/A	F, H, J	Onsite Wastewater Systems (6500)	
CAÑO RODRÍGUEZ PREE16.1	CAÑO RODRÍGUEZ PREE16.1	69.12	SB		3	3	3	N/A	J	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
RIO MAMEYES PRER17A	RIO MAMEYES PREE17A	107.13	SB		4a	4a	3	N/A	H, J	Onsite Wastewater Systems (6500) Surface Mining (5100)	
RIO SABANA PRER19A	RIO SABANA PREE19A	18.43	SB		4a	4a	3	N/A	J, M	Urban Runoff/Storm Sewers (4000)	
RIO JUAN MARTÍN PRER20A	RIO JUAN MARTÍN PREE20A	1.79	SB		4a	4a	3	N/A	J, M	Urban Runoff/Storm Sewers (4000)	
RIO FAJARDO PRER22A	RIO FAJARDO PREE22A	43.52	SB		4a	4a	3	N/A	J, M	Urban Runoff/Storm Sewers (4000)	
RIO DEMAJAGUA PRER23A	RIO DEMAJAGUA PREE23A	1.79	SB		4a	4a	3	N/A	F, J, M	Collection System Failure (0500)	
QUEBRADA AGUAS CLARAS PRER25A	QUEBRADA AGUAS CLARAS PREE25A	1.53	SB		4a	4a	3	N/A	J, M	Upstream Impoundment (7350)	
RIO DAGUAO PRER26A	RIO DAGUAO PREE26A	43.0	SB		4a	4a	3	N/A	J, M	Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
QUEBRADA PALMA PRER27A	QUEBRADA PALMA PREE27A	3.2	SB		4a	4a	3	N/A	J, M	Upstream Impoundment (7350)	
QUEBRADA BOTIJAS PRER28A	QUEBRADA BOTIJAS PREE28A	12.28	SB		4a	4a	3	N/A	J, M	Upstream Impoundment (7350)	

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Table 24: Estuaries Assessment (Except San Juan Estuary System)

Basin	Waterbody Name Assessment Unit-Id	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SDP – Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Cause of Impairment
					R1	R2	AL	DW			
RIO SANTIAGO PRER29A	RIO SANTIAGO PREE29A	16.12	SB		4a	4a	3	N/A	J, M		
RIO BLANCO PRER30A	RIO BLANCO PREE30A	32.76	SB		4a	4a	3	N/A	J, M	Upstream Impoundment (7350)	
RIO ANTON RUIZ PRER31A	RIO ANTON RUIZ PREE31A	82.94	SB		4a	4a	3	N/A	J, M	Upstream Impoundment (7350)	
RIO HUMACAO PRER33A	RIO HUMACAO PREE33A	79.36	SB		4a	4a	3	N/A	H, J	Collection System Failure (0500) Landfills (6300) Onsite Wastewater Systems (6500)	
RIO CANDELERO PRER34A	RIO CANDELERO PREE34A	49.92	SB		4a	4a	3	N/A	F, H, J	Collection System Failure (0500)	
RIO GUAYANES PRER35A	RIO GUAYANES PREE35A	23.29	SB		4a	4a	3	N/A	H, J	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		4a	4a	3	N/A	F, H, J	Agriculture (1300) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO CHICO PRSR42A	RIO CHICO PRSE42A	5.12	SB		4a	4a	3	N/A	J, M	Onsite Wastewater Systems (6500)	

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Table 24: Estuaries Assessment (Except San Juan Estuary System)

Basin	Waterbody Name Assessment Unit-Id	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SDP – Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Cause of Impairment
					R1	R2	AL	DW			
RIO GRANDE DE PATILLAS PRSR43A	RIO GRANDE DE PATILLAS PRSE43A	8.70	SB		4a	4a	3	N/A	J, M	Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	
QUEBRADA SALADA PRSR46A	QUEBRADA SALADA PRSE46A	3.84	SB		4a	4a	4c	N/A	J, M, O	Confined Animal Feeding Operations (1640) Surface Mining (5100)	
QUEBRADA CORAZON PRSR47A	QUEBRADA CORAZON PRSE47A	3.45	SB		4a	4a	4c	N/A	J, M, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	
QUEBRADA BRANDERI PRSR48A	QUEBRADA BRANDERI PRSE48A	7.68	SB		4a	4a	3	N/A	J, M		
QUEBRADA MELANIA PRSR50A	QUEBRADA MELANIA PRSE50A	7.68	SB		4a	4a	3	N/A	J, M		
RIO SECO PRSR51A	RIO SECO PRSE51A	2.30	SB		4a	4a	3	N/A	J, M	Urban Runoff/Storm Sewers (4000)	
QUEBRADA AMOROS PRSR52A	QUEBRADA AMOROS PRSE52A	2.68	SB		4a	4a	3	N/A	J, M	Urban Runoff/Storm Sewers (4000)	
QUEBRADA AGUAS VERDES PRSR53A	QUEBRADA AGUAS VERDES PRSE53A	2.30	SB		4a	4a	4c	N/A	H, J, O	Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	
RIO NIGUAS DE SALINAS PRSR54A	RIO NIGUAS DE SALINAS PRSE54A	7.04	SB		4a	4a	3	N/A	H, J	Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	
RIO COAMO PRSR57A	RIO COAMO PRSE57A	7.29	SB		4a	4a	3	N/A	J, M	Agriculture (1300) Upstream Impoundment (7350)	
RIO DESCALABRADO PRSR58A	RIO DESCALABRADO PRSE58A	3.07	SB		4a	4a	3	N/A	J, M	Agriculture (1300)	

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Table 24: Estuaries Assessment (Except San Juan Estuary System)

Basin	Waterbody Name Assessment Unit-Id	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SDP – Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Cause of Impairment
					R1	R2	AL	DW			
RIO JACAGUAS PRSR60A	RIO JACAGUAS PRSE60A	7.04	SB		4a	4a	3	N/A	H, J	Agriculture (1300) Onsite Wastewater Systems (6500)	
RIO INABON PRSR61A	RIO INABON PRSE61A	2.30	SB		4a	4a	3	N/A	H, J	Urban Runoff/Storm Sewers (4000)	
RIO MATILDE- PASTILLO PRSR64A	RIO MATILDE- PASTILLO PRSE64A	27.64	SB		4a	4a	4c	N/A	D, J, M, O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO TALLABOA PRSR65A	RIO TALLABOA PRSE65A	21.50	SB		4a	4a	3	N/A	J, M, Q	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO MACANA PRSR66A	RIO MACANA PRSE66A	2.30	SB		4a	4a	3	N/A	J, M	Urban Runoff/Storm Sewers (4000)	
RIO YAUCO PRSR68A	RIO YAUCO PRSE68A	1.92	SB		4a	4a	3	N/A	H, J	Upstream Impoundment (7350)	
RIO LOCO PRSR69A	RIO LOCO PRSE69A	5.37	SB		4a	4a	3	N/A	H, J	Onsite Wastewater Systems (6500) Surface Mining (5100) Urban Runoff/Storm Sewers (4000)	
QUEBRADA BOQUERON PRWR71A	QUEBRADA BOQUERON PRWE71A	6.14	SB		4a	4a	3	N/A	J, M		
QUEBRADA ZUMBON PRWR72A	QUEBRADA ZUMBON PRWE72A	1.92	SB		4a	4a	3	N/A	J, M	Onsite Wastewater Systems (6500)	
QUEBRADA GONZALEZ PRWR73A	QUEBRADA GONZALEZ PRWE73A	5.12	SB		4a	4a	3	N/A	J, M		

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Table 24: Estuaries Assessment (Except San Juan Estuary System)												
Basin	Waterbody Name Assessment Unit-Id	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SDP – Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Cause of Impairment	
					R1	R2	AL	DW				
QUEBRADA LOS PAJARITOS PRWR74A	QUEBRADA LOS PAJARITOS PRWE74A	1.92	SB		4a	4a	3	N/A	J, M			
RIO GUANAJIBO PRWR77A	RIO GUANAJIBO PRWE77A	36.86	SB		4a	4a	3	N/A	J, M	Collection System Failure (0500) Onsite Wastewater Systems (6500)		
CAÑO MERLE PRWR78A	CAÑO MERLE PRWE78A	101.12	SB	SPD 50138265	5	5	5	N/A	M, O, Q	Collection System Failure (0500)	Total Coliforms (1700) Surfactants (0400)	
RIO YAGÜEZ PRWR79A	RIO YAGÜEZ PRWE79A	12.28	SB		4a	4a	3	N/A	J, M	Urban Runoff/Storm Sewers (4000)		
CAÑO BOQUILLA PRWR82A	CAÑO BOQUILLA PRWE82A	39.68	SB		4c	4c	4c	N/A	J, O, Q	Onsite Wastewater Systems (6500)		
RIO GRANDE DE AÑASCO PRWR83A	RIO GRANDE DE AÑASCO PRWE83A	152.06	SB		4a	4a	3	N/A	J, N	Onsite Wastewater Systems (6500)		
QUEBRADA GRANDE CALVACHE PRWR88A	QUEBRADA GRANDE CALVACHE PRWE88A	1.28	SB	SPD 50146150	5	5	1	N/A	D, O	Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700)	
QUEBRADA LOS RAMOS PRWR89A	QUEBRADA LOS RAMOS PRWE89A	.384	SB		3	3	3	N/A	J	Collection System Failure (0500) Onsite Wastewater Systems (6500)		
RIO GRANDE PRWR92A	RIO GRANDE PRWE92A	1.79	SB		4a	4a	3	N/A	J, M			
CAÑO DE SANTI PONCE PRWR93A	CAÑO DE SANTI PONCE PRWE93A	2.04	SB		4a	4a	3	N/A	J, M	Onsite Wastewater Systems (6500)		

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Table 24: Estuaries Assessment (Except San Juan Estuary System)

Basin	Waterbody Name Assessment Unit-Id	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SDP – Special Project Delisting	Designated Uses and Categories				Notes	Potential Sources of Pollution	Cause of Impairment
					R1	R2	AL	DW			
RIO GUAYABO PRWR94A	RIO GUAYABO PRWE94A	18.43	SB		4a	4a	3	N/A	D, J, M	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
RIO CULEBRINAS PRWR95A	RIO CULEBRINAS PRWE95A	86.01	SB		4a	4a	3	N/A	J, N	Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	

Notes:

- D** - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2008-303(d) list.
- F** - Watershed and sub watershed that were included in the 2006-303(d) list by a synoptic study and do not have permanent monitoring station
- H** - Watersheds that have approved TMDL on September 2012, the pollutant were Fecal Coliforms
- J** - If the Monitoring Station column is left blank, the Assessment Unit was not monitored for 2014 cycle
- M** - Watersheds that have approved TMDL on September 2011, the pollutant were Fecal Coliform
- N** - 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 y Río Culebrinas
- O** - Watershed and sub watersheds under Category 4c are water bodies that lack adequate flow, which impaired some of the designated uses.
- Q** - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2012 -303(d) list.
- R1** - Primary Contact Recreation
- R2** - Secondary Contact Recreation
- AL** - Aquatic Life
- DW** - Raw Source for Drinking Water
- N/A** - Not applicable for Drinking Water Use

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San Juan Bay Estuary System

Table 25: Size of Waters Impaired by Causes San Juan Bay Estuary System		
Causes of Impairments 2012-2013 Cycle		Causes of Impairments Summary
Causes of Impairments	Size of Waters Impaired (Acres/Miles)	Size of Waters Impaired (Acres/Miles)
Surfactants (0400)	0	64.6 acres, 74.7 miles
Arsenic (0510)	0	18.8 miles
Cadmium (0520)	0	2,389.2 acres, 47.9 miles
Copper (0530)	0	2,453.8 acres, 122.6 miles
Lead (0550)	0	2,453.8 acres, 122.6 miles
Mercury (0560)	0	2,389.2 acres, 66.7 miles
Selenium (0570)	0	18.8 miles
Ammonia (0600)	64.6 acres, 55.9 miles	64.6 acres, 55.9 miles
Cyanide (0720)	0	2,453.8 acres, 122.6 miles
Nitrate + Nitrite (0990)	0	64.6 acres, 55.9 miles
pH (1000)	2,453.8 acres, 122.6 miles	2,453.8 acres, 122.6 miles
Low Dissolved Oxygen (1200)	2,453.8 acres, 122.6 miles	2,453.8 acres, 122.6 miles
Thermal Modifications (1400)	2,453.8 acres, 122.6 miles	2,453.8 acres, 122.6 miles
Enterococcus Bacteria (1700)	2,389.2 acres, 66.7 miles	2,389.2 acres, 66.7 miles
Fecal Coliforms (1700)	2,389.2 acres, 47.9 miles	2,389.2 acres, 47.9 miles
Total Coliforms (1700)	2,453.8 acres, 103.8 miles	2,453.8 acres, 103.8 miles
Oil and Grease (1900)	2,453.8 acres, 122.6 miles	2,453.8 acres, 122.6 miles
Turbidity (2500)	2,453.8 acres, 122.6 miles	2,389.2 acres, 66.7 miles

Table 26: Size of Waters Impaired by Sources San Juan Bay Estuary System	
Sources of Impairments	Size of Waters Impaired (Acres/Miles)
Major Industrial Point Sources (0110)	64.6 acres, 18.8 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)	2,389.2 acres, 66.7 miles
Marinas and Recreational Boating (7900)	18.8 miles

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Table 27: San Juan Bay Estuary System Assessment

Basin	Waterbody Name Assessment Unit-ID	Water Body Size (Acres/Miles)	2014 Monitoring Stations NS = Network ED = External Data	Designated Uses and Categories				Notes	Potential 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 50048580 ED - BSJ 1, 2, 3 LC 1, 2 CSA La Malaria PLE	5	5	5	N/A	H, P	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)	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Turbidity (2500)
ESTUARY SYSTEM	PREE13A2 Río Piedras Lago Las Curías	55.9 miles 64.6 acres	NS 89027 89028 50048800 50049100 ED - RP 01, 02, 03 RPN Lago Las Curías ULTRA Project-Sites = 2, 3, 4, 5, 6, 9, 10 and CC	5	5	5	5	H, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)

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Table 27: San Juan Bay Estuary System Assessment										
Basin	Waterbody Name Assessment Unit-ID	Water Body Size (Acres/Miles)	2014 Monitoring Stations	Designated Uses and Categories				Notes	Potential Sources of Pollution	Causes of Impairment
				5	5	5	N/A			
ESTUARY SYSTEM	PREE13A3	2,389.2 acres	NS	5	5	5	N/A	P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater System (6500) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)
	Caño Martín Peña	47.9 miles	50049820							
	Quebrada Juan Méndez		50050300							
	Quebrada San Antón		ED - CS 1, 2							
	Quebrada Blasina		CMP							
	Canal Machicote		LSJ 1, 2							
	Canal Suárez		Blasina							
	Laguna San José		San Antón							
	Laguna Torrecillas		Laguna Los Corozos							
	Laguna de Piñones		Laguna Torrecillas 1, 2,							
	Laguna Los Corozos		3 Juan Méndez Laguna Piñones							

Notes:

- H** - Watersheds that have approved TMDL on September 2012, the pollutant were Fecal Coliforms
- P** - External Data
- R1** - Primary Contact Recreation
- R2** - Secondary Contact Recreation
- AL** - Aquatic Life
- DW** - Raw Sources for Drinking Water
- N/A** - Not applicable for Drinking Water

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Lagoons

Table 28: Size of Waters Impaired by Causes (Monitored acres for Lagoons)		
Causes of Impairments 2012-2013 Cycle		Causes of Impairments Summary
Causes of Impairments	Size of Waters Impaired (Acres)	Size of Waters Impaired (Acres)
Copper (0530)	1,675.0	1,675.0
Cyanide (0720)	0	554.0
pH (1000)	597	813.0
Low Dissolved Oxygen (1200)	2,482.0	2,482.0
Thermal Modifications (1400)	257.0	257.0
Enterococcus Bacteria (1700)	336.0	336.0
Turbidity (2500)	918.0	918.0

Table 29: Size of Waters Impaired by Sources (Monitored acres for Lagoons)	
Sources of Impairments	Size of Waters Impaired (Acres)
Confined Animal Feeding Operations (1640)	300.0
Urban Runoff/Storm Sewers (4000)	1,352.0
Inappropriate Waste Disposal (6350)	77.0
Landfills (6300)	14.0
Onsite Wastewater Systems (6500)	1,780.0
Marinas and Recreational Boating (7900)	399.0
Natural sources (8600)	1,598.0
Unknown Sources (9000)	688.0

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Table 30: Lagoons Assessment											
Municipality	Waterbody Name	Assessment Unit (Au-ID)	Class	2014 Monitoring Stations NS = Network SS = Special Study	WB Size (Acres)	Designated Uses and Categories			Notes	Potential Sources of Pollution	Causes of Impairment
						R1	R2	AL			
MAYAGÜEZ	Laguna Joyudas	PRWN0005	SB	SS 50130035 50130305	339	4a	4a	5	M	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Natural Sources (8600)	Copper (0530) Low Dissolved Oxygen (1200)
VEGA BAJA-MANATÍ	Laguna Tortuguero	PRNN0006	SE	NS 50038200 SS 50038191 50038194	554	1	1	5		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)
DORADO	Laguna Mata Redonda	PRNN0007	SB	SS 50039840 50039850	15	1	1	5		Unknown Sources (9000)	Low Dissolved Oxygen (1200) pH (1000)
FAJARDO	Laguna Aguas Prietas	PREN0011	SB	SS 50069500 50069550	128	1	1	5		Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) Turbidity (2500)
FAJARDO	Laguna Grande	PREN0012	SB	SS 50069600 50069620	216	5	5	5		Marinas and Recreational Boating (7900) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200)
CEIBA	Laguna Ceiba	PREN0013	SB	SS 50072940 50072950	120	5	5	5		Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) pH (1000)

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Table 30: Lagoons Assessment											
Municipality	Waterbody Name	Assessment Unit (Au-ID)	Class	2014 Monitoring Stations NS = Network SS = Special Study	WB Size (Acres)	Designated Uses and Categories			Notes	Potential Sources of Pollution	Causes of Impairment
						R1	R2	AL			
GUAYAMA	Laguna Pozuelo	PRSN0014	SB	SS 50098550 50098560	35	1	1	5		Natural Sources (8600) Urban Runoff/Storm Sewers (4000) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) pH (1000) Thermal Modifications (1400)
SALINAS	Laguna Mar Negro	PRSN0015	SB	SS 50099800 50099830	208	1	1	5		Natural Sources (8600) Urban Runoff/Storm Sewers (4000)	Copper (0530) Low Dissolved Oxygen (1200) pH (1000)
SALINAS	Laguna Punta Arenas	PRSN0016	SB	SS 50099900 50099920	18	1	1	5		Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) Thermal Modifications (1400) Turbidity (2500)
SALINAS	Laguna Tiburones	PRSN0017	SB	SS 50099960 50099975	14	1	1	5		Landfills (6300) Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) pH (1000) Thermal Modifications (1400) Turbidity (2500)
PONCE	Laguna Salinas	PRSN0018	SB	SS 50119310 50119360	77	1	1	5		Inappropriate Waste Disposal (6350) Unknown Sources (9000) Onsite Wastewater Systems (6500)	Copper (0530) Low Dissolved Oxygen (1200)

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Table 30: Lagoons Assessment											
Municipality	Waterbody Name	Assessment Unit (Au-ID)	Class	2014 Monitoring Stations NS = Network SS = Special Study	WB Size (Acres)	Designated Uses and Categories			Notes	Potential Sources of Pollution	Causes of Impairment
						R1	R2	AL			
CABO ROJO	Laguna Salinas I (Fraternidad)	PRSN0019	SB	SS 50129855 50129860	294	1	1	5		Natural Sources (8600) Onsite Wastewater Systems (6500)	Copper (0530) Low Dissolved Oxygen (1200) Turbidity (2500)
CABO ROJO	Laguna Cabo Rojo 2 (Candelaria)	PRSN0020	SB	SS 50129866 50129870	190	1	1	5		Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) Thermal Modifications (1400) Turbidity (2500)
CABO ROJO	Laguna Cabo Rojo 3 (El Faro)	PRSN0021	SB	SS 50129863 50129865	69	1	1	5		Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) Turbidity (2500)
RINCÓN - CABO ROJO	Caño Boquerón	PRSN0022	SB	SS 50129945 50129950	183	1	1	5		Marinas and Recreational Boating (7900) Natural Sources (8600)	Copper (0530) Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500)
CABO ROJO	Laguna Guaniquilla	PRSN0023	SB	SS 50130020 50130025	22	1	1	5		Unknown Sources (9000)	Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500)
LAJAS	Laguna Cartagena	PRSN0024	SE	SS 50129899 50129900	300	2	2	2		Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	

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Notes:

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

R1 - Primary Contact Recreation

R2 - Secondary Contact Recreation

AL -- Aquatic Life

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Lakes

Table 31: Size of waters Impaired by Causes (Monitored acres for Lakes)		
Causes of Impairments 2012-2013 Cycle		Causes of Impairments Summary
Causes of Impairments	Size of Waters Impaired (Acres/Miles)	Size of Waters Impaired (Acres/Miles)
Pesticides (0200)	0	2,133.0 acres, 48.8 miles
Surfactants (0400)	0	634.0 acres, 6.9 miles
Arsenic (0510)	0	1,194.0 acres, 21.9 miles
Copper (0530)	713.0 acres, 7.2 miles	2,047.0 acres, 25.9 miles
Lead (0550)	0	713.0 acres, 7.2 miles
Cyanide (0720)	0	1,194.0 acres, 21.9 miles
pH (1000)	77.0 acres, 3.0 miles	1,310.0 acres, 35.2 miles
Phosphorus (0910)	0	560.0 acres, 15.0 miles
Low Dissolved Oxygen (1200)	7,269.0 acres, 134.4 miles	7,323.0 acres, 136.1 miles
Turbidity (2500)	1,413.0 acres, 19.0 miles	1,413.0 acres, 19.0 miles

Table 32: Size of waters Impaired by Sources (Monitored acres for Lakes)	
Sources of Impairments	Size of Waters Impaired (Acres/Miles)
Major Industrial Point Source (0110)	285.0 acres, 12.7 miles
Minor Industrial Point Source (0120)	2,187.0 acres, 27.9 miles
Collection System failure (0500)	1,086.0 acres, 13.1 miles
Agriculture (1300)	3,680.0 acres, 90.2 miles
Confined Animal Feeding Operations (1640)	3,585.0 acres, 54.3 miles
Urban Runoff/Storm Sewers (4000)	1,413.0 acres, 7.2 miles
Landfills (6300)	560.0 acres, 15.0 miles
Onsite Wastewater Systems (6500)	7,323.0 acres, 136.1 miles
Upstream Impoundment (7350)	700.0 acres, 11.8 miles

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Table 33: Lakes Assessment											
Basin	Waterbody Name	WB Size (Acres/Miles)	Class	2014 Monitoring Station NS = Network ED = External Data	Designated Uses and Categories				Notes	Potential 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	4a	4a	5	2	H	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 50025000 ED - PR13086	4a	4a	5	2	N, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO CAONILLAS PRNL27C1	700 acres 11.8 miles	SD	NS 89001 89002 89003 50026050	4a	4a	5	5	N	Agriculture (1300) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200) Turbidity (2500)
RIO GRANDE DE ARECIBO	LAGO GARZAS PRNL37A3	108 acres 2.7 miles	SD	NS 50020050	4a	4a	5	2	N	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	3	3	N	Agriculture (1300) Onsite Wastewater Systems (6500)	
RIO GRANDE DE MANATÍ	LAGO MATRULLAS PRNL28C1	77 acres 3.0 miles	SD	NS 89009 89010	4a	4a	5	2	N	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) pH (1000)

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Table 33: Lakes Assessment											
Basin	Waterbody Name	WB Size (Acres/Miles)	Class	2014 Monitoring Station NS = Network ED = External Data	Designated Uses and Categories				Notes	Potential Sources of Pollution	Cause of Impairment
					R1	R2	AL	DW			
RIO DE LA PLATA	LAGO DE LA PLATA PREL ₁ 10A1	560 acres 15.0 miles	SD	NS 50044400 50044950 50044850 ED - PR13021	4a	4a	5	2	B, P	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO DE LA PLATA	LAGO CARITE PREL ₂ 10A5	333 acres 11.3 miles	SD	NS 50039900 50039950 ED - 7	4a	4a	5	2	B, P	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO BAYAMON	LAGO CIDRA PREL12A2	268 acres 8.3 miles	SD	NS 89029 89030 89031 ED - PR13010	4a	4a	5	2	H, P	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	4a	4a	5	5	C	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Copper (0530) Low Dissolved Oxygen (1200) Turbidity (2500)
RIO GRANDE DE PATILLAS	LAGO PATILLAS PRSL43A1	312 acres	SD	NS 89022 89023 89024 89025	4a	4a	5	2	M	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
QUEBRADA MELANIA	LAGO MELANIA PRSL50A	35 acres	SD	NS 89026	4a	4a	5	2	M	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)

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Table 33: Lakes Assessment											
Basin	Waterbody Name	WB Size (Acres/Miles)	Class	2014 Monitoring Station NS = Network ED = External Data	Designated Uses and Categories				Notes	Potential Sources of Pollution	Cause of Impairment
					R1	R2	AL	DW			
RIO JACAGUAS	LAGO GUAYABAL PRSL ₁ 60A1	373 acres 5.9 miles	SD	NS 89011 89012 89013	4a	4a	5	2	H	Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO JACAGUAS	LAGO TOA VACA PRSL ₂ 60A1	836 acres 31.5 miles	SD	NS 89014 89015 89016 ED - PR13077	4a	4a	5	2	H, P	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	2	M	Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO YAUCO	LAGO LUCHETTI PRSL68A1	266 acres 14.0 miles	SD	NS 89017 89018 89019 ED - PR13064	4a	4a	5	2	H, P	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)
RIO LOCO	LAGO LOCO PRSL69A	69 acres 1.5 miles	SD	NS 89020 89021	4a	4a	5	2	H	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	2	N	Agriculture (1300) Major Industrial Point Sources (0110) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)

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Notes:

B - Watershed that has an approved TMDL for Río de la Plata, the TMDL was approved on September 2003, the pollutant was Fecal Coliforms

C - Watershed that has an approved TMDL for Río Grande de Loíza, the TMDL was approved on September 2007, the pollutant was Fecal Coliforms

H - Watersheds that have approved TMDL on September 2012, the pollutant were Fecal Coliforms

M - Watersheds that have approved TMDL on September 2011, the pollutant were Fecal Coliform

N - 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 Río Culebrinas.

P - External Data

R1 - Primary Contact Recreation

R2 - Secondary Contact Recreation

AL - Aquatic Life

DW - Raw Source for Drinking Water

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Coastal Shoreline

Table 34: Size of Waters Impaired by Causes (Monitored Miles for Coastal Waters)		
Causes of Impairments 2012-2013 Cycle		Causes of Impairments Summary
Causes of Impairments	Size of Waters Impaired (Miles)	Size of Waters Impaired (Miles)
Arsenic (0510)	0	7.79
Copper (0530)	0	7.79
pH (1000)	52.34	142.60
Low Dissolved Oxygen (1200)	114.05	191.50
Thermal Modifications (1400)	59.76	96.3
Enterococcus Bacteria (1700)	48.67	97.40
Fecal Coliforms (1700)	0	15.62
Turbidity (2500)	183.93	233.41
Oil and Grease (1900)	82.42	82.42

Table 35: Size of Waters Impaired by Sources (Assessed and Monitored Coastal Waters)	
Sources of Impairments	Size of Waters Impaired (Miles)
Major Industrial Point Source (0110)	107.27
Major Municipal Point Source (0210)	81.20
Minor Municipal Point Source (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)	436.50
Landfills (6300)	7.00
Hazardous Waste (6600)	100.30
Upstream Impoundment (7350)	138.01
Flow Regulation and Modification (7400)	67.60
Marinas and Recreational Boating (7900)	211.1
Debris and Bottom Deposits (8520)	100.30
Unknown Sources (9000)	73.64

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Table 36: Coastal Shoreline Waters Assessment (monitored and unmonitored waters)

Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station NS - Network ED - External Data	Designated Uses and Categories			Overall	Notes	Potential Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PRNC01 (Punta Borinquén to Punta Sardina)	11.75	SB	NS 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	NS MAC-086, SBZ-006, MAC-047	5	5	5	5		Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) Turbidity (2500)
PRNC03 (Punta Manglillo to Punta Morrillos)	9.65	SB	NS SBZ-007	1	1	1	1		Collection System Failure (0500) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	
PRNC04 (Punta Morrillos to Punta Manatí)	13.66	SB	NS MAC-049, SBZ-008, SBZ-009, MAC-055	1	1	5	5		Collection System Failure (0500) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)
PRNC05 (Punta Manatí to Punta Chivato)	7.46	SB	NS SBZ-010	1	1	1	1		Unknown Source (9000)	
PRNC06 (Punta Chivato to Punta Puerto Nuevo)	3.23	SB	NS MAC-087, RW-23	1	1	1	1		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PRNC07 (Punta Puerto Nuevo to Punta Cerro Gordo)	5.05	SB	NS MAC-088, RW-17	1	1	1	1		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PRNC08 (Punta Cerro Gordo to Punta Boca Juana)	7.32	SB	NS SBZ-013, SBZ-014, RW-18, MAC-061	1	1	1	1		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PREC09 (Punta Boca Juana to Punta Salinas)	5.78	SB	NS MAC-077, RW-19	1	1	1	1		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PREC10B (Punta Salinas to Río Bayamón Mouth)	2.91	SB	NS SBZ-016, MAC-063	5	5	5	5		Major Industrial Point Sources (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Turbidity (2500)

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Table 36: Coastal Shoreline Waters Assessment (monitored and unmonitored waters)

Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station NS - Network ED - External Data	Designated Uses and Categories			Overall	Notes	Potential Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PREC10C (Rio Bayamon Mouth to Isla de Cabras)	6.63	SB		3	3	3	3	J	Major Industrial Point Sources (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PREC11 (Isla de Cabras to Punta del Morro)	7.79	SC		3	3	3	3	J	Major Industrial Point Sources (0110) Major Municipal Point Sources (0210) Marinas and Recreational Boating (7900) Minor Municipal Point Sources (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PREC12 (Punta del Morro to West side of Condado Bridge)	3.50	SB	NS SBZ-018, SBZ-019, RW-20B, RW-20A ED- CariCoos Buoy B	1	1	1	1	P	Urban Runoff/Storm Sewers (4000)	
PREC13 (East side of Condado Bridge to Punta Las Marias)	4.31	SB	NS 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 Marias to Punta Cangrejos)	4.19	SB	NS EB-40, EB-41, EB-42, 004C, B-3, RW-21, RW-21C	1	1	5	5		Marinas and Recreational Boating (7900) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)
PREC15 (Punta Cangrejos to Punta Vacía Talega)	6.23	SB	NS SBZ-024, SBZ-025, SBZ-026	1	1	1	1		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PREC16 (Punta Vacía Talega to Punta Miquillo)	9.46	SB	NS SBZ-027, SBZ-028	1	1	2	1		Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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Table 36: Coastal Shoreline Waters Assessment (monitored and unmonitored waters)

Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station NS - Network ED - External Data	Designated Uses and Categories			Overall	Notes	Potential Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PREC17 (Punta Miquillo to Punta La Bandera)	8.41	SB	NS MAC-009, RW-1A, RW-1C	1	1	1	1		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PREC18 (Punta La Bandera to Cabezas de San Juan)	10.46	SB	NS SBZ-030, MAC-010, RW-2	1	1	5	5		Unknown Source (9000)	Low Dissolved Oxygen (1200) Turbidity (2500)
PREC19 (Cabezas de San Juan to Punta Barrancas)	7.08	SB	NS MAC-078	1	1	5	5		Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Oil & Grease(1900) Turbidity (2500)
PREC20 (Punta Barrancas to Punta Medio Mundo)	5.33	SB		3	3	3	3	J	Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PREC21 (Punta Medio Mundo to Punta Puerca)	3.00	SB		3	3	3	3	J	Unknown Source (9000)	
PREC22 (Punta Puerca to Isla Cabras)	3.30	SB		3	3	3	3	J	Marinas and Recreational Boating (7900)	
PREC23 (Isla Cabras to Punta Cascajo)	8.83	SB		3	3	3	3	J	Major Industrial Point Source (0110) Marinas and Recreational Boating (7900)	
PREC24 (Punta Cascajo to Punta Lima)	9.07	SB		3	3	3	3	J	Major Industrial Point Source (0110) Upstream Impoundment (7350)	
PREC25 (Punta Lima to Morro de Humacao)	9.83	SB	NS MAC-079, MAC-080, SBZ-033, SBZ-034, MAC-081, RW-4, MAC-011	1	1	5	5		Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Turbidity (2500)
PREC26 (Morro de Humacao to Punta Candelero)	1.84	SB		3	3	3	3	J	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	

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Table 36: Coastal Shoreline Waters Assessment (monitored and unmonitored waters)

Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station NS - Network ED - External Data	Designated Uses and Categories			Overall	Notes	Potential Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PREC27 (Punta Candelerero to Punta Guayanés)	3.74	SB		3	3	3	3	J	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PREC28C (Punta Guayanés to Punta Quebrada Honda)	4.68	SC	NS MAC-012, MAC-013, SBZ-037	1	1	5	5		Major Industrial Point Source (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Oil & Grease (1900) pH(1000) Turbidity (2500)
PREC28B (Punta Quebrada Honda to Punta Yeguas)	0.74	SB	NS SBZ-038	1	1	2	1		Onsite Wastewater Systems (6500)	
PREC29 (Punta Yeguas to Punta Tuna)	4.35	SB		3	3	3	3	J	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PREC30 (Punta Tuna to Cabo Mala Pascua)	2.65	SB	NS MAC-082	1	1	5	5		Unknown Source (9000)	Low Dissolved Oxygen (1200) Turbidity (2500)
PRSC31 (Cabo Mala Pascua to Punta Viento)	4.06	SB		3	3	3	3	J	Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	
PRSC32 (Punta Viento to Punta Figuras)	6.16	SB	NS SBZ-040, RW-6, MAC-083, RW-7	5	5	5	5		Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Turbidity (2500)
PRSC33 (Punta Figuras to Punta Ola Grande)	8.10	SB	NS MAC-017	1	1	5	5		Major Industrial Point Source (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Turbidity (2500)
PRSC34 (Punta Ola Grande to Punta Petrona)	40.96	SB	NS MAC-016, MAC-018, MAC-019, SBZ-042 ED - Stations 09, 10, 19 and 20 from National Reserve of Jobos Bay	1	1	5	5	P	Agriculture (1050) Major Industrial Point Sources (0110) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Oil & Grease (1900) pH(1000) Thermal Modifications (1400) Turbidity (2500)

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Table 36: Coastal Shoreline Waters Assessment (monitored and unmonitored waters)

Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station NS - Network ED - External Data	Designated Uses and Categories			Overall	Notes	Potential Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PRSC35 (Punta Petrona to Punta Cabullones)	16.19	SB	NS MAC-020 ED - CariCoos Buoy A	1	1	5	5	P	Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Turbidity (2500)
PRSC36B (Punta Cabullones to Punta Carenero)	2.53	SB		3	3	3	3	J	Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PRSC36C (Punta Carenero to Punta Cuchara)	6.70	SC	NS MAC-022, MAC-023	5	5	5	5		Major Municipal Point Source (0210) Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	pH (1000) Enterococcus Bacteria (1700) Oil & Grease (1900) Turbidity (2500)
PRSC37B (Punta Cuchara to Cayo Parguera)	3.30	SB	NS MAC-084	2	2	1	1		Highway/Road/Bridge Construction (3100) Surface Mining (5100) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	
PRSC37C (Cayo Parguera to Punta Guayanilla)	4.20	SC	NS MAC-024, MAC-025	2	2	5	5		Major Municipal Point Sources (0210) Highway/Road/Bridge Construction (3100) Major Industrial Point Sources (0110) Surface Mining (5100) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Marinas and Recreational Boating (7900) Urban Runoff/Storm Sewers (4000)	Oil & Grease (1900) Turbidity (2500)

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Table 36: Coastal Shoreline Waters Assessment (monitored and unmonitored waters)

Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station NS - Network ED - External Data	Designated Uses and Categories			Overall	Notes	Potential Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PRSC38 (Punta Guayanilla to Punta Verraco)	13.20	SC	NS MAC-027, MAC-089, MAC-028 ED - Station PLSP4 from NOAA and PR Seismic Network Data	5	5	5	5	P	Major Municipal Point Sources (0210) Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Oil & Grease (1900) Thermal Modifications (1400) Turbidity (2500)
PRSC39 (Punta Verraco to Punta Ballena)	6.41	SB	NS MAC-030, G1	2	2	1	1		Unknown Source (9000)	
PRSC40 (Punta Ballena to Punta Brea)	13.26	SB	NS MAC-085, RW-9, MAC-034	1	1	5	5		Marinas and Recreational Boating (7900) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)
PRSC41B1 (Punta Brea to Bahía Fosforescente La Parguera)	10.93	SB	NS SBZ-045, RW-10, RW-10A, RW-10B	1	1	2	1		Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PRSC41A1 (Bahia Fosforescente La Parguera)	2.00	SA		3	3	3	3	J	Unknown Source (9000)	
PRSC41B2 (Bahia Fosforescente La Parguera to Punta Cueva de Ayala)	7.00	SB	NS SBZ-046 ED - Station MGIP4 from NOAA & CariCoos	1	1	1	1	P	Landfill (6300) Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PRSC41A2 (Bahia Monsio José)	3.72	SA		3	3	3	3	J	Unknown Source (9000)	
PRSC41B3 (Bahia Monsio José to Faro de Cabo Rojo)	13.45	SB		3	3	3	3	J	Unknown Source (9000)	
PRWC42 (Faro de Cabo Rojo to Punta Águila)	2.89	SB		3	3	3	3	J	Unknown Source (9000)	

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Table 36: Coastal Shoreline Waters Assessment (monitored and unmonitored waters)

Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station NS - Network ED - External Data	Designated Uses and Categories			Overall	Notes	Potential Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PRWC43 (Punta Águila to Punta Guaniquilla)	9.54	SB	NS SBZ-047, RW-12A, RW-12B, SBZ-048, RW-14A, MAC-037, RW-13	1	1	1	1		Collection System Failure (0500) Marinas and Recreational Boating (7900) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)	
PRWC44 (Punta Guaniquilla to Punta La Mela)	2.50	SB	NS SBZ-050, RW-8, SBZ-051	1	1	2	1		Onsite Wastewater Systems (6500)	
PRWC45 (Punta La Mela to Punta Carenero)	2.95	SB		3	3	3	3	J	Collection System Failure (0500) Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500)	
PRWC46 (Punta Carenero to front of Cayo Ratonés)	4.00	SB	NS SBZ-052	1	1	2	1		Collection System Failure (0500) Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PRWC47 (In front of Cayo Ratonés to Punta Guanajibo)	3.85	SB		3	3	3	3	J	Onsite Wastewater Systems (6500)	
PRWC48 (Punta Guanajibo to Punta Algarrobo)	5.60	SC	NS MAC-038, MAC-040 ED - Station MGZP4 NOAA & PR Seismic Network	5	5	5	5	P	Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Oil & Grease (1900) Thermal Modifications (1400) Turbidity (2500)
PRWC49 (Punta Algarrobo to Punta Cadena)	6.98	SB	NS MAC-041, RW-15	1	1	1	1		Major Municipal Point Sources (0210) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)	
PRWC50 (Punta Cadena to Punta Higüero)	4.98	SB	NS SBZ-054, RW-5, SBZ-055	1	1	2	1		Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	

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Table 36: Coastal Shoreline Waters Assessment (monitored and unmonitored waters)

Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station NS - Network ED - External Data	Designated Uses and Categories			Overall	Notes	Potential Sources of Pollution	Causes of Impairment
				R ₁	R ₂	AL				
PRWC51 (Punta Higüero to Punta del Boquerón)	6.14	SB	NS RW-22	1	1	2	1		Onsite Wastewater Systems (6500)	
PRWC52 (Punta del Boquerón to Punta Borinquén)	6.80	SB	NS MAC-043, SBZ-002, RW-16, RW-16A	1	1	1	1		Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PRCC53(Culebra Island)	32.70	SB	NS RW-3	2	2	2	2	P	Debris and bottom deposits (8520) Hazardous Wastes (6600) Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500)	
PRVC54A (Bahia Mosquito)	3.00	SA		3	3	3	3	J	Unknown Source (9000)	
PRVC54B (Vieques Island)	67.60	SB	NS RW-24A, RW-24B	2	2	2	2		Debris and bottom deposits (8520) Flow Regulations/Modifications (7400) Hazardous Wastes (6600) Marinas and Recreational Boating (7900) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	
PRMC55 (Mona Island)	18.60	SB		3	3	3	3	J	Unknown Source (9000)	

Note:

J - If the Monitoring Station column is left blank, the Assessment Unit was not monitored for 2014 cycle

P - External Data. The Monitoring Stations 09, 10, 19 and 20 provided water quality data from the National Reserve of Jobos Bay. Monitoring Station of NOAA, PR Seismic Network and CariCoos (Caribbean Coastal Ocean Observing System). This AU PRCC53 has been included for the first time in the list in 2014. The information was submitted by Edwin Hernández-Delgado, University of Puerto Rico, Center for Applied Tropical Ecology and Conservation in October 2013. The data is part of the following study: Biological Characterization of Shallow-Water Coral Reef Communities Across a Water Quality Gradient with the Luis Peña Channel Natural Reserve, Culebra Island, Puerto Rico published in the year 2009. This AU was included in the 303(d) list under the column of the year 2010 due to that the data included correspond to the assessment cycle 2010.

R₁ - Primary Contact Recreation

R₂ - Secondary Contact Recreation

AL - Aquatic Life

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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 or 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 (table 37 to 41). 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 37: Trophic Status of Significant Lakes/Reservoirs		
Description	Number of Lakes/Reservoirs	Acres of Lakes/Reservoirs
Total in State	19	7,378*
Assessed	18	7,324
Oligotrophic	0	0
Mesotrophic	1	285
Eutrophic	17	7,039

*Including Las Curiás Lake (SJBES)

Lakes trophic status is determined as follows. Table 36 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 38: 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

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Table 39: Puerto Rico Lakes Trophic Status		
Lake	AU	Trophic Status ¹ [P mg/L] ²
		OCT. 11 - SEPT. 13
Guajataca	PRNL3A1	(0.17) E
Dos Bocas	PRNL ₁ 7A1	(0.23) E
Caonillas	PRNL ₂ 7C1	(0.06) E
Garzas	PRNL ₃ 7A3	(0.15) E
Matrullas	PRNL ₂ 8C1	(0.16) E
La Plata	PREL ₁ 10A1	(0.06) E
Carite	PREL ₂ 10A5	(0.11) E
Cidra	PREL12A2	(0.09) E
Las Curias	PREE13A2	(0.07) E
Loíza	PREL14A1	(0.13) E
Patillas	PRSL43A1	(0.06) E
Melanía	PRSL50A	(0.06) E
Guayabal	PRSL ₁ 60A	(0.06) E
Toa Vaca	PRSL ₂ 60A	(0.06) E
Cerrillos	PRSL62A	(0.11) E
Luchetti	PRSL68A1	(0.12) E
Loco	PRSL69A	(0.09) E
Guayo	PRWL83H	(0.05) M

(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.

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Table 40: 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	Improved	Stable	Degraded
Guayo	285	Improved	Improved	Degraded
Matrullas	77	Improved	Degraded	Degraded
Guayabal	373	Improved	Stable	Improved
Toa Vaca	836	Improved	Improved	Improved
Luchetti	266	Improved	Degraded	Degraded
Loco	69	Improved	Stable	Improved
Patillas	312	Improved	Stable	Improved
Las Curias	55	Improved	Degraded	Degraded
Cidra	268	Improved	Degraded	Degraded
Cerrillos	700	Improved	Stable	Improved
Loíza	713	Improved	Improved	Degraded
Guajataca	1000	Improved	Improved	Improved
Dos Bocas	634	Improved	Degraded	Degraded
Carite	333	Improved	Degraded	Improved
La Plata	560	Improved	Improved	Degraded
Garzas	108	Improved	Improved	Improved
Melanía	35	Improved	Improved	Degraded

Table 41: Trends in Significant Public Lakes Category			
Parameter	Improved (Acres)	Degraded (Acres)	Stable (Acres)
DO	7,324	0	0
Phosphorous	3,537	1,633	2,154
Fecal Coliforms	3,731	3,593	0

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

PART D. Probabilistic Streams Survey in Puerto Rico

According with the latest Guidance for Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act, states are encouraged to use probability-based monitoring designs for developing probabilistic statements about waterbody conditions over broad scales (basins, the entire state). Sampling performed under probability-based survey provides site-specific data that might be available, to determine if they should be used to make WQS attainment status determinations, leading to placing segments in the five categories.

PREQB has been working in coordination with Mr. James Kurtenbach, Aquatic Biologist (kurtenbach.james@epa.gov) of Region II EPA, in the development of Rapid Bioassessment Protocol for Puerto Rico (Figure 17). In 2009 a new developed and proposed macroinvertebrate protocol was used to document biological conditions in stream along the island (Table 42). The primary objectives of this study were to assess potential season effects on the community structure of benthic macroinvertebrates in Puerto Rico streams and to determine if the macroinvertebrate integrity index (MII) is applicable outside the March-April index period for which it was developed.

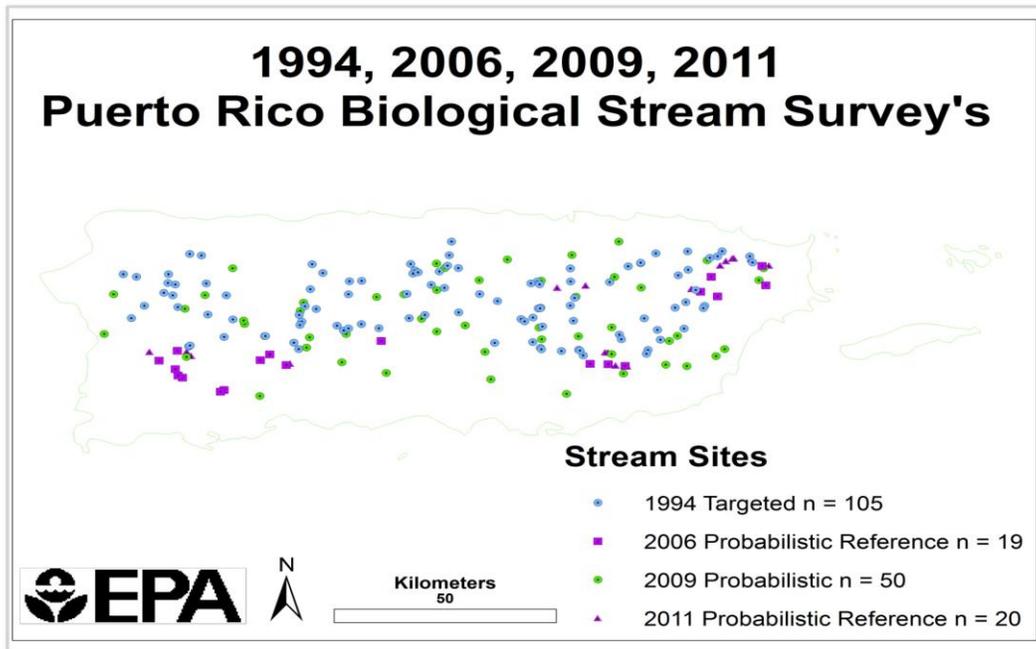


Figure 17: Puerto Rico Biological Stream Survey's

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Table 42: 2009 Assessment Results Calculated Using Probabilistic Monitoring Designs

Project ID	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009
Project Name	PR streams	PR streams	PR streams	PR streams	PR streams	PR streams				
Target Population (miles)*	3513	3513	3513	3513	3513	3513	3513	3513	3513	3513
Type of Waterbody	Streams	Streams	Streams	Streams	Streams	Streams	Streams	Streams	Streams	Streams
Size of Target Population	50	50	50	50	50	50	50	50	50	50
Units of Measurement	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles
Designate Use	Aquatic Life	Aquatic Life	Aquatic Life	Aquatic Life	Aquatic Life	Aquatic Life				
Percent of Good (Low)	36%	30%	38%	28%	96%	24%	38%	6%	32%	56%
Percent of Fair (Medium)	20%	28%	46%	54%	2%	40%	26%	28%	30%	30%
Percent of Poor (High)	44%	42%	16%	18%	2%	36%	36%	66%	38%	14%
Indicator	Biological	Phosphorus	Nitrogen	Chloride	Dissolved Oxygen	% Sand	Embeddedness (%)	Riparian Vegetative (%)	Fish Habitat	Riparian Disturbance
Assessment Period	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20
Precision	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%

All streams and rivers within Puerto Rico with stream gradient greater than 1%

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In 2012, sampling was conducted at six stream sites during three discrete season periods, spring (March-April), summer (June-August), and fall (October-December). The study area encompassed three geographical regions, humid east central, rainy west central, and rainy eastern Luquillo Mountains, all characterized by relatively heavy rainfall and steep topography. Results of the study showed an increasing trend of the MII scores from spring to fall, although individual sites had changes that varied differently with season. None of the results is believed to be significantly influenced by human activities. Water chemistry and habitat conditions were fairly consistent across seasons and did not exceed levels that would suggest anthropogenic degradation. Variation of the MII scores across seasons in this study is within the variation seen from samples collected over shorter time periods.

Results of this study will be used to make recommendations to the Puerto Rico Environmental Quality Board (PREQB) for their stream monitoring and assessment program. Expanding the sampling window for MII use would provide field staff and program managers with more flexibility on the timing and number of macroinvertebrate samples that could be collected annually. It is recommended here the index period can be expanded, but sampling should still be avoided during seasonal periods of intense rainfall.

In 2009, 50 stream sites were assessed using consistent field methods for biological, water quality, and physical habitat. Twenty-two of these stream sites were revisited in 2013. This survey provides the second of two statistically valid assessments of biological condition, including key chemical and physical habitat indicators of stress, across streams in Puerto Rico. Specifically, in 2013 report describes the estimates of stream biological condition using benthic macroinvertebrates, and the identity and rank of chemical and physical stressors affecting stream condition.

Results of the survey also show the current extent of stressors across Puerto Rico. The most common stressors for stream length in Puerto Rico are the loss in complexity of the riparian vegetation and impaired fish habitat. Fifty percent of the stream length (1,451 miles) was determined to be poor for these indicators of physical habitat. Stressors ranking poor for intermediate length of streams in Puerto Rico, included nutrients (TN and TP), and habitat indicators of riparian disturbance and stream sediment. The least common stressors of the stream length in poor condition in Puerto Rico, were chloride 10% (290 miles) and dissolved oxygen 0%. (Table 43).

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Table 43: 2013 Assessment Results Calculated Using Probabilistic Monitoring Designs										
Project ID	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013
Project Name	PR streams	PR streams	PR streams	PR streams	PR streams	PR streams				
Target Population (miles)*	3513	3513	3513	3513	3513	3513	3513	3513	3513	3513
Type of Waterbody	Streams	Streams	Streams	Streams	Streams	Streams	Streams	Streams	Streams	Streams
Size of Target Population	50	50	50	50	50	50	50	50	50	50
Units of Measurement	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles
Designate Use	Aquatic Life	Aquatic Life	Aquatic Life	Aquatic Life	Aquatic Life	Aquatic Life				
Percent of Good (Low)	32%	18%	18%	34%	92%	30%	64%	28%	30%	42%
Percent of Fear (Medium)	44%	54%	62%	56%	8%	48%	18%	22%	20%	38%
Percent of Poor (High)	24%	28%	20%	10%	0%	22%	18%	50%	50%	20%
Indicator	Biological	Phosphorus	Nitrogen	Chloride	Dissolved Oxygen	% Sand	Embedded-ness (%)	Riparian Vegetative (%)	Fish Habitat	Riparian Disturbance
Assessment Period	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20	3/4-3/20
Precision	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%

*All streams and rivers within Puerto Rico with stream gradient greater than 1%

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Comparing the changes from the previous 2009 survey, several of the chemical and habitat indicators were determined to be statistically significantly different. No statistically significant change in the percentage of good macroinvertebrate integrity index (MII) scores was noted between the reporting periods 2009 and 2013 (Figure 18). A statistically significant decrease in stream miles in good condition for phosphorus was detected in the 2013 survey. Between 2009 and 2013 this difference was 12%. For two of the habitat indicators, between the period 2009 and 2013, riparian vegetative cover and percent embeddedness both had a statistically significant increase of stream miles in good condition. Each indicator increased by 22% and 26%, respectively.

Understanding the current condition of streams is essential for effective decision making in water programs to restore and maintain water quality. This survey was able to achieve three desired objectives: (1) determine the percent of the streams in Puerto Rico in good, fair, and poor condition for key indicators of ecological health and human influence; (2) identify and rank what is the relative importance of key chemical and physical habitat stressors; and (3) identify changes between the survey periods 2009-2013. The survey results provide a solid baseline for future surveys to assess changes and detect trends in stream condition over time. Also, data collected from the Puerto Rico streams survey can be used in conjunction with other water quality data acquired by the Puerto Rico Environmental Quality Board (PREQB) and assist them in water resource decision-making and fulfill their requirements to report to EPA on the current condition of water quality.



Figure 18: 2013 and 2009 PR Probability Sites

Green squares: Sampled in both 2013 and 2009

Blue circles: Sampled in 2013 ONLY

Red Diamonds: Sampled in 2009 ONLY

PART E: Water Quality New Project

Class SA, SE Waters and Coastal Lagoons Monitoring

The lagoon systems throughout Puerto Rico are threatened by the fast growing human population and housing development that can result in the degradation or destruction of key components of the systems. However, there is very little baseline water quality data to evaluate the ecological health of the systems. It was necessary to begin the collection of water samples for analyses of chemical, physical and bacteriological characteristics to assess the water quality of the lagoon systems. 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. The main objective was to assess the general water quality of the selected lagoons and establish a data base that will be used to evaluate baseline water quality, natural and human pollution – induced effects. Also, the assessment was used to determine the occurrence and distribution of a suite inorganic and organics contaminant and bacteria in the surfaces water of the selected coastal lagoons throughout Puerto Rico. Approximately, 40 surface water sampling sites were visited quarterly during one year (FY 2011-12) and samples were collected within these coastal lagoons, including Class SE water bodies: Tortuguero and Cartagena lagoons. The water samples were analyzed for chemical, physical and bacteriological parameters, which will help to provide the necessary tools to assess water quality of these lagoons. However, more studies are needed to determine how strategy to address “natural causes” will be manage and how it is relate to water quality standards applicable to both SA, and SE waters. For this reason two lagoons were selected for deeper analysis of these systems. This study is projected for FY-2015.

In addition, the EQB requested data from the study conducted with the Vieques Conservation Historical Trust and the USGS. Due to Puerto Mosquito Bay is classified as SA waters, the data only considered as reference in order to assist the EQB to know the conditions of that waters. The parameters analyzed from one monitoring station were the following: dissolved oxygen, pH, salinity, specific conductance, temperature, and turbidity. Data from November 21, 2011 to December, 2012.

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.

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

- Total Phosphorus (TP) 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.

The PRWQSR, was amended and is in approval process which include the addition of the new nutrient criteria for rivers and streams of Puerto Rico. It is expected to be approved on October 2014.

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

Table 44: Assessment Units that exceeds Phosphorus water quality standard			
Assessment Unit	Size (Miles)	Phosphorus (mg/L)	Priority Ranking
RIO BAIROA PRER14H	16.3	1.81	H

Notes:

H - High 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

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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.

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 (Suarez et al. 2008). PPCPs are an extraordinary, diverse group of chemicals used in veterinary medicine, agricultural practices, human health and cosmetic care (Suarez 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 (Suarez 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 (Kümmerer 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).

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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 physic-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 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 will conduct a second phase of the water quality sampling program to determine the occurrence and fate of PPCPs at selected basin in PR. In 2010, PREQB in cooperation with the USGS conducted a preliminary assessment about 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 (PREQB 2012). The study was held during February to April 2010, and the results indicate that at least one of the nine compounds detected were found in each of the 13 streams (PREQB 2012).

In this assessment the basin of *Río Grande de Loíza* was the area with more detection of pharmaceutical compounds (PREQB 2012). Wherefore, this area will be used as a research site for the occurrence and fate of PPCPs. The basin of *Río Grande de Loíza* is located in the North-Central region of PR. This basin is the largest on the island. Its territory includes parts of the municipalities of *San Lorenzo*, *Juncos*, *Las Piedras*, *Gurabo*, *Caguas*, *Cayey*, *Trujillo Alto*, *Carolina* and *Loíza*. The basin can be divided into two main branches (*Río Grande de Loíza* and *Río Gurabo*) that drain most of its catchment area (DNER 2005b). Also, includes the *Lago Loíza* Dam that supply drinking water to the metropolitan area.

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The main objective is to conduct a reconnaissance to study the pollution-induced effects on streams and determine the occurrence and fate of a suite of PPCPs in Río Grande de Loíza basin (Table 45, Figure 19). Also, in this study will determine the seasonal variation in concentrations of PPCPs. The occurrence and concentration of these chemicals is inversely proportional to water flow (Loraine et al. 2006). To understand the occurrence and implications of pharmaceutical compounds residues in our surface waters, this research aims to address the following objectives:

The specific objectives of this research are:

- (1) evaluate the occurrence and concentration of the target group of PPCPs in surface water;
- (2) determine if the seasonal variation affects the occurrence and concentrations of PPCPs in surface water;
- (3) compare the new data bank with its equivalent obtained from the first and only preliminary assessment conducted in PR.

This research will provide baseline data about the occurrence and quantity of the PPCPs in the Río Grande de Loíza basin. 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. Consequently recommendations will be stated for the incorporation on the watershed management. The proposed research will also provide useful information for the assessment of water quality in the 305(b)/303(d) Integrated Report.

Table 45: Sampling site location and station names for PPCPs Project			
ID	Station name	Latitude	Longitude
1	<i>Río Grande de Loíza</i> at Caguas	18°14'26" N	66°0'33" W
2	<i>Río Caguitas</i> at highway 30 at Caguas	18°15'4" N	66°1'25" W
3	<i>Río Bairoa</i> at mouth	18°15'38" N	66°1'6" W
4	<i>Río Gurabo</i> near Gurabo	18°15'49" N	66°59'3" W
5	Lago Loíza at dam site near Trujillo Alto	18°19'42" N	66°0'59" W
6	Caguas WWTP discharge point at <i>Río Bairoa</i>	18°14'26" N	66°0'33" W
7	Sergio Cuevas WFT	18°21'59" N	66°0'56" W
8	<i>Río Canóvanas</i> at El Yunque near Canóvanas	18°17'43" N	65°51'5" W

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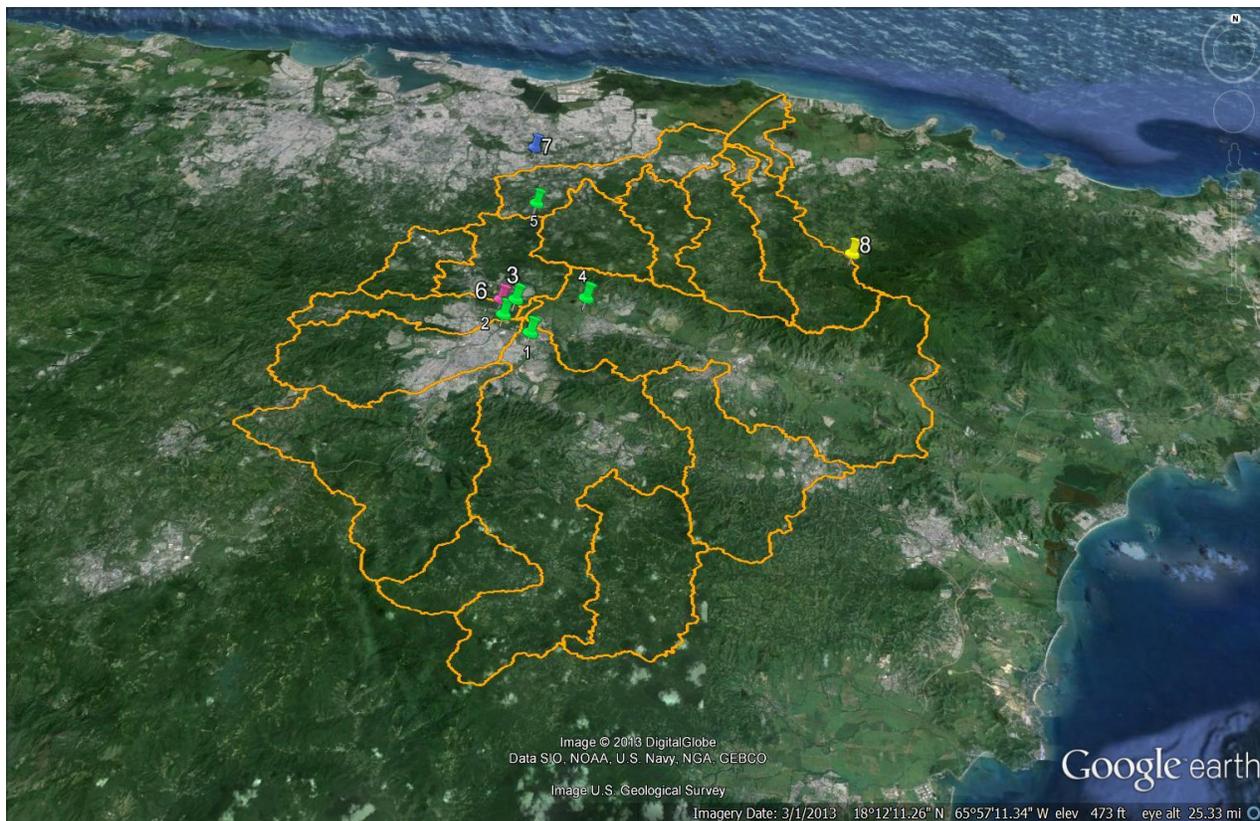


Figure 19: Río Grande de Loíza watershed with sampling site locations: *Río Grande de Loíza* at Caguas (1, green), *Río Caguitas* at highway 30 at Caguas (2, green), *Río Bairoa* at mouth (3, green), *Río Gurabo* near Gurabo (4, green), Lago Loíza at dam site near Trujillo Alto (5, green), Caguas WWTP discharge point at *Río Bairoa* (6, pink), Sergio Cuevas WFT (7, blue), and Río Canóvanas near *El Yunque* at Canóvanas (8, yellow)(Control).

The following table present the PPCPs and compounds were analyzed:

Table 46: Human Health Pharmaceutical Personal Care Products
acetaminophen
caffeine
carbamazepine
gemfibrozil
ciprofloxacin
triclosan
17- α ethinyl estradiol

Water sampling at *Río Grande de Loíza* basin will be conducted during October and November 2014 and February and March 2015.

Wetlands

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 an 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.

Wetlands are the coastal ecosystems that are most abundant in PR. Estuarine and freshwater wetlands are most abundant in the eastern, 2/3 of the north coast of the island, and all along the south coast, although examples are found on all coasts of the main island Vieques and Culebra have no freshwater wetlands, (Figure 20). The estuarine wetlands comprises about of 65% of the total area of wetlands. Examples of estuarine wetlands are those close to coastal rivers, salt flats and mangroves. The freshwater wetlands, comprises about of 24% of the total area of wetlands. Freshwater wetlands include swamps, ponds, marshes and humid grasslands. Other wetlands categories comprises 11% of the total area of wetlands. (Figure 21)

Wetlands provide habitat for thousands of species of fish, wildlife and plants, and act as nurseries for many saltwater and freshwater fishes and shellfish of commercial significance. They also provide important ecological services such as flood control, water filtration and the supply of groundwater, and they provide recreational and wildlife viewing opportunities for millions of people. Wetlands are facing numerous, ongoing challenges, such as agriculture, development and resource extraction, as well as sea level rise, increasing storm severity and drought due to climate change.

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.

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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).

On May 1, 2014 the U.S. Fish and Wildlife Service announce the completion of the most comprehensive and detailed U.S. wetland data set ever produced, capping a 35-year effort by the Service to map the extent of the nation's wetlands. The Wetlands Inventory Mapper has digitally mapped and made publically available wetlands in the lower 48 states, including Puerto Rico. It is an invaluable aid to landowners, developers, government planners and permitting authorities, conservation organizations and academic institutions in their collective efforts to ensure wetland conservation and inform economic development.

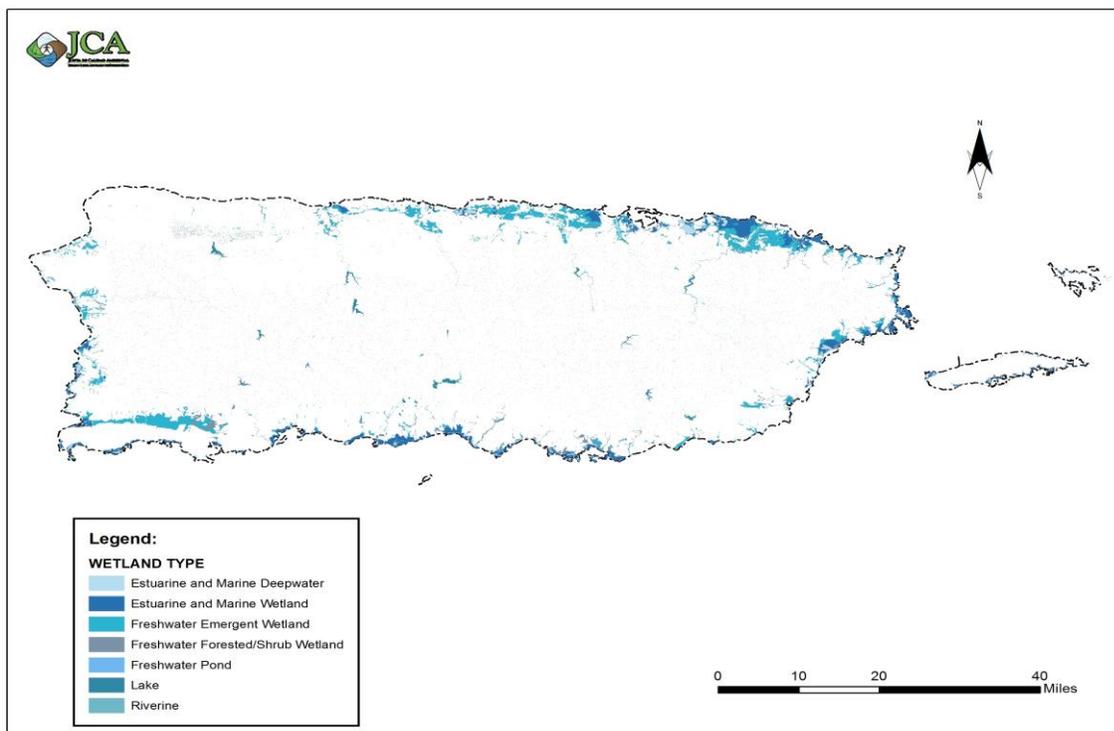


Figure 20: Puerto Rico Wetlands Type

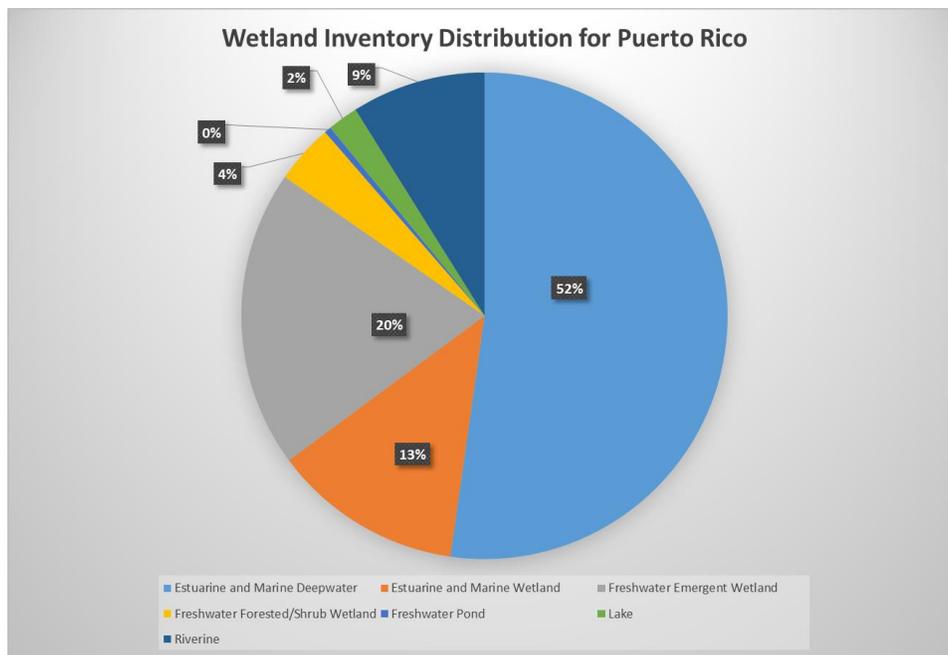


Figure 21: Puerto Rico Wetlands Distribution

Coral Reef Ecosystem

Coral reefs are the most productive ecosystems in the marine environment. They are closely related to other terrestrial and marine ecosystems. Some of these associated ecosystems are coastal wetlands, which include the mangroves, marine wetlands, such as seagrasses, beaches among others. Coral reefs provide an extraordinary amount of goods and services, such as: protection of the coast, habitats for fishing craft, commercial and recreational fishing, spaces for education, research, recreation and tourism, food (Alvarez-Filip L., 2009; Barbier, E.B., 2011; Kennedy, E.V et al., 2013; Ferrario, F., et al. 2014). Furthermore are a sources of natural products of high pharmacological value in the food production and in the biomedical investigation (Goenaga and Boulon, 1992).

However, the coral reefs in Puerto Rico are significantly degraded due to a variety of anthropogenic factors that exacerbate the impacts of natural factors (e.g. hurricanes, diseases, syndromes in corals) (Hernandez-Delgado, 2005). The anthropogenic factor that could affect the coral reef ecosystem are the following: deforestation, erosion and sedimentation. The deterioration of the water quality mainly associated with a combination of precise and dispersed sources of pollution. Indiscriminate extraction and overfishing, could destabilize the ecosystem.

Puerto Rico is surrounded by approximately 500,000 hectares of coral reef ecosystems of easy access, whose depth does not exceed 20 meters (PMZC, 2009). The biodiversity at the coral reefs of Puerto Rico is representative of this region of the Caribbean. The most extensive development of coral reefs is observed in the Southwest and northeast of the insular shelf of Puerto Rico. The northeast coast, is partially protected from wave action by a string of emerging reefs that provide

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protection, (DNER-PMZC 2011). The natural reserve, in Fajardo and La Reserve Natural of Luis Peña Channel in Culebra contain the most diverse coral reefs in this region. (Hernández - Delgado E.A. 2005; Schärer-M.T., M.I. Németh, C. ten 2009; García - Sais, et al.2008a). The importance of coral reefs and their status in Puerto Rico is not different to what happens elsewhere. Coral reefs, according to the Management Plan for the Conservation and Protection of Coral Reefs of Puerto Rico of 2009, present conditions of lower coral cover, increased disease, significant algal colonization of all kinds, species invasion exotic and overall loss of biodiversity in the ecosystem (Strategic Management Plan of The Coral Reefs in PR, DNER, 2014).

In Puerto Rico the Law 147, *Ley para la Protección, Conservación y Manejo de los Arrecifes de Coral en PR*, empower the Secretary of the DNER to develop a conservation program, management and protection of coral reefs, and it promotes the development of a sustainable management plan. The act define a coral reef as the ecosystem of coral, skeleton of this and other marine species associated with the same, such as seagrass and marine herbs.

The DNER in collaboration with NOAA developed a Benthic Habitat of Puerto Rico and the U.S. Virgin Island (Figure 22). These images were used to create maps of the region's coral reefs, seagrass beds, mangrove forests, and other important marine habitats that are related with the coral reef ecosystem.

Benthic Habitats of Puerto Rico and the U.S. Virgin Islands

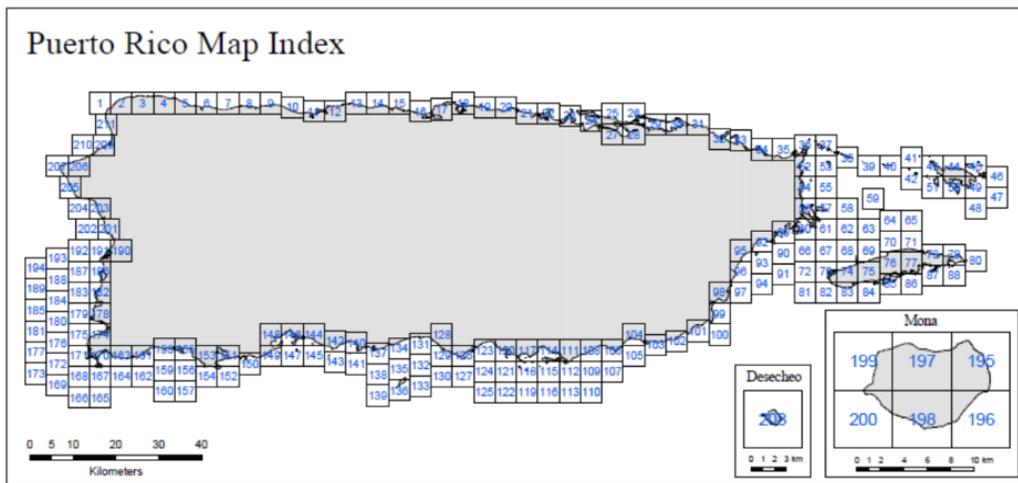


Figure 22: Benthic Habitats of Puerto Rico and the U.S. Virgin Islands

With the purpose of protecting the coral reefs ecosystem in Puerto Rico, PREQB has established a partnership with the DNER to provide data of the water quality of our Coastal Permanent Network. We have used the Benthic Map of NOAA (Figures 23, 24 and 25), to identify the assessment units where there are coral reefs and in which there are monitoring station which indicate the water quality of the area. By knowing the water quality it will make it to the possible

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relate causes of deterioration and impacts to coral reefs which can promote new actions and regulations for the protection.

On the other hand, the PREQB are conducting inspections at the basin of Río Grande de Manatí, Río Grande de Arecibo and the Río Loco, with the purpose of maintain inventories of point sources discharging. These inspections are intended to identify all possible sources of contamination and lead to fulfillment the facilities that represent potential sources of pollution. These action improve the water quality of the water body and will protect the marine ecosystems included the coral reef ecosystem.

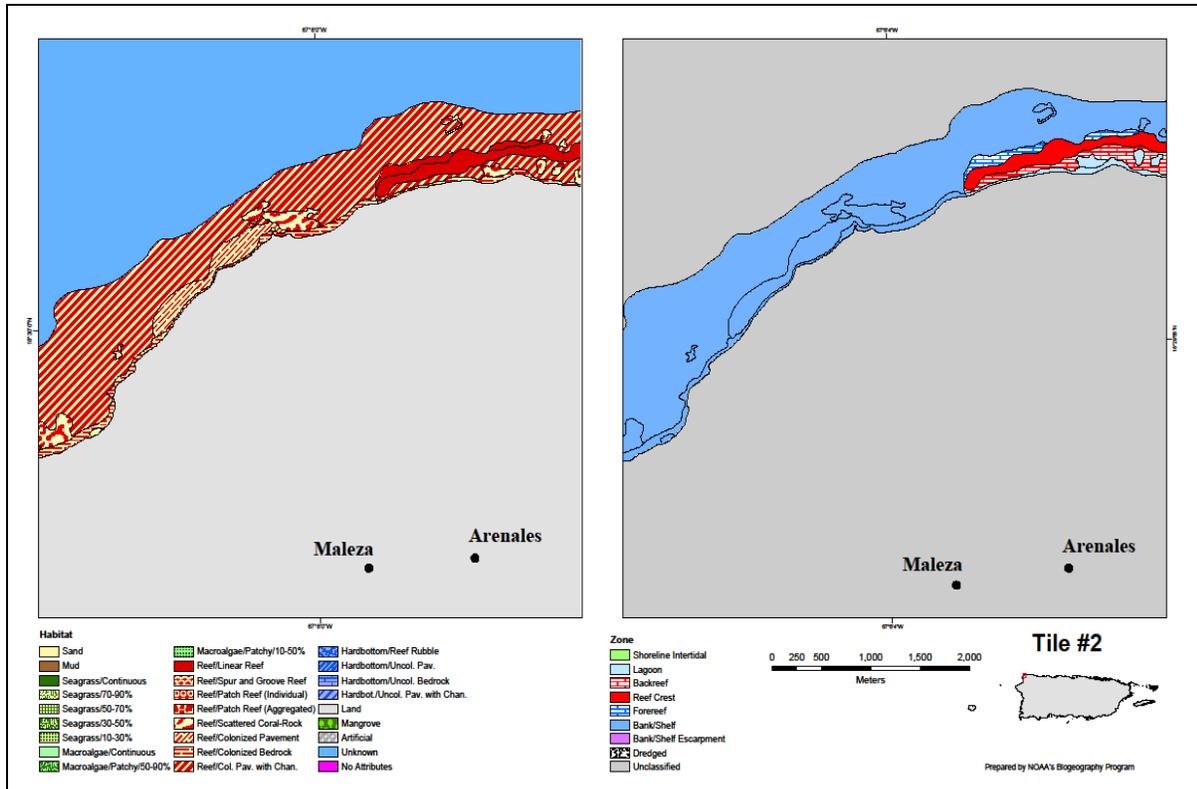


Figure 23: Example of one tile of the Benthic Map and the habitat classification

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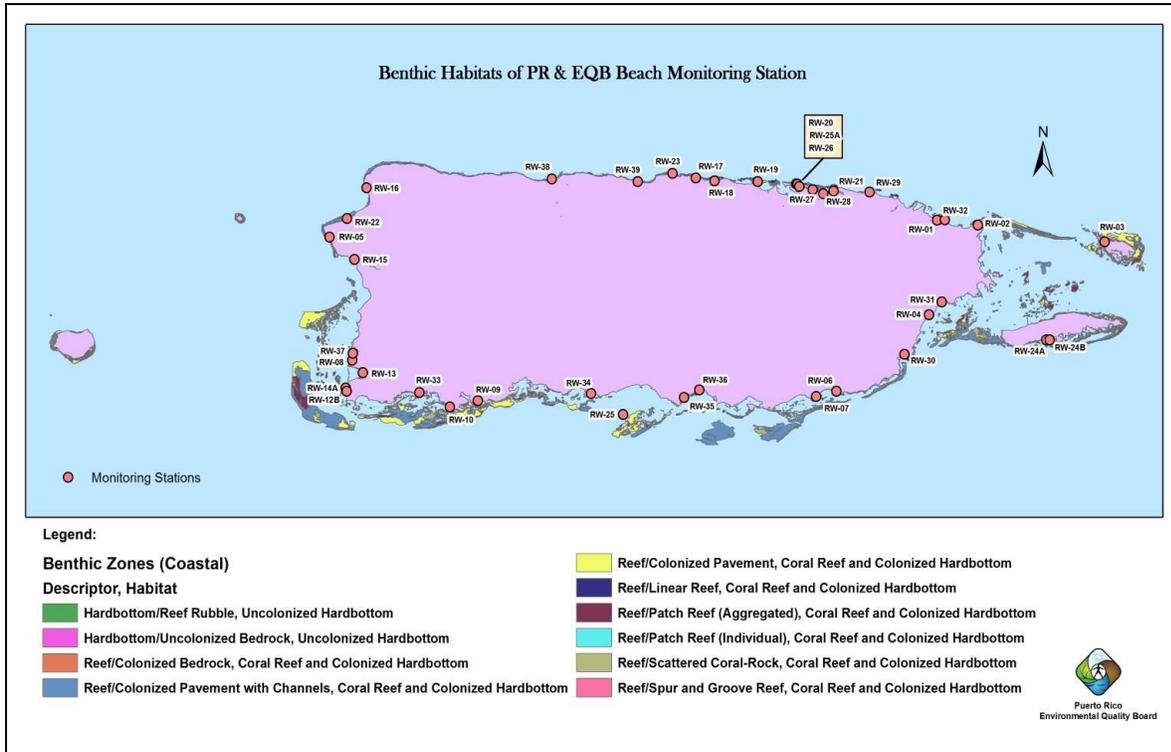


Figure 24: Benthic Habitats of PR and the Location of the PREQB Beach monitoring Station

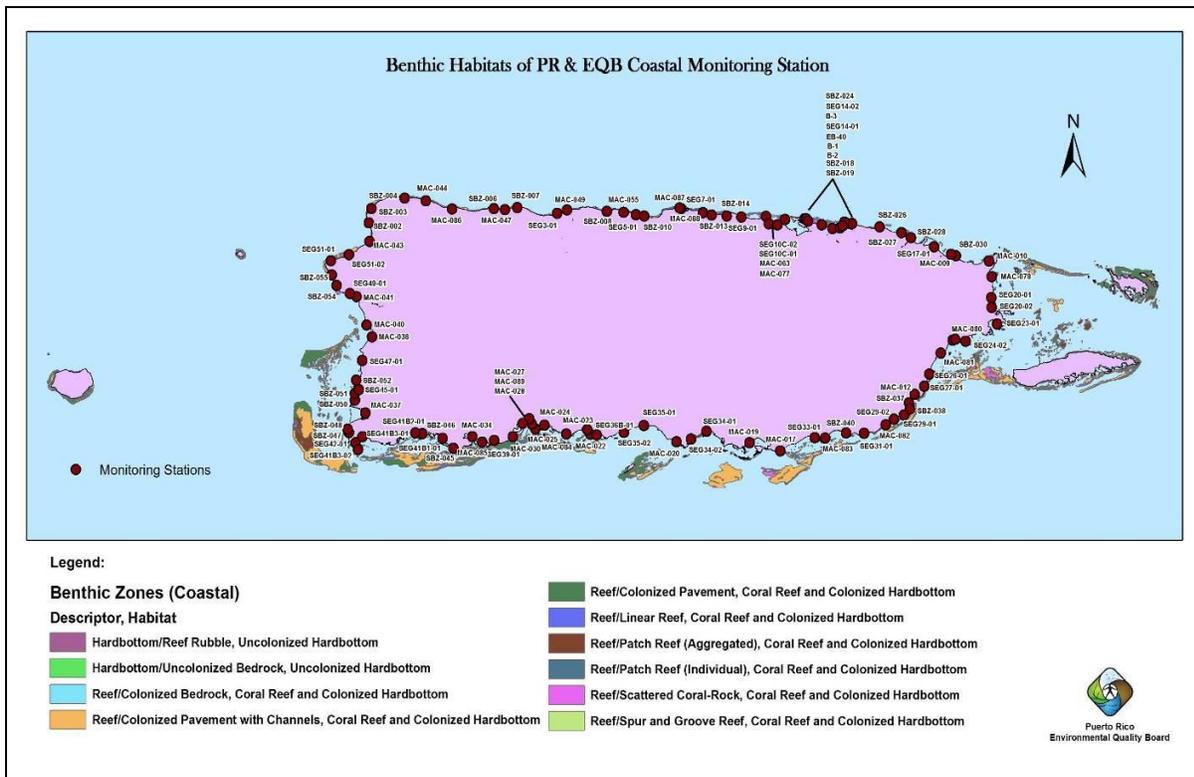


Figure 25: Benthic Habitats of PR and the Location of the PREQB Coastal Monitoring Station

PART F. 303(d) List

Listing Criteria

The PR 2014 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 2014 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. The waters considered to be impaired have been included in Category 5. The PREQB 2014 CWA 303(d) List is included as Appendix I of the IR.

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 AU.

If any of the parameters listed in the 2014 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.

Delisting Criteria

If a previously listed parameter complied fully with the applicable water quality standard during the 2012 and 2014 cycles, that specific parameter will be delisted from Category 5.

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

PREQB propose remove the following parameter / assessment units combination from the 303(d) List during this cycle. (See Table 47)

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Table 47: Parameter/Assessment Units Combinations to be delisted			
Type of Water	AU ID	Parameter	Reason for Delisting
RIVER	PRNR3A1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR3A1	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
RIVER	PRNR3A1	TURBIDITY	WATER QUALITY IMPROVEMENT
RIVER	PRNR3A2	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR3A2	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRNR3A2	TURBIDITY	WATER QUALITY IMPROVEMENT
RIVER	PRNQ3B	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRNR7A1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR7A2	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR7A3	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR7A3	TURBIDITY	WATER QUALITY IMPROVEMENT
RIVER	PRNR7C2	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
RIVER	PRNR7B2	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR7B2	pH	WATER QUALITY IMPROVEMENT
RIVER	PRNR8A1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR8A2	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR8B	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR8B	COPPER	WATER QUALITY IMPROVEMENT
RIVER	PRNR8B	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRNR8E1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR9A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRNR9A	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRER10A1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER10A3	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER10A4	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER10A4	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRER10A4	COPPER	WATER QUALITY IMPROVEMENT

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Table 47: Parameter/Assessment Units Combinations to be delisted			
Type of Water	AU ID	Parameter	Reason for Delisting
RIVER	PRER10E	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER11A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER12A1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER12A1	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER12A1	LEAD	WATER QUALITY IMPROVEMENT
RIVER	PRER12A2	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER12A2	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER12B	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER12B	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRER12B	COPPER	WATER QUALITY IMPROVEMENT
RIVER	PRER12B	LEAD	WATER QUALITY IMPROVEMENT
RIVER	PRER12B	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER14A1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER14A1	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRER14A1	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER14A2	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER14A2	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRER14A2	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER14B	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER14C	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER14G1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER14H	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER14H	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRER14I	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER15A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER16A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER16A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER17A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER20A	FECAL COLIFORMS	ORIGINAL BASIS FOR LISTING WAS INCORRECT
RIVER	PRER22A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER22A	FECAL COLIFORMS	TMDL APPROVED

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Table 47: Parameter/Assessment Units Combinations to be delisted			
Type of Water	AU ID	Parameter	Reason for Delisting
RIVER	PRER29A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PREQ32A	FECAL COLIFORMS	ORIGINAL BASIS FOR LISTING WAS INCORRECT
RIVER	PRER33A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER33A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER34A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRER35A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER35A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PREQ36A	FECAL COLIFORMS	ORIGINAL BASIS FOR LISTING WAS INCORRECT
RIVER	PRER37A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRER37A	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRER37A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRSR43A2	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRSR51A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRSQ53A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRSR54A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRSR57A2	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRSR58A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRSR62A1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRSR63A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRSR67A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRSR67A	THERMAL MODIFICATION	WATER QUALITY IMPROVEMENT
RIVER	PRSR67A	TURBIDITY	WATER QUALITY IMPROVEMENT
RIVER	PRSR67A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRSR68A1	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRSR69A1	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRSR69A1	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRSR69A2	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRWR77A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR77A	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRWR77A	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRWR77A	AMMONIA	WATER QUALITY IMPROVEMENT

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Table 47: Parameter/Assessment Units Combinations to be delisted			
Type of Water	AU ID	Parameter	Reason for Delisting
RIVER	PRWR77C	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR77C	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRWR77E	FECAL COLIFORMS	TMDL APPROVED
RIVER	PRWR77E	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR77E	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRWR77E	TURBIDITY	WATER QUALITY IMPROVEMENT
RIVER	PRWR79A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR83A	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR83C	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR83D	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR83D	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRWR83F	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR83G	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR83H	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR83I	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWQ88A	FECAL COLIFORMS	ORIGINAL BASIS FOR LISTING WAS INCORRECT
RIVER	PRWQ88A	LOW DISSOLVED OXYGEN	ORIGINAL BASIS FOR LISTING WAS INCORRECT
RIVER	PRWR95A	MERCURY	WATER QUALITY IMPROVEMENT
RIVER	PRWR95B	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR95B	LEAD	WATER QUALITY IMPROVEMENT
RIVER	PRWR95B	SURFACTANTS	WATER QUALITY IMPROVEMENT
RIVER	PRWQ95C	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWQ95D	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWQ95F	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWQ95G	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWQ95H	ARSENIC	CHANGE IN WATER QUALITY STANDARD

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Table 47: Parameter/Assessment Units Combinations to be delisted			
Type of Water	AU ID	Parameter	Reason for Delisting
RIVER	PRWQ95I	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR95J	ARSENIC	CHANGE IN WATER QUALITY STANDARD
RIVER	PRWR95K	ARSENIC	CHANGE IN WATER QUALITY STANDARD
ESTUARY	PREE15A	FECAL COLIFORMS	TMDL APPROVED
ESTUARY	PREE16A	FECAL COLIFORMS	TMDL APPROVED
ESTUARY	PREE33A	FECAL COLIFORMS	TMDL APPROVED
ESTUARY	PREE34A	FECAL COLIFORMS	TMDL APPROVED
ESTUARY	PREE35A	FECAL COLIFORMS	TMDL APPROVED
ESTUARY	PREE35.1	FECAL COLIFORMS	TMDL APPROVED
ESTUARY	PRWE78A	FECAL COLIFORMS	TMDL APPROVED
LAKES	PRNL3A1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
LAKES	PREL14A1	ARSENIC	CHANGE IN WATER QUALITY STANDARD
SJBEP	PREE13A1	PHOSPHORUS	THIS AU IS CLASSIFIED SC; PHOSPHORUS STANDARD IS NOT APPLICABLE
SJBEP	PREE13A1	FECAL COLIFORMS	TMDL APPROVED
SJBEP	PREE13A1	AMMONIA	ORIGINAL BASIS FOR LISTING WAS INCORRECT; AMMONIA STANDARD IS NOT APPLICABLE FOR THIS AU
SJBEP	PREE13A2	ARSENIC	CHANGE IN WATER QUALITY STANDARD
SJBEP	PREE13A2	MERCURY	WATER QUALITY IMPROVEMENT
SJBEP	PREE13A2	FECAL COLIFORMS	TMDL APPROVED
SJBEP	PREE13A3	ARSENIC	CHANGE IN WATER QUALITY STANDARD
SJBEP	PREE13A3	AMMONIA	WATER QUALITY IMPROVEMENT
SJBEP	PREE13A3	SURFACTANTS	WATER QUALITY IMPROVEMENT
SJBEP	PREE13A3	PHOSPHORUS	WATER QUALITY IMPROVEMENT
LAGOONS	PRNN0006	ARSENIC	CHANGE IN WATER QUALITY STANDARD
LAGOONS	PRNN0006	FECAL COLIFORMS	WATER QUALITY IMPROVEMENT
LAGOONS	PRNN0006	SURFACTANTS	WATER QUALITY IMPROVEMENT
COASTAL	PRNC04	LOW DISSOLVED OXYGEN	WATER QUALITY IMPROVEMENT
COASTAL	PREC10B	FECAL COLIFORMS	WATER QUALITY IMPROVEMENT

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Table 47: Parameter/Assessment Units Combinations to be delisted			
Type of Water	AU ID	Parameter	Reason for Delisting
COASTAL	PREC11	AMMONIA	ORIGINAL BASIS FOR LISTING WAS INCORRECT; AMMONIA STANDARD IS NOT APPLICABLE FOR THIS AU
COASTAL	PREC16	ENTEROCOCCUS	WATER QUALITY IMPROVEMENT
COASTAL	PREC19	FECAL COLIFORMS	WATER QUALITY IMPROVEMENT
COASTAL	PREC25	ENTEROCOCCUS	WATER QUALITY IMPROVEMENT
COASTAL	PREC25	FECAL COLIFORMS	WATER QUALITY IMPROVEMENT
COASTAL	PREC28C	ENTEROCOCCUS	WATER QUALITY IMPROVEMENT
COASTAL	PREC28C	FECAL COLIFORMS	WATER QUALITY IMPROVEMENT
COASTAL	PRSC32	FECAL COLIFORMS	WATER QUALITY IMPROVEMENT
COASTAL	PRSC34	FECAL COLIFORMS	WATER QUALITY IMPROVEMENT
COASTAL	PRWC48	FECAL COLIFORMS	WATER QUALITY IMPROVEMENT

Priority Ranking and TMDL Development Status

In October of 1998, the PREQB in collaboration with the Natural Resources Conservation Service (NRCS) and 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 (Table 48) according to the corresponding regions identified previously.

Table 48: 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

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Table 48: Priority Basins	
Basin	Region
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.

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 (Table 49). 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 49: Assessment Units by Priority Ranking		
Basin	Waterbody Name	Priority Ranking
RIO GUAJATACA	RIO GUAJATACA, PRNR3A1	H
RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO, PRNR7A1	H
	RIO GRANDE DE ARECIBO, PRNR7A2	H
	RIO TANAMA, PRNR7B2	H
RIO GRANDE DE MANATI	RIO GRANDE DE MANATI, PRNR8A1	H
	RIO GRANDE DE MANATI, PRNR8A2	H
	RIO CIALITO, PRNR8B	H
	RIO OROCOVIS, PRNR8E1	H
RIO CIBUCO	RIO CIBUCO, PRNR9A	H
RIO DE LA PLATA	RIO DE LA PLATA, PRER10A3	H
	RIO DE LA PLATA, PRER10A4	H
	RIO DE LA PLATA, PRER10A5	H
	RIO GUADIANA, PRER10E	H
	RIO ARROYATA, PRER10G	H
RIO HONDO	RIO HONDO, PRER11A	H

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Table 49: Assessment Units by Priority Ranking		
Basin	Waterbody Name	Priority Ranking
RIO BAYAMÓN	RIO BAYAMÓN, PRER12A1	H
	RIO BAYAMÓN, PRER12A2	H
	RIO GUAYNABO, PRER12B	H
RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA, PRER14A1	H
	RIO CANOVANAS, PRER14B	H
	RIO CANOVANILLAS, PRER14C	H
	QUEBRADA GRANDE, PREQ14E	H
	RIO CAÑAS, PRER14F	H
	RIO GURABO, PRER14G1	H
	RIO VALENCIANO, PRER14G2	H
	RIO BAIROA, PRER14H	H
	RIO CAGUITAS, PRER14I	H
	RIO TURABO, PRER14J	H
RIO HERRERA	RIO HERRERA, PRER15A	I
QUEBRADA MATA DE PLATANO	QUEBRADA MATA DE PLATANO, PREQ18A	I
RIO FAJARDO	RIO FAJARDO, PRER22A	I
QUEBRADA CEIBA	QUEBRADA CEIBA, PREQ24A	I
RIO HUMACAO	RIO HUMACAO, PRER33A	I
CAÑO SANTIAGO	CAÑO SANTIAGO PREK 35.1	I
RIO MAUNABO	RIO MAUNABO, PRER37A	I
RIO CHICO	RIO CHICO, PRSR42A	I
QUEBRADA MELANIA	QUEBRADA MELANIA, PRSQ50A	I
QUEBRADA AGUAS VERDES	QUEBRADA AGUAS VERDES, PRSQ53A	I
RIO CAYURES	RIO CAYURES, PRSR56A	I
RIO COAMO	RIO CUYON, PRSR57B	H
RIO PORTUGUES	RIO PORTUGUES, PRSR63A	I
RIO GUAYANILLA	RIO GUAYANILLA, PRSR67A	H
RIO YAUCO	RIO YAUCO, PRSR68A1	I
RIO LOCO	RIO LOCO, PRSR69A1	I
QUEBRADA ZUMBON	QUEBRADA ZUMBON PRWQ72A	I
RIO GUANAJIBO	RIO GUANAJIBO, PRWR77A	H
	RIO ROSARIO, PRWR77C	H
	RIO VIEJO, PRWR77D	H
RIO YAGUEZ	RIO YAGUEZ, PRWR79A	H
RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO, PRWR83A	H
	RIO HUMATA, PRWR83D	H
RIO CULEBRINAS	RIO CULEBRINAS, PRWR95A	H

Notes:

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

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Parameters are not prioritizing only by the priority ranking and TMDL development. In a high priority watershed we can obtain parameters that can have high TMDL development Ranking Status, others are not. Changes in water quality regulations makes that some parameters change its standard, so they do not deserve a high priority ranking for TMDL development. For example, Arsenic and Cyanide. For 2014 cycle, 46 AU/parameter were evaluated as high priority ranking for TMDL development. (See Table 50).

Table 50: Assessment Units/ Parameter Combination with high priority to development of TMDL, next two years				
Basin	Waterbody Name	Assessment Unit ID	Parameter	Priority
1. RIO GUAJATACA	RIO GUAJATACA	PRNR3A1	Fecal Coliforms (1700)	H
2. RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO	PRNR7A1	Copper (0530)	H
3. RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO	PRNR7A2	Total Coliforms (1700)	H
4. RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO	PRNR7A2	Copper (0530)	H
5. RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO	PRNR7A2	Lead (0550)	H
6. RIO GRANDE DE MANATI	RIO GRANDE DE MANATI	PRNR8A1	Copper (0530)	H
7. RIO GRANDE DE MANATI	RIO GRANDE DE MANATI	PRNR8A3	Copper (0530)	H
8. RIO GRANDE DE MANATI	RIO GRANDE DE MANATI	PRNR8B	Total Coliforms (1700)	H
9. RIO GRANDE DE MANATI	RIO TORO NEGRO	PRNR8C1	Copper (0530)	H
10. RIO GRANDE DE MANATI	RIO BAUTA	PRNR8C2	Copper (0530)	H
11. RIO GRANDE DE MANATI	RIO SANAMUERTO	PRNR8D	Copper (0530)	H
12. RIO CIBUCO	RIO CIBUCO	PRNR9A	Total Coliforms (1700)	H
13. RIO CIBUCO	RIO INDIO	PRNR9B1	Copper (0530)	H
14. RIO LA PLATA	RIO LA PLATA	PRER10A5	Copper (0530)	H
15. RIO LA PLATA	RIO LA PLATA	PRER10A5	Lead (0550)	H
16. RIO LA PLATA	RIO LA PLATA	PRER10A5	Mercury (0560)	H
17. RIO LA PLATA	RIO GUADIANA	PRER10E	Total Coliforms (1700)	H
18. RIO LA PLATA	RIO MATON	PRER10J	Copper (0530)	H
19. RIO HONDO	RIO HONDO	PRER11A	Selenium (0570)	H
20. RIO HONDO	RIO HONDO	PRER11A	Total Coliforms	H

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Table 50: Assessment Units/ Parameter Combination with high priority to development of TMDL, next two years				
Basin	Waterbody Name	Assessment Unit ID	Parameter	Priority
			(1700)	
21. RIO BAYAMON	RIO BAYAMON	PRER12A1	Copper (0530)	H
22. RIO BAYAMON	RIO BAYAMON	PRER12A1	Total Coliforms (1700)	H
23. RIO BAYAMON	RIO GUAYNABO	PRER12B	Total Coliforms (1700)	H
24. RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA	PRER14A1	Copper (0530)	H
25. RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA	PRER14A2	Total Coliforms (1700)	H
26. RIO GRANDE DE LOIZA	RIO CANOVANAS	PRER14B	Total Coliforms (1700)	H
27. RIO GRANDE DE LOIZA	RIO CANOVANILLAS	PRER14C	Total Coliforms (1700)	H
28. RIO GRANDE DE LOIZA	RIO GURABO	PRER14G1	Total Coliforms (1700)	H
29. RIO GRANDE DE LOIZA	RIO GURABO	PRER14G1	Copper (0530)	H
30. RIO GRANDE DE LOIZA	RIO VALENCIANO	PRER14G2	Copper (0530)	H
31. RIO GRANDE DE LOIZA	RIO BAIROA	PRER14H	Total Coliforms (1700)	H
32. RIO GRANDE DE LOIZA	RIO BAIROA	PRER14H	Phosphorus (0910)	H
33. RIO GRANDE DE LOIZA	RIO CAGUITAS	PRER14I	Total Coliforms (1700)	H
34. RIO GRANDE DE LOIZA	RIO TURABO	PRER14J	Copper (0530)	H
35. RIO GRANDE DE LOIZA	RIO CAYAGUAS	PRER14K	Copper (0530)	H
36. RIO GRANDE DE LOIZA	RIO CAYAGUAS	PRER14K	Lead (0550)	H
37. RIO GUAYANILLA	RIO GUAYANILLA	PRSR67A	Phosphorus (0910)	H
38. RIO LOCO	RIO LOCO	PRSR69A1	Lead (0550)	H
39. RIO GUANAJIBO	RIO GUANAJIBO	PRWR77A	Total Coliforms (1700)	H
40. RIO YAGUEZ	RIO YAGUEZ	PRWR79A	Total Coliforms (1700)	H
41. RIO YAGUEZ	RIO YAGUEZ	PRWR79A	Copper (0530)	H
42. RIO YAGUEZ	RIO YAGUEZ	PRWR79A	Lead (0550)	H
43. RIO YAGUEZ	RIO YAGUEZ	PRWR79A	Mercury (0560)	H
44. RIO CULEBRINAS	RIO CULEBRINAS	PRWR95A	Copper (0530)	H

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Table 50: Assessment Units/ Parameter Combination with high priority to development of TMDL, next two years				
Basin	Waterbody Name	Assessment Unit ID	Parameter	Priority
45. RIO CULEBRINAS	RIO CULEBRINAS	PRWR95A	Total Coliforms (1700)	H
46. RIO CULEBRINAS	RIO CULEBRINAS	PRWR95A	Lead (0550)	H

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 (Table 51) presents a summary of the TMDL development status in PR.

Table 51: TMDL Development Status			
Segment/Pollutant	Segment ID	Project Status	Projected TMDL Submittal Date
1. RIO GUAJATACA/FECAL COLIFORMS	PRNR3A2	Approved by EPA	September 2012
2. LAGO GUAJATACA/FECAL COLIFORMS	PRNL3A1	Approved by EPA	September 2012
3. QUEBRADA LAS SEQUIAS/FECAL COLIFORMS	PRNQ3B	Approved by EPA	September 2012
4. RIO CAMUY/FECAL COLIFORMS	PRNE5A	Approved by EPA	September 2012
5. RIO CAMUY/FECAL COLIFORMS	PRNR5A	Approved by EPA	September 2012
6. RIO HONDO/FECAL COLIFORMS	PRER11A	Approved by EPA	September 2012
7. RIO BAYAMON/FECAL COLIFORMS	PRER12A1	Approved by EPA	September 2012
8. RIO BAYAMON/FECAL COLIFORMS	PRER12A2	Approved by EPA	September 2012
9. LAGO CIDRA/FECAL COLIFORMS	PREL12A2	Approved by EPA	September 2012
10. RIO GUAYNABO/FECAL COLIFORMS	PRER12B	Approved by EPA	September 2012
11. RIO MINILLAS/FECAL COLIFORMS	PRER12C	Approved by EPA	September 2012
12. SISTEMA ESTUARIO DE LA BAHIA DE SAN JUAN/FECAL COLIFORMS	PREE13A1	Approved by EPA	September 2012
13. SISTEMA ESTUARIO DE LA BAHIA DE SAN JUAN/FECAL COLIFORMS	PREE13A2	Approved by EPA	September 2012
14. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14A1	Approved by EPA	September 2012
15. RIO CANOVANAS/FECAL COLIFORMS	PRER14B	Approved by EPA	September 2012
16. RIO CANOVANILLAS/FECAL COLIFORMS	PRER14C	Approved by EPA	September 2012
17. QUEBRADA MARACUTO/FECAL COLIFORMS	PREQ14D	Approved by EPA	September 2012
18. QUEBRADA GRANDE/FECAL COLIFORMS	PREQ14E	Approved by EPA	September 2012
19. RIO HERRERA/FECAL COLIFORMS	PREE15A	Approved by EPA	September 2012
20. RIO HERRERA/FECAL COLIFORMS	PRER15A	Approved by EPA	September 2012

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Table 51: TMDL Development Status			
Segment/Pollutant	Segment ID	Project Status	Projected TMDL Submittal Date
21. RIO ESPIRITU SANTO/FECAL COLIFORMS	PREE16A	Approved by EPA	September 2012
22. RIO ESPIRITU SANTO/FECAL COLIFORMS	PRER16A	Approved by EPA	September 2012
23. RIO MAMEYES/FECAL COLIFORMS	PREE17A	Approved by EPA	September 2012
24. RIO MAMEYES/FECAL COLIFORMS	PRER17A	Approved by EPA	September 2012
25. RIO HUMACAO/FECAL COLIFORMS	PREE33A	Approved by EPA	September 2012
26. RIO HUMACAO/FECAL COLIFORMS	PRER33A	Approved by EPA	September 2012
27. RIO CANDELERO/FECAL COLIFORMS	PREE34A	Approved by EPA	September 2012
28. RIO CANDELERO/FECAL COLIFORMS	PRER34A	Approved by EPA	September 2012
29. RIO GUAYANES/FECAL COLIFORMS	PREE35A	Approved by EPA	September 2012
30. RIO GUAYANES/FECAL COLIFORMS	PRER35A	Approved by EPA	September 2012
31. CAÑO SANTIAGO/FECAL COLIFORMS	PREE35.1	Approved by EPA	September 2012
32. CAÑO SANTIAGO/FECAL COLIFORMS	PREK35.1	Approved by EPA	September 2012
33. RIO MAUNABO/FECAL COLIFORMS	PRER37A	Approved by EPA	September 2012
34. QUEBRADA AGUAS VERDES/FECAL COLIFORMS	PRSE53A	Approved by EPA	September 2012
35. QUEBRADA AGUAS VERDES/FECAL COLIFORMS	PRSQ53A	Approved by EPA	September 2012
36. RIO NIGUAS DE SALINAS/FECAL COLIFORMS	PRSE54A	Approved by EPA	September 2012
37. RIO NIGUAS DE SALINAS/FECAL COLIFORMS	PRSR54A	Approved by EPA	September 2012
38. RIO JACAGUAS/FECAL COLIFORMS	PRSE60A	Approved by EPA	September 2012
39. RIO JACAGUAS/FECAL COLIFORMS	PRSR60A1	Approved by EPA	September 2012
40. RIO JACAGUAS/FECAL COLIFORMS	PRSR60A2	Approved by EPA	September 2012
41. LAGO GUAYABAL/FECAL COLIFORMS	PRSL ₁ 60A	Approved by EPA	September 2012
42. LAGO TOA VACA/FECAL COLIFORMS	PRSL ₂ 60A	Approved by EPA	September 2012
43. RIO INABON/FECAL COLIFORMS	PRSE61A	Approved by EPA	September 2012
44. RIO INABON/FECAL COLIFORMS	PRSR61A	Approved by EPA	September 2012
45. RIO GUAYANILLA/FECAL COLIFORMS	PRSR67A	Approved by EPA	September 2012
46. RIO YAUCO/FECAL COLIFORMS	PRSE68A	Approved by EPA	September 2012
47. RIO YAUCO/FECAL COLIFORMS	PRSR68A1	Approved by EPA	September 2012
48. RIO YAUCO/FECAL COLIFORMS	PRSR68A2	Approved by EPA	September 2012
49. LAGO LUCHETTI/FECAL COLIFORMS	PRSL68A1	Approved by EPA	September 2012
50. RIO LOCO/FECAL COLIFORMS	PRSE69A	Approved by EPA	September 2012

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Table 51: TMDL Development Status			
Segment/Pollutant	Segment ID	Project Status	Projected TMDL Submittal Date
51. RIO LOCO/FECAL COLIFORMS	PRSR69A1	Approved by EPA	September 2012
52. RIO LOCO/FECAL COLIFORMS	PRSR69A2	Approved by EPA	September 2012
53. LAGO LOCO/FECAL COLIFORMS	PRSL69A	Approved by EPA	September 2012
54. RIO GUANAJIBO/FECAL COLIFORMS	PRWR77A	Approved by EPA	September 2012
55. RIO HONDO/FECAL COLIFORMS	PRWR77B	Approved by EPA	September 2012
56. RIO ROSARIO/FECAL COLIFORMS	PRWR77C	Approved by EPA	September 2012
57. RIO VIEJO/FECAL COLIFORMS	PRWR77D	Approved by EPA	September 2012
58. RIO DUEY Y RIO HOCONUCO/FECAL COLIFORMS	PRWR77E	Approved by EPA	September 2012
59. RIO CAIN/FECAL COLIFORMS	PRWR77F	Approved by EPA	September 2012
60. RIO CUPEYES/FECAL COLIFORMS	PRWR77G	Approved by EPA	September 2012
61. RIO CRUCES/FECAL COLIFORMS	PRWR77H	Approved by EPA	September 2012
62. RIO GRANDE/FECAL COLIFORMS	PRWR77I	Approved by EPA	September 2012

PART G. 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 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) and the Wellhead Protection Program (WHPP). 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 (Table 52). A total of fifty four (54) wells are monitored to perform the groundwater assessment. Under this monitoring network the PREQB conducts sampling and analyses once per year for: total and fecal coliforms, ammonium and total dissolved solids. 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 52: Wells included in the Groundwater Monitoring Network			
Well Name	Municipality	Sampling Year	
Saltillo	Adjuntas	2012	2013
Saltillo Vaca	Adjuntas	2012	2013
Garrochales	Arecibo	2012	2013
Matadero IV (Urbano)	Arecibo	2012	2013
Ojo de Agua 1	Arecibo	2012	2013
Belinda	Arroyo	2012	2013

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Table 52: Wells included in the Groundwater Monitoring Network			
Well Name	Municipality	Sampling Year	
Arroyo (Pozo 1)	Arroyo	2012	Not monitored
Cruce Dávila	Barceloneta	2012	2013
Tiburones II	Barceloneta	2012	2013
Viskase III	Barceloneta	2012	2013
Cabo Rojo I (Pozo 1)	Cabo Rojo	2012	2013
Cabo Rojo II (Pozo II)	Cabo Rojo	2012	2013
Florida # 5 (La Ceiba)	Florida	2012	2013
Florida #6 (Parque Ceiba)	Florida	2012	2013
La Joya (Santa Rita)	Guánica	2012	2013
Los Caños	Guánica	2012	2013
Río Loco	Yauco	2012	2013
Guayanilla Viejo	Guayanilla	2012	2013
Los Sitios	Guayanilla	2012	2013
Quebrada Nuevo	Guayanilla	2012	2013
Campo Alegre I	Hatillo	2012	2013
Campo Alegre III	Hatillo	2012	2013
Hormigueros III Javieres	Hormigueros	2012	2013
Amelia II	Juana Díaz	2012	2013
Experimental	Juana Díaz	2012	2013
Río Cañas	Juana Díaz	2012	2013
Manatí 2	Manatí	2012	2013
Tiburones	Manatí	2012	2013
Tiburones II	Manatí	2012	2013
Viskase III	Manatí	2012	2013
Bordaleza	Maunabo	2012	2013
Calzada	Maunabo	2012	2013
Jacaboas I	Patillas	2012	2013
Jacaboas II	Patillas	2012	2013
Jacaboas III	Patillas	2012	2013
Alambra II	Ponce	2012	2013
Albergue Olímpico	Salinas	2012	2013
Godreau II	Salinas	2012	2013
Las Mareas	Salinas	2012	2013
Urbano II (Salinas 2)	Salinas	2012	2013
Coco IV	Salinas	2012	2013
Cain Alto (Capriles)	San Germán	2012	2013
Duey I	San Germán	2012	2013
Duey II (San Agustín)	San Germán	2012	2013
Esmeralda II	Santa Isabel	2012	2013
Ollas (Descalabrado)	Santa Isabel	2012	2013
Paso Seco V	Santa Isabel	2012	2013
Paso Seco VI	Santa Isabel	2012	2013
Esmeralda	Santa Isabel	2012	2013
Playita Cortada	Santa Isabel	2012	2013
Campanilla VIII	Toa Baja	2012	2013

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Table 52: Wells included in the Groundwater Monitoring Network			
Well Name	Municipality	Sampling Year	
Monserrate	Vega Alta	2012	2013
Pugnado II	Vega Baja	2012	2013
Vega Baja III	Vega Baja	2012	2013

In addition, the pH and temperature data from PRASA was used to evaluate the water quality of the wells included in the PREQB permanent network. Furthermore, through communication with the PRASA, the PREQB has managed to update the inventory of drinking water wells.

The ambient groundwater quality data compiled by PREQB during this reporting cycle indicates the presence of bacteria and dissolved solid in some of the aquifer stations monitored. As part of the WHPP, a Contingency Plan has been implemented in which PREQB is performing an investigation about the different sources of pollution to determine responsibilities and requires corrective actions. The main purpose of the program is to protect the area around wells of pollutants which could affect the health of people who use that resource. All wells used for human consumption have been delineated the area around 1500 feet (See Figure 26). The PREQB has raised a few layers of information of potential sources of pollution, which include landfills, superfund sites, RCRA facilities, underground storage tanks, mechanic workshops and other facilities that generate used oil.



Figure 26: Example of Wellhead Area and Possible Contamination Sources

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PART H. 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, June 17, 2014.

The public hearing was appropriately noticed in one (1) local newspaper of island wide circulation (Public Notice in Spanish and English, 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-14-34-1, copy enclosed in Appendix III.

APENDIX I - 2014 Cycle 303(d) List

Evaluation and Strategic Planning Area
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Table 53: 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)	979.4
Arsenic (0510)	978.4
Cadmium (0520)	72.3
Copper (0530)	1,177.6
Lead (0550)	827.9
Mercury (0560)	208.5
Selenium (0570)	22.0
Ammonia (0600)	74.6
Cyanide (0720)	3,007.9
Others Inorganic (0800)	22.0
Phosphorus (0910)	195.4
Nitrate + Nitrite (0990)	15.0
pH (1000)	352.9
Low Dissolved Oxygen (1200)	1,518.1
Thermal Modifications (1400)	320.9
Fecal Coliforms (1700)	13.9
Total Coliforms (1700)	1,158.3
Turbidity (2500)	2,564.9
Silver (no code)	14.6

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams															
Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO GUAJATACA	RIO GUAJATACA PRNR3A1	9.9	SD	NS 50011400	5	5	5	1		Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Fecal Coliforms (1700)	Fecal Coliforms (1700)		Cyanide (0720) Fecal Coliforms (1700)	Cyanide (0720)
	RIO GUAJATACA PRNR3A2	22	SD	NS 50010500 50010600 ED PR13059	4a	4a	5	1	H, P	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)				Cyanide (0720)	Cyanide (0720)
	QUEBRADA LAS SEQUIAS PRNQ3B	3.5	SD	SPD - 50011390	4a	4a	5	5	E, H, L, O	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)					Arsenic (0510) Cyanide (0720) Low Dissolved Oxygen (1200)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO PRNR7A1	22.4	SD	NS 50027250 50029000	4a	4a	5	5	N	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)	Low Dissolved Oxygen (1200) Turbidity (2500)	Copper (0530) Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Cyanide (0720) Low Dissolved Oxygen (1200)	Cyanide (0720) Low Dissolved Oxygen (1200) Turbidity (2500)
	RIO GRANDE DE ARECIBO PRNR7A2	122.8	SD	NS 50025000 ED PR13020 PR13020R PR13020D	5	5	5	5	N, P	Agriculture (1300) 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)	Copper (0530) Lead (0550) Total Coliforms (1700) Turbidity (2500)	Turbidity (2500)		Cyanide (0720) Pesticides (0200) Turbidity (2500)	Cyanide (0720)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	TUNEL PRNR7A3	28.9	SD	NS 50020500 ED PR13074 PR13094	4a	4a	5	1	N, 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)				Cyanide (0720)	Cyanide (0720)
	RIO CAONILLAS PRNR7C1	87	SD	NS 50026000 ED PR13012	4a	4a	5	5	N, P	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) 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)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams															
Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO TANAMA PRNR7B2	43.5	SD	NS 50028000	4a	4a	5	5	N	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Turbidity (2500)	Turbidity (2500)		Cyanide (0720) Turbidity (2500)	Cyanide (0720)
RIO GRANDE DE MANATÍ	RIO GRANDE DE MANATÍ PRNR8A1	31	SD	NS 50038100	4a	4a	5	5	N	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)	Turbidity (2500)	Copper (0530) Turbidity (2500)	Turbidity (2500)	Copper (0530) Turbidity (2500) Cyanide (0720)	Turbidity (2500) Cyanide (0720)
	RIO GRANDE DE MANATÍ PRNR8A2	38.1	SD	NS 50031200 50035500 ED PR13014	4a	4a	5	5	N, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)	Turbidity (2500)	Turbidity (2500)	Cyanide (0720) Turbidity (2500)	Cyanide (0720) Turbidity (2500)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO GRANDE DE MANATÍ PRNR8A3	27	SD	SPD - 50030130 ED PR13062	4a	4a	5	5	D, N, P	Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)				Arsenic (0510) Turbidity (2500)	Arsenic (0510) Copper (0530) Cyanide (0720) Surfactants (0400) Turbidity (2500)
	RIO CIALITO PRNR8B	25.8	SD	NS 50035950	5	5	5	5	N	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)	Total Coliforms (1700) Turbidity (2500)	Turbidity (2500)	Turbidity (2500)	Cyanide (0720)	Cyanide (0720)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO TORO NEGRO PRNR8C1	41.5	SD	SPD - 50033200	4a	4a	5	5	D, N	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plant (Small Flows) (0230)				Arsenic (0510) Copper (0530)	Arsenic (0510) Cyanide (0720) Turbidity (2500)
	RIO BAUTA PRNR8C2	27.6	SD	SPD - 50034500	4a	4a	5	5	D, N	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)				Arsenic (0510) Copper (0530)	
	RIO SANA MUERTOS PRNR8D	16	SD	SPD - 50031500	4a	4a	5	5	D, N	Agriculture (1300) Onsite Wastewater Systems (6500)				Arsenic (0510) Copper (0530) Turbidity (2500)	

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO OROCOVIS PRNR8E1	19.8	SD	NS 50030700 ED PR13003 PR13080	4a	4a	5	5	N, 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)	Turbidity (2500)	Turbidity (2500)	Cyanide (0720) Turbidity (2500)	Cyanide (0720) Turbidity (2500)
	RIO BOTIJAS PRNR8E2	19.1	SD	SPD - 50030300	4a	4a	5	5	D, N	Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)				Arsenic (0510) Turbidity (2500)	

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO CIBUCO	RIO CIBUCO PRNR9A	31.1	SD	NS 50038320 50039500	5	5	5	5	A	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Source (0210) Major Industrial Point Sources (0110) Onsite Wastewater Systems (6500)	Total Coliforms (1700) Turbidity (2500)	Total Coliforms (1700) Turbidity (2500)	Turbidity (2500)	Cyanide (0720) Turbidity (2500)	Cyanide (0720) Turbidity (2500)
	RIO INDIO PRNR9B1	12.5	SD	SPD - 50039000	4a	4a	5	5	A, L	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)					Arsenic (0510) Copper (0530) Cyanide (0720) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)					
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>	
	RIO MOROVIS PRNR9B2	25.5	SD	ED PR13001 PR13001D PR13001R PR13017 PR13017R PR13017D	4a	4a	5	1	A, P	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)	Low Dissolved Oxygen (1200) pH (1000)					
	RIO DE LOS NEGROS PRNR9D	24.1	SD	SPD - 50038302	4a	4a	5	5	A, L	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)					Arsenic (0510) Cyanide (0720) Surfactants (0400)	

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO DE LA PLATA	RIO DE LA PLATA PRER10A1	21	SD	NS 50046000	4a	4a	5	5	B	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)	Cyanide (0720) Turbidity (2500)	Turbidity (2500)	Cyanide (0720)
	RIO DE LA PLATA PRER10A3	55.7	SD	NS 50044000	4a	4a	5	5	B	Agriculture (1300) Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500)	Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Cyanide (0720) Low Dissolved Oxygen (1200)	Cyanide (0720)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO DE LA PLATA PRER10A4	10.2	SD	NS 50043000	4a	4a	5	5	B	Agriculture (1300) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)	Turbidity (2500)		Turbidity (2500)	Cyanide (0720) Turbidity (2500)	
	RIO DE LA PLATA PRER10A5	92.7	SD	NS 50042500 ED PR13085 6	4a	4a	5	5	B, L, P	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)	Copper (0530) Lead (0550) Mercury (0560) Turbidity (2500)				Arsenic (0510) Cyanide (0720) Surfactants (0400) Turbidity (2500) <i>Copper (0530)</i>

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO LAJAS PRER10B	16.6	SD	SPD - 50045800	4a	4a	5	5	B, L	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surface Mining (5100)					Arsenic (0510) Cyanide (0720) Low Dissolved Oxygen (1200) Surfactants (0400)
	RIO BUCARABONES PRER10C	19.2	SD	SPD - 50045500	4a	4a	5	5	B, L	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)					Arsenic (0510) Cyanide (0720) Low Dissolved Oxygen (1200) Surfactants (0400)
	RIO GUADIANA PRER10E	21.8	SD	NS 50044850 ED PR13083	5	5	5	5	B, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)	Total Coliforms (1700) Turbidity (2500)	Total Coliforms (1700) Turbidity (2500)	Turbidity (2500)	Cyanide (0720) Turbidity (2500)	Cyanide (0720)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO CUESTA ARRIBA PRER10F	10.6	SD		4a	4a	5	1	B, J	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Minor Industrial Point Source (0120)		pH (1000)			
	RIO ARROYATA PRER10G	36.8	SD	NS 50043998	4a	4a	5	5	B	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Turbidity (2500)			pH (1000)	
	RIO MATON PRER10J	15.8	SD	NS 50042800	4a	4a	5	5	B	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)			Low Dissolved Oxygen (1200)		Arsenic (0510) Cyanide (0720) Surfactants (0400) Turbidity (2500) <i>Copper (0530)</i>

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO GUAVATE PRER10K	19.8			4a	4a	5	1	B, J	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Confined Animal Feeding Operations (1640)		pH (1000)			
RIO HONDO	RIO HONDO PRER11A	22	SD	SPD - 50047530	5	5	5	5	H	Collection System Failure (0500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Total Coliforms (1700)			Arsenic (0510) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Low Dissolved Oxygen (1200) Other Inorganic (0800) Selenium (0570) Surfactants (0400)
RIO BAYAMÓN	RIO BAYAMÓN PRER12A1	33.6	SD	NS 50048510	5	5	5	5	H	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Copper (0530) Total Coliforms (1700) Turbidity (2500)	Total Coliforms (1700)	Copper (0530) Cyanide (0720) Turbidity (2500)		Cyanide (0720)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams															
Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO BAYAMÓN PRER12A2	83.7	SD	NS 50047600 50047820 ED PR13005	4a	4a	5	5	H, P	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)	Turbidity (2500)	Cyanide (0720) Turbidity (2500)	Turbidity (2500)	Cyanide (0720) Turbidity (2500)
	RIO GUAYNABO PRER12B	50.7	SD	NS 50047990	5	5	5	5	H	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)	Total Coliforms (1700) Turbidity (2500)	Total Coliforms (1700) Turbidity (2500)	Cyanide (0720) Turbidity (2500)	Turbidity (2500)	Cyanide (0720) Turbidity (2500)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO GRANDE DE LOIZA	RIO GRANDE DE LOIZA PRER14A1	31	SD	NS 50059100	4a	4a	5	5	H	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)	Turbidity (2500)	Copper (0530) Low Dissolved Oxygen (1200)	Copper (0530) Low Dissolved Oxygen (1200) Turbidity (2500)	Cyanide (0720) Turbidity (2500)	Cyanide (0720) Low Dissolved Oxygen (1200) Turbidity (2500)
	RIO GRANDE DE LOIZA PRER14A2	86.6	SD	NS 50051800 50055000 ED PR13076	5	5	5	5	C, G, I, P	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)		Total Coliforms (1700) Turbidity (2500)		Cyanide (0720) Pesticides (0200) Turbidity (2500)	Cyanide (0720) Turbidity (2500)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)					
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>	
	RIO CANOVANAS PRER14B	32.6	SD	SPD - 50061910	5	5	5	5	F, H	Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Total Coliforms (1700)					Arsenic (0510) Cyanide (0720)
	RIO CANOVANILLAS PRER14C	27.9	SD	SPD - 50061510 ED PR13097	5	5	5	5	F, H, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Total Coliforms (1700)					Arsenic (0510) Cyanide (0720)
	QUEBRADA MARACUTO PREQ14D	22.9	SD	SPD - 50060200	4a	4a	5	5	F, H	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)						Arsenic (0510) Cyanide (0720)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	QUEBRADA GRANDE PREQ14E	17.7	SD	SPD - 50059210	4a	4a	5	5	F, H	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)				Arsenic (0510) Cyanide (0720) Surfactants (0400)
	RIO CAÑAS PRER14F	9.4	SD	SPD - 50058350	4a	4a	5	5	C, F	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)				Arsenic (0510) Cyanide (0720)
	RIO GURABO PRER14G1	124.3	SD	NS 50057025 ED PR13025	5	5	5	5	C, G, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100)	Copper (0530) Total Coliforms (1700) Turbidity (2500)	Total Coliforms (1700) Turbidity (2500)	Copper (0530) Turbidity (2500)	Cyanide (0720) Turbidity (2500)	Copper (0530) Cyanide (0720) Turbidity (2500)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO VALENCIANO PRER14G2	42.8	SD	NS 50056500 ED PR13018 PR13061	4a	4a	5	5	C, P	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)	Turbidity (2500)			Copper (0530)	Arsenic (0510) Cyanide (0720) Surfactants (0400) Turbidity (2500)
	RIO BAIROA PRER14H	16.3	SD	NS 50055410	5	5	5	5	C, G, I, K	Collection System Failure (0500) Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Phosphorous (0910) Total Coliforms (1700) Turbidity (2500)	Phosphorus (0910)	Phosphorus (0910)	Phosphorus (0910)	Cyanide (0720)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO CAGÜTAS PRER14I	33.9	SD	NS 50055250	5	5	5	5	C, G, I, K	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)	Surfactants (0400) Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)	Total Coliforms (1700)	Surfactants (0400) Thermal Modifications (1400) Turbidity (2500)	Cyanide (0720) Surfactants (0400) Thermal Modifications (1400) Turbidity (2500)	Cyanide (0720) Surfactants (0400)
	RIO TURABO PRER14J	54.7	SD	NS 50054500 ED PR13093	4a	4a	5	5	C, 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)	Copper (0530) pH (1000) Turbidity (2500)				Arsenic (0510) Cyanide (0720) Surfactants (0400) Turbidity (2500)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO CAYAGUAS PRER14K	38.5	SD	NS 50051500 ED PR13002, PR13002R, PR13002D	4a	4a	5	5	C, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)					Arsenic (0510) Copper (0530) Cyanide (0720) Lead (0550) Surfactants (0400) Turbidity (2500)
	RIO EMAJAGUA PRER14L	8.5	SD	SPD - 50051000	4a	4a	5	5	C, F	Onsite Wastewater Systems (6500) Minor Industrial Point Sources (0120) Package Plants (Small Flow) (0230)					Arsenic (0510) Cyanide (0720) Surfactants (0400)
RIO HERRERA	RIO HERRERA PRER15A	17	SD	SPD - 50063065 ED PR13087	5	5	5	5	F, H, P	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500) Total Coliforms (1700)	Surfactants (0400) Turbidity (2500)			Low Dissolved Oxygen (1200)

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Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO ESPIRITU SANTO	RIO ESPIRITU SANTO PRER16A	53.9	SD	NS 50063800 ED PR1152	4a	4a	5	5	H, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)		Copper (0530) Lead (0550) Low Dissolved Oxygen (1200) pH (1000) Surfactants (0400) Turbidity (2500)	Copper (0530) Turbidity (2500)	Cyanide (0720) Surfactants (0400) Turbidity (2500)	Copper (0530) Cyanide (0720)
RIO MAMEYES	RIO MAMEYES PRER17A	35.6	SD	SPD - 50065650 ED PR13079	4a	4a	5	1	F, H, P	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200) pH (1000)			Low Dissolved Oxygen (1200)
QUEBRADA MATA DE PLATANO	QUEBRADA MATA DE PLATANO PREQ18A	4.0	SD	SPD - 50066500	5	5	5	1	F	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Surfactants (0400)			Fecal Coliforms (1700) Low Dissolved Oxygen (1200)

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO SABANA	RIO SABANA PRER19A	15.1	SD		4a	4a	5	1	F, J, M	Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500) Surfaces Mining (5100)					Low Dissolved Oxygen (1200)
QUEBRADA FAJARDO	QUEBRADA FAJARDO PREQ21A	10.0	SD		4a	4a	5	2	F, J, M	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 50072500 ED 1 PR13013	4a	4a	5	5	M, P	Confined Animal Feeding Operations (1640) Landfills (6300) Major Municipal Point Sources (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Surfactants (0400)	Cadmium (0520) Copper (0530) Lead (0550) Low Dissolved Oxygen (1200) Mercury (0560) Surfactants (0400) Turbidity (2500)	Copper (0530) Turbidity (2500)	Copper (0530) Cyanide (0720) Turbidity (2500)	Copper (0530) Cyanide (0720) Turbidity (2500)

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO DEMAJAGUA	RIO DEMAJAGUA PRER23A	2.8	SD	SPD - 50072700	4a	4a	5	1	M, Q	Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200) Surfactants (0400)			
QUEBRADA CEIBA	QUEBRADA CEIBA PREQ24A	5.0	SD	SPD - 50072810	4a	4a	5	1	F, M	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)	Low Dissolved Oxygen (1200) Surfactants (0400)			Low Dissolved Oxygen (1200)
QUEBRADA AGUAS CLARAS	QUEBRADA AGUAS CLARAS PREQ25A	4.8	SD		4a	4a	5	1	F, J, M	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	SPD - 50073225	4a	4a	5	1	F, M	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		4a	4a	5	1	F, J, M	Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)			Low Dissolved Oxygen (1200)

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)					
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>	
RIO BLANCO	RIO BLANCO PRER30A	45.0	SD		4a	4a	5	5	F, J, M	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)
	QUEBRADA PEÑA POBRE PREQ30B	13.4	SD		4a	4a	5	1	F, J, M	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)						Low Dissolved Oxygen (1200)
RIO ANTON RUIZ	RIO ANTON RUIZ PRER31A	16.9	SD	SPD - 50078510	4a	4a	5	1	M, Q	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200) Surfactants (0400)				
QUEBRADA FRONTERA	QUEBRADA FRONTERA PREQ32A	8.5	SD		4a	4a	5	1	F, J, M	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Major Municipal Point Sources (0210)		Low Dissolved Oxygen (1200)				Low Dissolved Oxygen (1200)

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO HUMACAO	RIO HUMACAO PRER33A	55.8	SD	NS 50082000 ED PR13073	5	5	5	5	H, P	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)	Copper (0530) Lead (0550) Surfactants (0400) Total Coliforms (1700) Turbidity (2500)	Total Coliforms (1700) Turbidity (2500)	Surfactants (0400)	Cyanide (0720) Surfactants (0400) Turbidity (2500)	Cyanide (0720) Turbidity (2500)
RIO CANDELERO	RIO CANDELERO PRER34A	10.4	SD		4a	4a	5	1	H, J, Q	Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)			
RIO GUAYANES	RIO GUAYANES PRER35A	62.0	SD	NS 50083500 50085000 ED PR13007 PR13023	5	5	5	5	H, P	Agriculture (1300) Landfills (6300) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Copper (0530) Lead (0550) Low Dissolved Oxygen (1200) pH (1000) Total Coliforms (1700) Turbidity (2500)	Copper (0530) Low Dissolved Oxygen (1200) Surfactants (0400) Thermal Modifications (1400) Turbidity (2500)			Copper (0530) Cyanide (0720) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO MAUNABO	RIO MAUNABO PRER37A	36.0	SD	NS 50091000	4a	4a	5	1	H	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)	Thermal Modifications (1400)	Thermal Modifications (1400)	Cyanide (0720) Thermal Modifications (1400)	Cyanide (0720)	Cyanide (0720)
QUEBRADA PALENQUE	QUEBRADA PALENQUE PRSQ41A	1.0	SD		4a	4a	5	1	J, M, O, Q	Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)			

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams															
Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO CHICO	RIO CHICO PRSR42A	14.6	SD	SPD - 50091800	4a	4a	5	5	M, O	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600)	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 PR13006	4a	4a	5	1	M, P	Onsite Wastewater Systems (6500)				Cyanide (0720)	Cyanide (0720)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO NIGUAS DE ARROYO	RIO NIGUAS DE ARROYO PRSR45A	21.0	SD		5	5	1	1	J, M, Q	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Package Plant (Small Flows) (0230) Urban Runoff/Storm Sewers (4000)		Total Coliforms (1700)			
RIO GUAMANI	RIO GUAMANI PRSR49A	22.0	SD		4a	4a	5	4c	J, M, O, Q	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	SPD - 50096010	4a	4a	5	4c	D, M, O	Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Surfactants (0400)		Low Dissolved Oxygen (1200)	
RIO SECO	RIO SECO PRSR51A	24.7	SD		4a	4a	5	4c	J, M, O, Q	Agriculture (1300) Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)			

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
QUEBRADA AMOROS	QUEBRADA AMOROS PRSQ52A	0.7	SD		4a	4a	5	4c	D, J, M, O, Q	Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)		Low Dissolved Oxygen (1200)	
QUEBRADA AGUAS VERDES	QUEBRADA AGUAS VERDES PRSQ53A	15.0	SD	SPD - 50099400	5	5	5	5	H, O, Q	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Nitrate+Nitrite (0990) Total Coliforms (1700)			
RIO NIGUAS DE SALINAS	RIO NIGUAS DE SALINAS PRSR54A	102.5	SD	NS 50102010 SPD - 50101600 ED PR13022	4a	4a	5	1	D, H, P	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)				Low Dissolved Oxygen (1200)	
RIO CAYURES	RIO CAYURES PRSR56A	5.0	SD	SPD - 50103100	4a	4a	5	2	M, O, Q	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200) Surfactants (0400)	Low Dissolved Oxygen (1200) Surfactants (0400)			

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO COAMO	RIO COAMO PRSR57A2	59.0	SD	NS 50106500	4a	4a	5	1	M	Agriculture (1300) Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Collection System Failure (0500) Minor Industrial Point Sources (0120)			Cyanide (0720) Thermal Modifications (1400)	Cyanide (0720)	Cyanide (0720) Thermal Modifications (1400)
	RIO CUYON PRSR57B	49.2	SD	SPD – 50106000 ED PR13084	4a	4a	5	5	L, M, P	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)	Low Dissolved Oxygen (1200)				Arsenic (0510) Cyanide (0720) Thermal Modifications (1400) Turbidity (2500)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO BUCANA-CERRILLOS	RIO BUCANA-CERRILLOS PRSR62A1	27.8	SD	NS 50114000 50114400	4a	4a	5	1	M	Onsite Wastewater Systems (6500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)			Cyanide (0720)	Cyanide (0720)	Cyanide (0720)
RIO PORTUGUES	RIO PORTUGUES PRSR63A	54.0	SD	NS 50114900 50115000 50116200	5	5	5	5	M	Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	pH (1000) Thermal Modifications (1400) Turbidity (2500)	Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)	Cyanide (0720) Turbidity (2500)	Turbidity (2500)	Cyanide (0720) Turbidity (2500)

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)					
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>	
RIO MATILDE - PASTILLO	RIO MATILDE - PASTILLO PRSR64A	43.2	SD		4a	4a	5	4c	J, M, O, Q	Agriculture (1300) Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Industrial Point Sources (0110) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Package Plant (small flow) (0230) Urban Runoff/Storm Sewers (4000)		Low Dissolved Oxygen (1200)				
RIO TALLABOA	RIO TALLABOA PRSR65A	59.6	SD		4a	4a	5	5	J, M, O, Q	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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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams															
Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO GUAYANILLA	RIO GUAYANILLA PRSR67A	60.0	SD	NS 50124700 ED PR13016	4a	4a	5	5	H, P	Agriculture (1300) Landfills (6300) Minor Industrial Point Source (0120) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Low Dissolved Oxygen (1200)	Low Dissolved Phosphorus (0910)	Phosphorus (0910)	Cyanide (0720) Low Dissolved Oxygen (1200) Phosphorus (0910)	Cyanide (0720)
RIO YAUCO	RIO YAUCO PRSR68A1	61.4	SD	SPD - 50128110	4a	4a	5	5	H, O, Q	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)	Phosphorus (0910) Turbidity (2500)			

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Table 54: 2014 Cycle 303(d) List – List of Rivers and Streams															
Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO LOCO	RIO LOCO PRSR69A1	92.4	SD	SPD - 50129600 ED- NOAA (N-30, N-33, N-34)	4a	4a	5	5	H, P	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) Turbidity (2500)	Low Dissolved Oxygen (1200)			Arsenic (0510) Cyanide (0720) Low Dissolved Oxygen (1200) Turbidity (2500) <i>Lead (0550)</i>
QUEBRADA ZUMBON	QUEBRADA ZUMBON PRWQ72A	1.7	SD	SPD - 50030050	4a	4a	5	4c	M, O, Q	Collection System Failure (0500) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Surfactants (0400)			
QUEBRADA GONZALEZ	QUEBRADA GONZALEZ PRWQ73A	1.8	SD		4a	4a	5	4c	J, M, O, Q	Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)			
QUEBRADA LOS PAJARITOS	QUEBRADA LOS PAJARITOS PRWQ74A	2.7	SD		4a	4a	5	4c	J, M, O, Q	Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)			

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Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO GUANAJIBO	RIO GUANAJIBO PRWR77A	119.3	SD	NS 50133600 50138000	5	5	5	5	H	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)	Total Coliforms (1700) Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Cyanide (0720) Low Dissolved Oxygen (1200) Turbidity (2500)	Cyanide (0720) Turbidity (2500)
	RIO ROSARIO PRWR77C	58.3	SD	NS 50136400 50136700	4a	4a	5	5	H	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)	Turbidity (2500)	Turbidity (2500) Pesticides (0200)	Cyanide (0720) Turbidity (2500)		Cyanide (0720) Turbidity (2500)

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Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO VIEJO PRWR77D	21.1	SD	NS 50135625	4a	4a	5	1	H	Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)			
	RIO DUEY Y RIO HOCONUCO PRWR77E	39.9	SD	SPD - 50135000	4a	4a	5	1	H, L	Agriculture (1300) Onsite Wastewater Systems (6500)					Cyanide (0720)
	RIO CUPEYES PRWR77G	8.0	SD	ED PR13072	4a	4a	5	1	H, P	Agriculture (1300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Pesticides (0200)			
CAÑO MERLE	CAÑO MERLE PRWK 78A	1.6	SD		5	5	5	4c	M, O, Q	Collection System Failure (0500) Surfaces Mining (5100) Urban Runoff/Storm Sewers (4000)		Low Dissolved Oxygen (1200) Surfactants (0400)			

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Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO YAGÜEZ	RIO YAGÜEZ PRWR79A	42.2	SD	NS 50138800 50139000	5	5	5	5	M	Agriculture (1300) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Total Coliforms (1700) Turbidity (2500)	Copper (0530) Lead (0550) Mercury (0560) Turbidity (2500)	Cyanide (0720) Turbidity (2500)		Cyanide (0720)
RIO GRANDE DE AÑASCO	RIO GRANDE DE AÑASCO PRWR83A	126.0	SD	NS 50143000 50144000 50146000	4a	4a	5	5	N	Agriculture (1300) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Turbidity (2500)	Cyanide (0720)	Cyanide (0720) Turbidity (2500)

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO CASEY PRWR83C	38.1	SD	SPD - 50145600	4a	4a	5	5	L, N	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)					Cyanide (0720) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)
	RIO HUMATA PRWR83D	13.3	SD	SPD - 50144900 ED PR13011	4a	4a	5	5	L, N, P	Agriculture (1300) Onsite Wastewater Systems (6500)	Turbidity (2500)				Cyanide (0720) Turbidity (2500) Lead (0550) Low Dissolved Oxygen (1200) <i>Cadmium (0520)</i> <i>Copper (0530)</i>

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO BLANCO PRWR83H	79.9	SD	SPD - 50142250 ED PR13015 PR13015R PR13015D 47	4a	4a	5	1	L, N, P	Agriculture (1300) Onsite Wastewater Systems (6500)					Cyanide (0720)
	RIO PRIETO PRWR83I	59.8	SD	SPD - 50142900	4a	4a	5	5	N	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Source (0120) Onsite Wastewater Systems (6500)		Pesticides (0200)		Turbidity (2500)	Cyanide (0720)
QUEBRADA LOS RAMOS	QUEBRADA LOS RAMOS PRWQ89A	6.9	SD		2	2	5	4c	D, J, O	Landfills (6300) Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)		Low Dissolved Oxygen (1200)	
QUEBRADA PILETAS	QUEBRADA PILETAS PRWQ91A	2.0	SD		2	2	5	4c	J, O, Q	Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)			

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO GUAYABO	RIO GUAYABO PRWR94A	43.1	SD	SPD – 50146400 50146550	4a	4a	5	5	D, M	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 50147600 50149100 ED PR13063 PR13081	5	5	5	5	N, 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)	Arsenic (0510) Copper (0530) Turbidity (2500)	Copper (0530) Lead (0550) Pesticides (0200) Surfactants (0400) Surfactants (0400) Total Coliforms (1700) Turbidity (2500)	Arsenic (0510) Copper (0530) Lead (0550) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Surfactants (0400) Turbidity (2500)	Arsenic (0510) Cyanide (0720) Lead (0550) Surfactants (0400) Turbidity (2500)

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Basin	Waterbody Name	Waterbody Size (Miles)	Class	2014 Monitoring Stations NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
	RIO CAÑO (RIO CAÑAS) PRWR95B	33.3	SD	SPD - 50148700	4a	4a	5	5	L, N	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)					Cyanide (0720) Turbidity (2500)
	QUEBRADA LA SALLE PRWQ95F	11.8	SD	SPD - 50147675	4a	4a	5	5	N, Q	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)		Pesticides (0200)			
	QUEBRADA GRANDE DE LA MAJAGUA PRWQ95H	5.6	SD	SPD - 50147595	4a	4a	5	5	L, N	Agriculture (1300) Onsite Wastewater Systems (6500)		Pesticides (0200)			Cyanide (0720)
	QUEBRADA SALADA PRWQ95I	7.9	SD	SPD - 50147475	4a	4a	5	1	L, N	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)					Cyanide (0720)
	RIO SONADOR PRWR95J	37.7	SD	SPD - 50147450	4a	4a	5	1	L, N	Agriculture (1300) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)					Cyanide (0720)

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Notes:

- A** - Watershed that has an approved TMDL for Río Cibuco, the TMDL was approved on September 2002, the pollutant was Fecal Coliforms
- B** - Watershed that has an approved TMDL for Río de la Plata, the TMDL was approved on September 2003, the pollutant was Fecal Coliforms
- C** - Watershed that has an approved TMDL for Río Grande de Loíza, the TMDL was approved on September 2007, the pollutant was Fecal Coliforms
- D** - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2008-303(d) list.
- E** - This watershed was always dry in this cycle
- F** - Watershed and sub watershed that were included in the 2006-303(d) list by a synoptic study and do not have permanent monitoring station.
- G** - Watershed that has an approved TMDL for Río Grande de Loíza a TMDL was approved on August 2007, the pollutant was Dissolved Oxygen
- H** - Watersheds that have approved TMDL on September 2012, the pollutant were Fecal Coliforms
- I** - Watershed that has an approved TMDL Río Grande de Loíza, the TMDL was approved on August 2007, the pollutant was Copper
- J** - If the Monitoring Station column is left blank, the Assessment Unit was not monitored for 2014 cycle
- K** - Watershed that has approved TMDL from Río Grande de Loíza, a TMDL was approved on August 2007, the pollutant was Ammonia
- L** - Remains in 2014 303(d) list due to old segmentation evaluation.
- M** - Watersheds that have approved TMDL on September 2011, the pollutant were Fecal Coliform
- N** - 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
Río Culebrinas
- O** - Watershed and subwatersheds who are or have been under Category 4c, are waterbodies that lack adequate flow, which impaired some of the designated uses.
- P** - External Data
- Q** - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2012 -303(d) list.
- R1** - Primary Contact Recreation
- R2** - Secondary Contact Recreation
- AL** - Aquatic Life
- DW** - Raw Source for Drinking Water

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Table 55: Size of waters Impaired by Causes (Monitored acres for Estuaries)	
Causes of Impairments	Size of Waters Impaired (Acres/Miles)
Surfactants (0400)	648.3 acres, 11.9 miles
Arsenic (0510)	23.29 acres
Cyanide (0720)	23.29 acres
Low Dissolved Oxygen (1200)	652.7 acres, 11.9 miles
Thermal Modifications (1400)	49.9 acres
Fecal Coliforms (1700)	49.1 acres
Total Coliforms (1700)	101.1 acres
Turbidity (2500)	187.6 acres, 11.9 miles

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Table 56: 2014 Cycle 303(d) List – List of Estuaries

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessments cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name Assessment Unit-ID	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessments Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO HERRERA PRER15A	RIO HERRERA PREE15A	65.28	SB		4a	4a	5	N/A	H, J, Q	Landfills (6300) Onsite Wastewater Systems (6500)		Surfactants (0400)			
RIO ESPIRITU SANTO PRER16A	RIO ESPIRITU SANTO PREE16A	368.51	SB		4a	4a	5	N/A	F, H, J	Major Municipal Point Sources (0210) Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200) Surfactants (0400)			Low Dissolved Oxygen (1200)
RIO DEMAJAGUA PRER23A	RIO DEMAJAGUA PREE23A	1.79	SB		4a	4a	5	N/A	F, J, M	Collection System Failure (0500)		Turbidity (2500)			
RIO CANDELERO PRER34A	RIO CANDELERO PREE34A	49.92	SB		4a	4a	5	N/A	F, H, J	Collection System Failure (0500)		Thermal Modifications (1400)			Low Dissolved Oxygen (1200)
RIO GUAYANES PRER35A	RIO GUAYANES PREE35A	23.29	SB		4a	4a	5	N/A	H, J	Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500)			Arsenic (0510) Turbidity (2500)	Arsenic (0510)	Arsenic (0510) Cyanide (0720)

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Table 56: 2014 Cycle 303(d) List – List of Estuaries

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessments cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name Assessment Unit-ID	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessments Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
CAÑO SANTIAGO PREK35.1	CAÑO SANTIAGO PREE35.1	73.72 11.9 miles	SB		4a	4a	5	N/A	F, H, J	Agriculture (1300) 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) Surfactants (0400) Turbidity (2500)			Low Dissolved Oxygen (1200)
RIO MATILDE- PASTILLO PRSR64A	RIO MATILDE- PASTILLO PRSE64A	27.64	SB		4a	4a	5	N/A	D, J, M, O	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Turbidity (2500)		Fecal Coliforms (1700)	
RIO TALLABOA PRSR65A	RIO TALLABOA PRSE65A	21.50	SB		2	2	5	N/A	J, M, Q	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Turbidity (2500)			
CAÑO MERLE	CAÑO MERLE PRWE78A	101.12	SB	SPD 50138265	5	5	5	N/A	M, O, Q	Collection System Failure (0500)	Surfactants (0400) Total Coliforms (1700)	Low Dissolved Oxygen (1200) Total Coliforms (1700)			

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Table 56: 2014 Cycle 303(d) List – List of Estuaries

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessments cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name Assessment Unit-ID	Waterbody Size (Acres/Miles)	Class	2014 Monitoring Stations SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessments Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
CAÑO BOQUILLA PRWK82	CAÑO BOQUILLAS PRWE82A	39.68	SB		2	2	5	N/A	J, O, Q	Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)			
QUEBRADA GRANDE CALVACHE PRWQ88A	QUEBRADA GRANDE CALVACHE PRWE88A	1.28	SB	SPD 50146150	5	5	5	N/A	D, O	Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700)	Low Dissolved Oxygen (1200)		Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	
RIO GUAYABO PRWR94A	RIO GUAYABO PRWE94A	18.43	SB		5	5	5	N/A	D, J, M	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:

- D** - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2008-303(d) list.
- F** - Watershed and sub watershed that were included in the 2006-303(d) list by a synoptic study and do not have permanent monitoring station.
- H** - Watersheds that have approved TMDL on September 2012, the pollutant were Fecal Coliforms
- J** - If the Monitoring Station column is left blank, the Assessment Unit was not monitored for 2014 cycle
- M** - Watersheds that have approved TMDL on September 2011, the pollutant were Fecal Coliform
- O** - Watershed and sub watershed who are or have been under Category 4c, are water bodies that lack adequate flow, which impaired some of the designated uses.
- Q** - Watershed and sub watershed that were monitored by a synoptic study and were included in the 2012 -303(d) list.
- R1** - Primary Contact Recreation
- R2** - Secondary Contact Recreation
- AL** - Aquatic Life
- DW** - Raw Source for Drinking Water

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Table 57: Size of waters Impaired by Causes San Juan Bay Estuary System	
Causes of Impairments	Size of Waters Impaired (Miles)
Surfactants (0400)	64.6 acres, 74.7 miles
Arsenic (0510)	18.8 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)	2,389.2 acres, 66.7 miles
Selenium (0570)	18.8 miles
Ammonia (0600)	64.6 acres, 55.9 miles
Cyanide (0720)	2,453.8 acres, 122.6 miles
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)	2,453.8 acres, 122.6 miles
Fecal Coliforms (1700)	2,389.2 acres, 47.9 miles
Enterococcus Bacteria (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)	2,389.2 acres, 66.7 miles

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Table 58: 2014 Cycle 303(d) List – List of San Juan Bay Estuary System

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Acres/Miles)	2014 Monitoring Station NS =Network ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessments Cycles)				
				R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance 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	18.8 mi	NS 070 071 072 ED-BSJ 1, 2, 3 LC 1, 2 CSA La Malaria PLE 50048580	5	5	5	N/A	H, P	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)	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Turbidity (2500)	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Turbidity (2500)	Low Dissolved Oxygen (1200) Oil & Grease (1900) Turbidity (2500)		Arsenic (0510) Copper (0530) Cyanide (0720) Lead (0550) Low Dissolved Oxygen (1200) Mercury (0560) pH (1000) Selenium (0570) Surfactants (0400) Thermal Modifications (1400)
ESTUARY SYSTEM	PREE13A2 Río Piedras Lago Las Curías	55.9 mi 64.6 acres	NS 89027 89028 50049100 50048800 ED-RP 01, 02, 03, RPN, Lago Las Curias ULTRA Project 2, 3, 4, 5,6, 9, 10 and CC	5	5	5	5	H, P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Landfills (6300) Major Industrial Point Sources (0110) Urban Runoff/Storm Sewers (4000)	Ammonia (0600) Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)	Ammonia (0600) Low Dissolved Oxygen (1200) Nitrate + Nitrite (0990) Oil & Grease (1900) pH (1000) Surfactants (0400) Lead (0550) Total Coliforms (1700) Turbidity (2500)	Ammonia (0600) Copper (0530) Cyanide (0720) Low Dissolved Oxygen (1200) Oil & Grease (1900) Surfactants (0400) Turbidity (2500)	Ammonia (0600) Copper (0530) Lead (0550) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)	Ammonia (0600) Copper (0530) Cyanide (0720) Low Dissolved Oxygen (1200) Surfactants (0400) Turbidity (2500)

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Table 58: 2014 Cycle 303(d) List – List of San Juan Bay Estuary System

Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Basin	Waterbody Name	Waterbody Size (Acres/Miles)	2014 Monitoring Station NS =Network ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessments Cycles)				
				R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance 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	2,389.2 acres 47.9 mi	NS 50050300 50049820 ED - CS 1, 2 CMP LSJ 1, 2 Blasina San Antón Laguna Los Corozos Laguna Torrecillas 1, 2, 3 Juan Méndez Laguna Piñones	5	5	5	N/A	P	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater System (6500) Urban Runoff/Storm Sewers (4000)	Fecal Coliforms (1700) Enterococcus Bacteria (1700) Low Dissolved Enterococcus Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)	Cadmium (0520) Copper (0550) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Bacteria (1700) Lead (0550) Low Dissolved Oxygen (1200) Mercury (0560) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Total Coliforms (1700) Turbidity (2500)	Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Turbidity (2500)	Fecal Coliforms (1700) Low Dissolved Oxygen (1200)	Cyanide (0720) Fecal Coliforms (1700) Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500)

Notes:

- H** - Watersheds that have approved TMDL on September 2012, the pollutant were Fecal Coliforms
- P** - 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 59: Size of waters Impaired by Causes (Monitored acres for Lagoons)	
Causes of Impairments	Size of Waters Impaired (Acres)
Copper (0530)	1,675
Cyanide (0720)	554
pH (1000)	813
Low Dissolved Oxygen (1200)	2,482
Enterococcus Bacteria (1700)	636
Thermal Modification (1400)	257
Turbidity (2500)	918

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Table 60: 2014 Cycle 303(d) List – List of Lagoons

Note: The 2014 303(d) List is comprised of the impairments included in assessment cycles 2014, 2012, 2010, and 2008.

Municipality	Waterbody Name	Assessment Unit (AU-ID)	Class	2014 Monitoring Stations NS = Network SS = Synoptic Studies ED = External Data	WB Size (Acres)	Designated Uses and Categories Summary			Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)			
						R1	R2	AL			2014	2012	2010	2008
MAYAGÜEZ	Laguna Joyudas	PRWN0005	SB	SS 50130305 50130035	339	4a	4a	5	M	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Natural Sources (8600)	Copper (0530) Low Dissolved Oxygen (1200)			
VEGA BAJA MANATÍ	Laguna Tortuguero	PRNN0006	SE	NS 50038200 SS 50038191 50038194	554	1	1	5		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)		Cyanide (0720)
DORADO	Laguna Mata Redonda	PRNN0007	SB	SS 50039850 50039840	15	1	1	5		Unknown Sources (9000)	Low Dissolved Oxygen (1200) pH (1000)			
FAJARDO	Laguna Aguas Prietas	PREN0011	SB	SS 50069550 50069500	128	1	1	5		Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) Turbidity (2500)			

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Table 60: 2014 Cycle 303(d) List – List of Lagoons														
<i>Note: The 2014 303(d) List is comprised of the impairments included in assessment cycles 2014, 2012, 2010, and 2008.</i>														
Municipality	Waterbody Name	Assessment Unit (AU-ID)	Class	2014 Monitoring Stations NS = Network SS = Synoptic Studies ED = External Data	WB Size (Acres)	Designated Uses and Categories Summary			Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)			
						R1	R2	AL			2014	2012	2010	2008
FAJARDO	Laguna Grande	PREN0012	SB	SS 50069620 50069600	216	5	5	5		Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200)			Low Dissolved Oxygen (1200) pH (1000)
CEIBA	Laguna Ceiba	PREN0013	SB	SS 50072940 50072950	120	5	5	5		Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Fecal Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) pH (1000)			
GUAYAMA	Laguna Pozuelo	PRSN0014	SB	SS 50098560 50098550	35	1	1	5		Urban Runoff/Storm Sewers (4000) Natural Sources (8600) Unknown Sources (9000)	Low Dissolved Oxygen (1200) pH (1000) Copper (0530) Thermal Modification (1400)			
SALINAS	Laguna Mar Negro	PRSN0015	SB	SS 50099800 50099830	208	1	1	5		Urban Runoff/Storm Sewers (4000) Natural Sources (8600)	Copper (0530) Low Dissolved Oxygen (1200) pH (1000)			

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Table 60: 2014 Cycle 303(d) List – List of Lagoons														
<i>Note: The 2014 303(d) List is comprised of the impairments included in assessment cycles 2014, 2012, 2010, and 2008.</i>														
Municipality	Waterbody Name	Assessment Unit (AU-ID)	Class	2014 Monitoring Stations NS = Network SS = Synoptic Studies ED = External Data	WB Size (Acres)	Designated Uses and Categories Summary			Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)			
						R1	R2	AL			2014	2012	2010	2008
SALINAS	Laguna Punta Arenas	PRSN0016	SB	SS 50099920 500099900	18	1	1	5		Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) Thermal Modification (1400) Turbidity (2500)			
SALINAS	Laguna Tiburones	PRSN0017	SB	SS 50099960 50099975	14	1	1	5		Landfills (6300) Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) pH (1000) Thermal Modification (1400) Turbidity (2500)			
PONCE	Laguna Salinas	PRSN0018	SB	SS 50119310 50119360	77	1	1	5		Inappropriate Waste Disposal (6350) Onsite Wastewater Systems (6500) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200)			
CABO ROJO	Laguna Salinas I (Fraternidad)	PRSN0019	SB	SS 50129855 50129860	294	1	1	5		Onsite Wastewater Systems (6500) Natural Sources (8600)	Copper (0530) Low Dissolved Oxygen (1200) Turbidity (2500)			

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Table 60: 2014 Cycle 303(d) List – List of Lagoons

Note: The 2014 303(d) List is comprised of the impairments included in assessment cycles 2014, 2012, 2010, and 2008.

Municipality	Waterbody Name	Assessment Unit (AU-ID)	Class	2014 Monitoring Stations NS = Network SS = Synoptic Studies ED = External Data	WB Size (Acres)	Designated Uses and Categories Summary			Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
						R1	R2	AL			2014	2012	2010	2008	
CABO ROJO	Laguna Cabo Rojo 2 (Candelaria)	PRSN0020	SB	SS 50129866 50129870	190	1	1	5		Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) Thermal Modification (1400) Turbidity (2500)				
CABO ROJO	Laguna Cabo Rojo 3 (El Faro)	PRSN0021	SB	SS 50129863 50129865	69	1	1	5		Natural Sources (8600) Unknown Sources (9000)	Copper (0530) Low Dissolved Oxygen (1200) Turbidity (2500)				
RINCÓN – CABO ROJO	Caño Boquerón	PRSN0022	SB	SS 50129950 50129945	183	1	1	5		Marinas and Recreational Boating (7900) Natural Sources (8600)	Copper (0530) Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500)				
CABO ROJO	Laguna Guaniquilla	PRSN0023	SB	SS 50130025 50130020	22	1	1	5		Unknown Sources (9000)	Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500)				

Notes:

- M** - Watersheds that have approved TMDL on September 2011, the pollutant were Fecal Coliforms.
- R1** - Primary Contact Recreation
- R2** - Secondary Contact Recreation
- AL** - Aquatic Life

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Table 61: Size of waters Impaired by Causes (Monitored acres/miles for Lakes)	
Causes of Impairments	Size of Waters Impaired (Acres/Miles)
Pesticides (0200)	2,133.0 acres, 48.8 miles
Surfactants (0400)	634.0 acres, 6.9 miles
Arsenic (0510)	1,194.0 acres, 21.9 miles
Copper (0530)	2,047.0 acres, 25.9 miles
Lead (0550)	713.0 acres, 7.2 miles
Cyanide (0720)	1,194.0 acres, 21.9 miles
Phosphorus (0910)	560.0 acres, 15.0 miles
pH (1000)	1,310.0 acres, 35.2 miles
Low Dissolved Oxygen (1200)	7,323.0 acres, 136.1 miles
Turbidity (2500)	1,413.0 acres, 19.0 miles

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Table 62: 2014 Cycle 303(d) List – List of Lakes															
Note: The 2014 303(d) List is comprised of the impairments included in assessments cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	WB Size (Acres/Miles)	Class	2014 Monitoring Station NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO GUAJATACA	LAGO GUAJATACA PRNL3A1	1000 ac. 2.6 mi	SD	NS 50010720 50010790 50011000	4a	4a	5	2	H	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)	Low Dissolved Oxygen (1200)
RIO GRANDE DE ARECIBO	LAGO DOS BOCAS PRNL17A1	634 ac. 6.9 mi	SD	NS 50025110 50027090 50025000 ED PR13086	4a	4a	5	5	N, P	Agriculture (1300) Confined Animal Feeding Operations (1640) Minor Industrial Point Sources (0120) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) pH (1000)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Arsenic (0510) Copper (0530) Cyanide (0720) Low Dissolved Oxygen (1200) Surfactants (0400)
RIO GRANDE DE ARECIBO	LAGO CAONILLAS PRNL27C1	700 ac. 11.8 mi	SD	NS 89001 89002 89003 50026050	4a	4a	5	5	N	Agriculture (1300) Onsite Wastewater Systems (6500) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200) Turbidity (2500)	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	N	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	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	5	N	Agriculture (1300) Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Pesticides (0200)	Low Dissolved Oxygen (1200)

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Table 62: 2014 Cycle 303(d) List – List of Lakes															
Note: The 2014 303(d) List is comprised of the impairments included in assessments cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	WB Size (Acres/Miles)	Class	2014 Monitoring Station NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO GRANDE DE MANATÍ	LAGO MATRULLAS PRNL ₂ 8C1	77 ac. 3.0 mi	SD	NS 89009 89010	4a	4a	5	2	N	Agriculture (1300) Confined Animal Feeding Operations (1640)	pH (1000) Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) pH (1000)	Low Dissolved Oxygen (1200) pH (1000)		pH (1000)
RIO DE LA PLATA	LAGO DE LA PLATA PREL ₁ 10A1	560 ac. 15.0 mi	SD	NS 50044400 50044950 50044850 ED PR13021	4a	4a	5	5	B, P	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Arsenic (0510) Cyanide (0720) Low Dissolved Oxygen (1200) Phosphorus (0910)
RIO DE LA PLATA	LAGO CARITE PREL ₂ 10A5	333 ac. 11.3 mi	SD	NS 50039900 50039950 ED 7	4a	4a	5	2	B, P	Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	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 ED PR13010	4a	4a	5	2	H, P	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)	Low Dissolved Oxygen (1200)

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Table 62: 2014 Cycle 303(d) List – List of Lakes															
Note: The 2014 303(d) List is comprised of the impairments included in assessments cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	WB Size (Acres/Miles)	Class	2014 Monitoring Station NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO GRANDE DE LOIZA	LAGO LOIZA PREL14A1	713 ac. 7.2 mi	SD	NS 50057500 50058800 50059000	4a	4a	5	5	C	Collection System Failure (0500) Confined Animal Feeding Operations (1640) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Copper (0530) Low Dissolved Oxygen (1200) Turbidity (2500)	Copper (0530) Lead (0550) Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)	
RIO GRANDE DE PATILLAS	LAGO PATILLAS PRSL43A1	312ac.	SD	NS 89022 89023 89024 89025	4a	4a	5	5	M	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	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	4a	4a	5	5	M	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)		Pesticides (0200)	
RIO JACAGUAS	LAGO GUAYABAL PRSL160A1	373 ac. 5.9 mi	SD	NS 89011 89012 89013	4a	4a	5	5	H	Agriculture (1300) Collection System Failure (0500) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)

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Table 62: 2014 Cycle 303(d) List – List of Lakes															
<i>Note: The 2014 303(d) List is comprised of the impairments included in assessments cycles 2014, 2012, 2010, 2008 and 2006.</i>															
Basin	Waterbody Name	WB Size (Acres/Miles)	Class	2014 Monitoring Station NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO JACAGUAS	LAGO TOA VACA PRSL260A1	836 ac. 31.5 mi	SD	NS 89014 89015 89016 ED PR13077	4a	4a	5	2	H, P	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	
RIO BUCANA-CERRILLOS	LAGO CERRILLOS PRSL62A1	700ac.	SD	NS 89032 89033 89034	4a	4a	5	2	M	Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)
RIO YAUCO	LAGO LUCHETTI PRSL68A1	266 ac. 14.0 mi	SD	NS 89017 89018 89019 ED PR13064	4a	4a	5	5	H, P	Agriculture (1300) Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200) pH (1000)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)
RIO LOCO	LAGO LOCO PRSL69A	69 ac. 1.5 mi	SD	NS 89020 89021	4a	4a	5	2	H	Onsite Wastewater Systems (6500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)	

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Table 62: 2014 Cycle 303(d) List – List of Lakes															
Note: The 2014 303(d) List is comprised of the impairments included in assessments cycles 2014, 2012, 2010, 2008 and 2006.															
Basin	Waterbody Name	WB Size (Acres/Miles)	Class	2014 Monitoring Station NS = Network SPD = Special Project Delisting ED = External Data	Designated Uses and Categories Summary				Notes	Potential Pollution Sources	Causes of Impairment (Assessment Cycles)				
					R1	R2	AL	DW			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
RIO GRANDE DE AÑASCO	LAGO GUAYO PRWL83H	285 ac. 12.7 mi	SD	NS 89004 89005 89006	4a	4a	5	5	N	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)	Low Dissolved Oxygen (1200) Pesticides (0200)	Low Dissolved Oxygen (1200)

- Notes:**
- B** - Watershed that has an approved TMDL for Río de la Plata, the TMDL was approved on September 2003, the pollutant was Fecal Coliforms
 - C** - Watershed that has an approved TMDL for Río Grande de Loíza, the TMDL was approved on September 2007, the pollutant was Fecal Coliforms
 - H** - Watersheds that have approved TMDL on September 2012, the pollutant were Fecal Coliforms
 - M** - Watersheds that have approved TMDL on September 2011, the pollutant were Fecal Coliform
 - N** - 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 Río Culebrinas.
 - P** - External Data
 - R1** - Primary Contact Recreation
 - R2** - Secondary Contact Re
 - AL** - Aquatic Life
 - DW** - Raw Source for Drinking Water

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Table 63: 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
pH (1000)	142.60
Low Dissolved Oxygen (1200)	191.50
Thermal Modifications (1400)	96.26
Enterococcus (1700)	97.40
Fecal Coliforms (1700)	15.62
Turbidity (2500)	233.41
Oil and Grease	82.42

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Table 64: 2014 Cycle 303(d) List – List of Coastal Shoreline													
Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.													
Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station EQB Network and ED=External Data	Designated Uses and Categories Summary			Notes	Potential Sources of Pollution	Causes of Impairment (assessment cycles)				
				R ₁	R ₂	AL			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
PRNC02 (Punta Sardina to Punta Manglillo)	14.10	SB	MAC-086, SBZ-006, MAC-047	5	5	5		Major Industrial Point Sources (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200)	Enterococcus Bacteria (1700)	
PRNC04 (Punta Morrillos to Punta Manatí)	13.66	SB	MAC-049, SBZ-008, SBZ-009, MAC-055	1	1	5		Collection System Failure (0500) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Upstream Impoundment (7350)	Turbidity (2500)	Turbidity (2500)			
PRNC08 (Punta Cerro Gordo to Punta Boca Juana)	7.32	SB	SBZ-013, SBZ-014, RW-18, MAC-061	1	1	5		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)					pH (1000)
PREC09 (Punta Boca Juana to Punta Salinas)	5.78	SB	MAC-077, RW-19	1	1	5		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		pH (1000) Low Dissolved Oxygen (1200)			pH (1000)

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Table 64: 2014 Cycle 303(d) List – List of Coastal Shoreline													
Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.													
Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station EQB Network and ED=External Data	Designated Uses and Categories Summary			Notes	Potential Sources of Pollution	Causes of Impairment (assessment cycles)				
				R ₁	R ₂	AL			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
PREC10B (Punta Salinas to Rio Bayamón Mouth)	2.91	SB	SBZ-016, MAC-063	5	5	5		Major Industrial Point Sources (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Turbidity (2500)	Low Dissolved Oxygen (1200)			Turbidity (2500)
PREC10C (Rio Bayamón Mouth to Isla de Cabras)	6.63	SB		3	3	5	B	Major Industrial Point Sources (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)					Turbidity (2500)
PREC11 (Isla de Cabras to Punta del Morro)	7.79	SC		5	5	5	B	Major Industrial Point Sources (0110) Major Municipal Point Sources (0210) Marinas and Recreational Boating (7900) Minor Municipal Point Sources (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)					Arsenic (0510) Copper (0530) Fecal Coliforms (1700) Low Dissolved Oxygen (1200)

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Table 64: 2014 Cycle 303(d) List – List of Coastal Shoreline														
Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.														
Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station EQB Network and ED=External Data	Designated Uses and Categories Summary			Notes	Potential Sources of Pollution	Causes of Impairment (assessment cycles)					
				R ₁	R ₂	AL			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>	
PREC12 (Punta del Morro to West side of Condado Bridge)	3.50	SB	SBZ-018, SBZ-019, RW-20B, RW-20A ED CariCoos Buoy B-	1	1	5	C	Urban Runoff/Storm Sewers (4000)		pH (1000)				
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		Marinas and Recreational Boating (7900) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)	pH (1000)				
PREC17 (Punta Miquillo to Punta La Bandera)	8.41	SB	MAC-009, RW-1A, RW-1C	1	1	5		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		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		Unknown Source (9000)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)				
PREC19 (Cabezas de San Juan to Punta Barrancas)	7.08	SB	MAC-078	1	1	5		Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Oil & Grease (1900) Turbidity (2500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)			

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Table 64: 2014 Cycle 303(d) List – List of Coastal Shoreline													
Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.													
Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station EQB Network and ED=External Data	Designated Uses and Categories Summary			Notes	Potential Sources of Pollution	Causes of Impairment (assessment cycles)				
				R ₁	R ₂	AL			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
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		Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500)	Low Dissolved Oxygen (1200)		
PREC27 (Punta Candelerito to Punta Guayanés)	3.74	SB		5	5	5	B	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)				Enterococcus Bacteria (1700) Fecal Coliforms (1700)	Turbidity (2500)
PREC28C (Punta Guayanés to Punta Quebrada Honda)	4.68	SC	MAC-012, MAC-013, SBZ-037	1	1	5		Major Industrial Point Source (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Turbidity (2500)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200)		Turbidity (2500)
PREC30 (Punta Tuna to Cabo Mala Pascua)	2.65	SB	MAC-082	1	1	5		Unknown Source (9000)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200) pH(1000) Turbidity (2500)			
PRSC31 (Cabo Mala Pascua to Punta Viento)	4.06	SB		5	5	3	B	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Upstream Impoundment (7350)				Enterococcus Bacteria (1700) Fecal Coliforms (1700)	Enterococcus Bacteria (1700)

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Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.

Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station EQB Network and ED=External Data	Designated Uses and Categories Summary			Notes	Potential Sources of Pollution	Causes of Impairment (assessment cycles)				
				R ₁	R ₂	AL			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
PRSC32 (Punta Viento to Punta Figuras)	6.16	SB	SBZ-040, RW-6, MAC-083, RW-7	5	5	5		Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Upstream Impoundment (7350)	Enterococcus Bacteria (1700) Turbidity (2500)		Enterococcus Bacteria (1700)	Enterococcus Bacteria (1700)	Enterococcus Bacteria (1700)
PRSC33 (Punta Figuras to Punta Ola Grande)	8.10	SB	MAC-017	1	1	5		Major Industrial Point Source (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)		Turbidity (2500)
PRSC34 (Punta Ola Grande to Punta Petrona)	40.96	SB	MAC-016, MAC-018, MAC-019, SBZ-042 ED - Stations 09, 10, 19 and 20 from Natural Reserve of Jobos Bay	5	5	5	A	Agriculture (1050) Major Industrial Point Sources (0110) Onsite Wastewater Systems (6500) Urban Runoff/Storms sewers (4000) Upstream Impoundment (7350)	Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Turbidity (2500)	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500)	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500)		Turbidity (2500)

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Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station EQB Network and ED=External Data	Designated Uses and Categories Summary			Notes	Potential Sources of Pollution	Causes of Impairment (assessment cycles)				
				R ₁	R ₂	AL			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
PRSC35 (Punta Petrona to Punta Cabullones)	16.19	SB	MAC-020 ED - CariCoos Buoy A	1	1	5	C	Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	Low Dissolved Oxygen (1200) Turbidity (2500)	Low Dissolved Oxygen (1200)	Low Dissolved Oxygen (1200)		
PRSC36C (Punta Carenero to Punta Cuchara)	6.70	SC	MAC-022, MAC-023	5	5	5		Major Municipal Point Source (0210) Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Oil & Grease (1900) pH (1000) Turbidity (2500)	Low Dissolved Oxygen (1200) pH (1000) Thermal Modifications (1400)			

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Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station EQB Network and ED=External Data	Designated Uses and Categories Summary			Notes	Potential Sources of Pollution	Causes of Impairment (assessment cycles)					
				R ₁	R ₂	AL			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>	
PRSC37C(Cayo Parguera to Punta Guayanilla)	4.20	SC	MAC-24 MAC-25	2	2	5		Major Municipal Point Sources (0210) Highway/Road/Bridge Construction (3100) Major Industrial Point Sources (0110) Surface Mining (5100) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Marinas and Recreational Boating (7900) Urban Runoff/Storm Sewers (4000)	Oil & Grease (1900) Turbidity (2500)					
PRSC38 (Punta Guayanilla to Punta Verraco)	13.20	SC	MAC-027, MAC-089, MAC-028 ED - Station PLSP4 from NOAA and PR Seismic Network	5	5	5	C	Major Municipal Point Sources (0210) Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Oil & Grease (1900) Thermal Modifications (1400) Turbidity (2500)	Low Dissolved Oxygen (1200) pH (1000) Turbidity (2500)	Low Dissolved Oxygen (1200)			Thermal Modifications (1400)

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Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.													
Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station EQB Network and ED=External Data	Designated Uses and Categories Summary			Notes	Potential Sources of Pollution	Causes of Impairment (assessment cycles)				
				R ₁	R ₂	AL			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
PRSC39 (Punta Verraco to Punta Ballena)	6.41	SB	MAC-030, G1	2	2	5		Unknown Source (9000)		Turbidity (2500)			
PRSC40 (Punta Ballena to Punta Brea)	13.26	SB	MAC-085, RW-9, MAC-034	1	1	5		Marinas and Recreational Boating (7900) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Turbidity (2500)	Low Dissolved Oxygen (1200) pH (1000) Thermal Modifications (1400) Turbidity (2500)			
PRSC41B2 (Bahía Fosforescente La Parguera to Punta Cueva de Ayala)	7.00	SB	SBZ-046 ED - Station MGIP4 from NOAA, & CariCoos	1	1	5	C	Landfill (6300) Marinas and Recreational Boating (7900) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)			Thermal Modifications (1400)		

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Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station EQB Network and ED=External Data	Designated Uses and Categories Summary			Notes	Potential Sources of Pollution	Causes of Impairment (assessment cycles)					
				R ₁	R ₂	AL			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>	
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		Collection System Failure (0500) Marinas and Recreational Boating (7900) Minor Municipal Point Source (0220) Onsite Wastewater Systems (6500)		Thermal Modifications (1400) pH (1000)				
PRWC48 (Punta Guanajibo to Punta Algarrobo)	5.60	SC	MAC-038, MAC-040 ED - NOAA and PR Seismic Network Station MGZP4	5	5	5	C	Onsite Wastewater Systems (6500) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000)	Enterococcus Bacteria (1700) Oil & Grease (1900) Thermal Modifications (1400) Turbidity (2500)	Low Dissolved Oxygen (1200)	Enterococcus Bacteria (1700) pH (1000)	Enterococcus Bacteria (1700)		
PRWC49 (Punta Algarrobo to Punta Cadena)	6.98	SB	MAC-041, RW-15	1	1	5		Major Municipal Point Sources (0210) Upstream Impoundment (7350) Urban Runoff/Storm Sewers (4000) Onsite Wastewater Systems (6500)		Low Dissolved Oxygen (1200) pH (1000)				

Puerto Rico 2014 305(b) and 303(d) Integrated Report

Table 64: 2014 Cycle 303(d) List – List of Coastal Shoreline													
<i>Note: The 2014 303(d) List is comprised of the causes of impairments included in assessment cycles 2014, 2012, 2010, 2008 and 2006.</i>													
Assessment Unit ID (AU)	Size of AU (miles)	Class	Monitoring Station EQB Network and ED=External Data	Designated Uses and Categories Summary			Notes	Potential Sources of Pollution	Causes of Impairment (assessment cycles)				
				R ₁	R ₂	AL			2014	2012	2010	2008	2006 <i>Parameter in italic and color noncompliance in 2004, but compliance in 2006</i>
PRWC52 (Punta del Boquerón to Punta Borinquén)	6.80	SB	MAC-043,SBZ-002, RW-16, RW-16A	1	1	5		Major Municipal Point Source (0210) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)		Low Dissolved Oxygen (1200)			
PRCC53(Culebra Island)	32.70	SB	RW-3 ED	2	2	5	D	Onsite Wastewater Systems (6500) Marinas and Recreational Boating (7900) Debris and Bottom Deposits (8520) Hazardous Waste (6600)			Turbidity (2500)		

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 2014 column is blank, the AU was not monitored for 2014 Cycle.

C- Monitoring Station of NOAA, PR Seismic Network and CariCoos (Caribbean Coastal Ocean Observing System)

D – External data. This AU PRCC53 has been included for the first time in the list in 2014. The information was submitted by Edwin Hernández-Delgado, University of Puerto Rico, Center for Applied Tropical Ecology and Conservation in October 2013.

The data is part of the following study: *Biological Characterization of Shallow-Water Coral Reef Communities Across a Water Quality Gradient with the Luis Peña Channel Natural Reserve, Culebra Island, Puerto Rico* published in the year 2009. This AU was included in the 303(d) list under the column of the year 2010 due to that the data included correspond to the assessment cycle 2010

APENDIX II Public Notice

AVISOS Y SUBASTAS

ESTADO LIBRE ASOCIADO DE
PUERTO RICO
JUNTA DE CALIDAD AMBIENTAL

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

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 los estándares de calidad de agua para cualquier uso designado cada dos años a la EPA. La lista de los cuerpos de agua impactados se conoce como la Lista 303(d). Los usos designados para las aguas de Puerto Rico son: contacto primario (natación), contacto secundario (pesca y paseo en botes), preservación de especies desahables (vida acuática) y abasto crudo de agua potable. Para los cuerpos de agua que no cumplan con la norma aplicable a algún uso designado, la Ley requiere que se implementen medidas de control para los contaminantes. Las medidas de control deben ser aquellas que atienden el problema causado por el incumplimiento al estándar aplicables al uso designado. Cada incumplimiento reflejado en la Lista 303(d) requiere el cálculo de la cantidad máxima del contaminante en incumplimiento que un cuerpo de agua puede recibir y aún así cumplir con los estándares de calidad de agua. Este cálculo se conoce como TMDL (por sus siglas en inglés). Los TMDL's incluyen reducciones para las fuentes de contaminación que están impactando al cuerpo de agua, las cuales cuando son alcanzadas, resultarán en el cumplimiento de los estándares de calidad de agua del cuerpo de agua impactado.

La Junta de Calidad Ambiental (JCA) ha desarrollado el borrador de la Lista 303(d), para el ciclo 2014. La JCA invita al público en general y agencias gubernamentales a participar en la Vista Pública y someter sus comentarios y recomendaciones. El borrador de la Lista de Cuerpos de Agua Impactados y la Metodología de Evaluación para el ciclo 2014 están disponibles para la revisión y evaluación del público. Estos documentos estarán disponibles a partir de la fecha de publicación de este aviso en la siguiente dirección electrónica: <http://www2.pr.gov/agencias/cal/areasprogramaticas/Evaluacion/Planificacion/Estrategica/Pages/default.aspx>; y en las siguientes oficinas:

Junta de Calidad Ambiental Área de Evaluación y Planificación Estratégica - Piso 3 Ala A Oficina 325 Edificio Agencias Ambientales Carretera 8838 Sector El Cinco, Río Piedras Teléfono: (787) 767-8181 Ext. 3550	Oficina Regional Guayama (JCA) Carr. 3, Km. 134.3 Bo. Algarrobo, Guayama Teléfono: (787) 864-0103	Oficina Regional de Mayagüez (JCA) Carr. 2, Km. 159, Suite 201 Mayagüez Teléfono: (787) 833-1188
Oficina Regional de Humacao (JCA) Edificio Popular Mortgage Ave. Boulevard del Río Ramal PR 3, Desvío Sur, Humacao Teléfono: (787) 285-2818	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 Arecibo (JCA) Calle San Bernardo 1595 Marginal Carr. 2, Km. 81.3, Arecibo Teléfono: (787) 830-0013

La Vista Pública correspondiente a la Lista 303(d) de aguas impactadas se celebrará el 17 de junio de 2014 en el Salón de Vistas Públicas del Piso 4, Ala B del Edificio de Agencias Ambientales Cruz A. Matos localizado en la Carretera Estatal 8838, Sector El Cinco en Río Piedras, San Juan, comenzando a las 9:00 a.m.

La Vista se extenderá mientras haya deponentes presentes. De no haber deponentes presentes una hora después de comenzada la Vista, la misma se declarará desierta y los trabajos serán levantados. Cualquier persona que desee presentar sus comentarios con respecto a la Lista 303(d) de aguas impactadas debe asistir a la vista pública y se le recomienda solicitar un turno por teléfono a la Oficina de Vistas Públicas de la JCA al número 787-767-8181, ext. 6149. Cualquier persona que no pueda asistir a la Vista Pública podrá someter sus comentarios escritos a la siguiente dirección:

Junta de Calidad Ambiental
Oficina de Vistas Públicas
Edificio Agencias Ambientales
Cruz A. Matos
1375 Ave. Ponce De León
San Juan, Puerto Rico 00926-2604
P.O. Box 11488 Santurce, Puerto Rico 00910
Fax: 787-767-4861

dentro del periodo de treinta (30) días a partir de la publicación de este aviso.


Laura M. Velez Velez
Directora Ejecutiva


JCA
JUNTA DE CALIDAD AMBIENTAL
COMUNIDAD DE PUERTO RICO

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.

COMMONWEALTH OF
PUERTO RICO
Environmental Quality Board

303(d) List
Water bodies that exceed Puerto Rico's Water Quality Standards

Section 303(d) of the Clean Water Act (CWA) of 1972, as amended, requires that the jurisdictions develop and submit a list of water bodies that do not meet the applicable water quality standards for designated uses every two years to EPA. The list of impaired waters is referred to as the "303(d) list." 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. For water bodies that do not meet the applicable standard for a designated use, the Act requires that the state develop control measures for pollutants. Control measures should address the problem that caused the non-compliance of the standard for the designated use. Each impairment reflected on the 303(d) list requires a calculation of the maximum amount of the impairing pollutant that a water body can receive and still meet water quality standards. This calculation is called the TMDL. TMDL's include reduction for pollution sources impacting the water body which, when achieved, will result in the attainment of the water quality standard in the impaired water body.

The Environmental Quality Board (EQB) has developed a draft 303(d) list, for the 2014 cycle. EQB invites the general public and government agencies to participate in the Public Hearing and submit comments and recommendations.

The draft 2014 List of Impaired Waters and Assessment Methodology are available for public review and evaluation. As of the publication date of this notice, these documents will be available at the following electronic address: <http://www2.pr.gov/agencias/cal/areasprogramaticas/Evaluacion/Planificacion/Estrategica/Pages/default.aspx>; and the locations listed below:

Environmental Quality Board Evaluation and Strategic Planning Area 3rd Floor, Suite 325 Cruz A. Matos Environmental Agencies Building San José Industrial Park, 1375 Ponce de León Ave. State Road 8838, Sector El Cinco, Río Piedras Telephone: (787) 767-8181 Ext. 3543	Ponce Regional Office (EQB) Regional Distribution Center 3198 Santiago de los Caballeros Ave. State Road 14, Suite 404, Ponce Telephone: (787) 840-4070
Humacao Regional Office (EQB) Popular Mortgage Building Boulevard del Río Ave. Ramal PR 3, South By Pass, Humacao Telephone: (787) 285-2818	Mayagüez Regional Office (EQB) State Road 2, Km. 159, Suite 201 Mayagüez Telephone: (787) 833-1188
Guayama Regional Office (EQB) State Road 3, Km. 134.3 Algarobos Ward, Guayama Telephone: (787) 864-0103	Arecibo Regional Office (EQB) San Patricio Ave. Road 2, Km. 81.0, Hato Abajo Ward, Arecibo Telephone: (787) 830-0013

The Public Hearing regarding the 303(d) List of Impaired Waters will be held on June 17, 2014 in the Environmental Quality Board, Public Hearing Hall, 4th Floor, Cruz A. Matos Environmental Agencies Building, 1375 Ponce de León Avenue, Urb. San José Industrial Park, San Juan, starting at 9:00 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. Any person that wishes to present comments with respect to the 303(d) List of Impaired Waters should attend the public hearing and are encouraged to request a turn in the Public Hearing Office of EQB by calling telephone (787) 767-8181 extension 6149. Any person who is unable to attend the public hearing is encouraged to submit written comments to the following address:

Environmental Quality Board
Public Hearing Office
Cruz A. Matos Environmental Agencies Building
1375 Ponce de León Ave.
San Juan, Puerto Rico 00926-2604
P.O. Box 11488, Santurce, Puerto Rico, 00910
Fax: 787-767-4861

within thirty (30) days following the publication of this notice.


Laura M. Velez Velez
Executive Director


EQB
ENVIRONMENTAL QUALITY BOARD
COMUNIDAD DE PUERTO RICO

This notice has been issued pursuant to Law 416 of September 22, 2004, as amended, Environmental Public Policy Act.

PRIMERA HORA miércoles 14 de mayo de 2014 483

APENDIX III Environmental Quality Board Determination
R-14-34-1