

ADDEMDUM TO THE PREQB'S PROPOSED 2008 303(d) LIST

In response to the comments issued by EPA on February 20, 2008 on the proposed 2008 303(d) List, we are submitting the current addendum.

Attached to this addendum are revised list for lakes, rivers and streams, estuaries and the San Juan Bay Estuary. These lists address the issues raised by EPA, in particular assessment units.

1) Data Solicitation

In developing the 303(d) lists, the Commonwealth is required to assemble and to evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of readily available data and information including waters for which water quality problems have been reported by government agencies, members of the public, or academic institutions. EPA has not received a copy of the data solicitation that EQB sent to federal agencies including but not limited to NOAA, USGS, USFWS, PRDOH, UPR. EPA requests that EQB provided a copy for our records. In addition, I have attached to this e-mail additional data that has been provided by EPA's Division of Environmental Science and Assessment for your consideration 1) Puerto Rico Water Quality Survey 2005 Data (as PR Streams PDF document) and 2006 bioassessment work which includes limited water quality parameters (as PRStreams 2006 Excel document).

Response from PREQB:

According to the Law 416 "Ley Sobre Politica Publica Ambiental", of September 22, 2004, PREQB has to submit, in an annual basis, to the Governor and Legislative Assembly a report of the environmental condition of Puerto Rico. According to established in the Law Number 416 of the 22 of September of 2004, PREQB must put under annually consideration of the Legislative Assembly and the Governor. The request of the information to the different governmental agencies is practically realized continuously by means of e-mails, telephone calls among others forms. This responsibility falls on the Evaluation and Strategic Planning Area.

However, after review and evaluated the additional information submitted by the EPA, we updated the information regarding the PRER14G2 – Río Valenciano and PRER14H – Río Bairoa assessment units.

2) Discrepancies between 2006 303(d) list and 2008 303(d) list

In comparing the approved 2006-303(d) list to the 2008 303(d) lists, there are water bodies listed in 2006 that are unaccounted for this 2008. In addition there are water bodies that are listed in both 2006 and 2008, but have causes of impairment that are

unaccounted for in 2008. these discrepancies have been highlighted in the attached excel document, "PR_2008_303d_Comment_Number_2.sxl"

Response from PREQB:

With respect to the issues pertaining to surfactants and MBAS, we believe these were addressed by the clarification provided with the definition of MBAS as established under Article 1 of the Puerto Rico Water Quality Standards and EPA's use of the terms MBAS and non – priority organics. The terms MBAS, non-priority organics and surfactants (anionic) all refers to the same group of compounds.

The 2008 303(d) List for Puerto Rico waters was reviewed taking in consideration the information provided in the aforementioned document. The Final 303(d) List is enclosed.

3) Delisting and TMDLS

The September 26, 2007 EPA approval of Puerto Rico's TMDLs for fecal coliform lists all water segments that may be delisted in 2008 due to the fecal coliform TMDL approval. However the 2008 303(d) list indicates the delisting of other segments that have not been approval by the EPA. Table I below indicates these segments:

Segment/Pollutant Combination from Puerto Rico Year 2006 Section 303(d) List	Segment ID
RIO GRANDE DE LOIZA/FECAL COLIFOMS	PRER14AI
RIO GRANDE DE LOIZA/FECAL COLIFOMS	PRER14AJ
RIO GRANDE DE LOIZA/FECAL COLIFOMS	PRER14AK
RIO GRANDE DE LOIZA/FECAL COLIFOMS	PRER14AL

In addition, the 2007 EPA approval of Puerto Rico's Fecal Coliform TMDLs document that are segments which should be delisted in 2008 due to fecal coliform TMDL development, which includes basin IDs: PRER14F, PRER14A1, PRER14L, PRER14I, PRER14J, PRER14K. These segments should be delisted in 2008 dor fecal coliform.

Response from PREQB:

All the recommendations expressed by EPA were incorporated in Sections C7.2-Delisting Criteria and C7.3-Priority ranking and TMDL Development Status of the 2008 Integrated Report.

4) Category 4B Waters

Finally, according to the amendment made to PREQB's Final 2006 303(d) List in July of 2007, there were several waters which were included in the 303(d) List that were previously listed in 2006 IR as Category 4B Coastal Waters. Although many of these segments/cause of impairment combinations that are missing without any delisting justification. Because segments under Category 4B need to be adequately justified, EPA requests that the justification be provided if EQB intends to keep these segments as Category 4B. Otherwise, the segment/cause of impairment combinations in Table 2 below must be added to the 2008-303(d) list.

Table 2: 2006 303(d) Listings Missing from 2008 List without Justification

Assessment Unit	Segment Name	Size (miles)	Cause	Source
PRSS0003j_00	CENTRAL AGUIRRE	3	pH	Major Industrial Point Sources, Onsite Wastewater Systems, Urban Runoff/Storm Sewers
PRES0002b_00	RIO LA PLATA AT MOUTH	3	pH	Land Disposal, Onsite Wastewater Systems, Urban Runoff/Storm Sewers
PRSS0003x_00	BAHIA DE GUAYANILLA	2.5	Thermal Modifications	Industrial Point Sources, Major Industrial Point Sources
PRSS0003z5_00	BALNEARIO DE CAÑA GORDA	3	Enterococcus	Land Disposal, Onsite Wastewater Systems

Response from PREQB:

In table 2, indicates that segments PRES0002b_00 and PRSS0003x_00 are not listed in 303(d) List. These segments are under Category 2, because there is insufficient monitoring data to make attainment determinations for Aquatic Life. We understand that it is not adequate to placed these segments in Category 5. At the same table includes that segment PRSS0003z5_00 has Enterococcus the cause of impairment. We review the evaluation for this parameter and it is in compliance. This segment should not be placed under Category 5.. The segment PRSS0003j_00, is also include in the table 2, with pH the cause of impairment. However, we review the 303(d) List and the water quality data, we found that Fecal Coliforms is the cause of impairment.

5) Jobos Bay

In the October 11, 2007 303(d) List Approval Letter, EPA recommends that during 2008 303(d) listing process, PREQB begin to acquire water quality data for the waters of Jobos Bay, review this data, as well as any additional data which may become

available, and evaluate the impairment status of these waters for future Section 303(d) lists. EPA requests that this information be included in the 2008 305(b)/303(d) Integrated Report.

Response from PREQB:

According to information obtained from Jobos Bay National Estuarine Reserve, the water quality data for the years 2006 and 2007 are in the validation process. As a result, these data can have changes during the process. The only data available for this cycle are from October to December 2005, so we consider that an adequate determination can't be made with only this water quality data. Therefore the segments must remain in the categories established.

**EPA Comments Regarding the PR 2008 Assessment Methodology
April 17, 2008**

Standards Team Comments

pp 4 - 6: Under Section A.1 which describes the applicable classifications, designated uses and criteria to protect those uses, both the description of "Class SC waters" and the criteria to protect the designated use of class SC waters in Table 2 (on page 6) are missing. This section should be revised to include both the description and the criteria. Also, as outlined below, please note that the enterococci criteria are applicable to all "coastal recreational" Class SC waters in Puerto Rico.

Response from PREQB:

The definition of SC waters will be included in Section A.1 and the corresponding information on Table 2.

p25: Waterbodies for primary and secondary recreation uses are being assessed based on the geometric mean of fecal coliform. It must be noted that the enterococci criteria are applicable to all "coastal recreational waters" in Puerto Rico (Classes SB and SC) and these waters should be assessed based upon these criteria. January 26, 2004 EPA completed rulemaking to establish a designated use and applicable water quality criteria (including the Class SB criteria for fecal coliform and the 1986 recommendations for enterococci) to protect primary contact recreation for all coastal waters which are classified by Puerto Rico as Class SC. In addition, on November 16, 2004, EPA completed a second rulemaking making the 1986 recommendations for enterococci applicable to all Class SB "coastal recreational" waters in Puerto Rico.

Response from PREQB

The evaluation of the coastal shoreline was re-evaluated and only two segments are included at the 2008 Cycle 303(d) List. Refers to the revised 2008 Cycle 303(d) List – Coastal Shoreline.

p26: The "10%" rule is an assessment tool which came out of previous versions of EPA's CALM guidance. It has created some problems in the past where criteria are written as "not to exceed." The gib question is how the National program currently views the 10% rule.

Response from PREQB:

Due to an error PREQB includes the wrong version of the language. Enclosed the wording for this section.

DESA Comment

EQB mentions in Section C3. Assessment Methodology, that of the 96 basins, 22 are monitored and that the assessment applies upstream to the entire basin. How does EQB justify the extrapolation? There is no information on placement of the sampling station(s) in the monitored basin.

Response from PREQB

The results obtained at each monitoring station are considered to be representative of the water quality upstream from the station location. In the absence of any other monitoring station upstream from a particular monitoring, we have taken the determination, from among the three possibilities (the same, better or worst) to assume the water quality to the same upstream as it is at the station. Under the same conditions, any of the other possibilities will be equally erroneous. The determination taken remains as such until monitoring upstream indicates otherwise.

**EPA Comments Regarding the PR 2008 303(d) List Addendum
April 21, 2008**

EPA Comment:

(1) I found that none of the waters in the second tab "Missing Water Bodies" in the spreadsheet "PR2008_303d_Comment_Number_2.xls" that was sent on 2/20 were added to the Addendum to the PREQB's Proposed 2008 303(d) list. I have reattached the spreadsheet for your reference.

Response from PREQB

EQB revised the information included on the spreadsheet provide by EPA and incorporated the corresponding assessment units reflecting that are included because not compliance during 2006 cycle.

The assessment unit PRER10A2 and PRER10H needs to be delisted due to the fact that the TMDL for the watershed was approved by EPA. Refers to Section [C7.2. Delisting Criteria enclosed](#)

EPA Comment:

(2) There were a few "Causes of Impairment" that are still missing or incorrectly noted as an italicized item. I have attached this short list in the spreadsheet "Addendum_Comments."

Response from PREQB

The corresponding corrections were completed. Refers to the revised 2008 Cycle 303(d) List – Rivers and Streams and 2008 Cycle 303(d) List – Lakes.

EPA Comment:

(3) The Delisting and TMDLs section indicates that segments with basin IDs: PRER14F, PRER14A1, PRER14L, PRER14I, PRER14J, PRER14K are delisting fecal coliform due to TMDL development. Therefore, the 303(d) List itself should reflect the delisting of fecal coliform.

Response from PREQB

The cause of impairment of fecal coliform was deleted in all assessment units that a TMDL was approved by EPA.

**EPA Comments Regarding the PR 2008 303(d) List Addendum
April 22, 2008**

EPA Comment:

(1) In table 2, indicates that segments PRES0002b_00 and PRSS0003x_00 are not listed in 303(d) List. These segments are under Category 2, because there is insufficient monitoring data to make attainment determinations for Aquatic Life. We understand that it is not adequate to placed these segments in Category 5. If it was listed in Category 5 in 2006, it must remain in Category 5 unless it falls in any of the Category 4 options.

Response from PREQB

For the segments PRSS0002b_00, and PRSS0003x_00 we made the correction for the 303(d) List to included them as part of cycle 2006. Refers to the 2008 Cycle 303(d) List – Coastal Shoreline.

EPA Comment:

- (2) At the same table includes that segment PRSS0003z5_00 has Enterococcus the cause of impairment. We review the evaluation for this parameter and it is in compliance. This segment should not be placed under Category 5. If it was listed in 2006, then it must be in compliance for 2 cycles before it can be delisted from Category 5. Therefore, it should be in italics, but remain in Category 5.

Response from PREQB

For the segment PRSS0003z5_00 the cause of impairment of Enterococcus was included in italics in order to reflect compliance during 2008 cycle but not compliance during 2006 cycle. Refers to the revised 2008 Cycle 303(d) List – Coastal Shoreline.

EPA Comment:

- (3) The segment PRSS0003j_00, is also include in the table 2, with pH the cause of impairment. However, we review the 303(d) List and the water quality data, we found that Fecal Coliforms is the cause of impairment. Does this mean that it was listed in error for pH in 2006? If this is the case, could you provide us with the data that shows pH meeting the standard in 2006?

Response from PREQB

On the segment PRSS0003j_00, we have committed an error reviewing the segment PRES0003j_00 and not the one in discussion. Is correct that pH was included as one of the causes for impairment for the segment in cycle 2006.

EPA Comment:

- (4) All waters that are in the 303(d) list must indicate that they are in Category 5 for the corresponding designated use. For example, if the cause of impairment meets in 2008, but didn't in 2006, it should be in italics yet still indicate that it is in Category 5 in 2008. (Phone Conversation 4/22)

Response from PREQB

All the corrections were performed.

**EPA Comments Regarding 4.28.08 Version of the Puerto Rico 2008
303(d) List
April 28, 2008**

I. Possible Change in Cause of Impairment Cell Header

When you indicate that a cause of impairment is in italics (not in compliance in 2006 but in compliance in 2008), does this mean that it is actually in compliance in 2008 or simply that it was not measured in 2008. Similarly, when you indicate that a cause of impairment is in italics and parenthesis (not in compliance in 2004 but in compliance in 2006), does this mean that the water has been in compliance for 2 cycles, 2006 and 2008 and is eligible for delisting? If the water segment is simply not tested in the given cycle, the language in the header should be changed to "not tested" instead of "in compliance".

Response from EQB:

In such cases you have that the assessment unit was not tested, but in some cases you have the situation that the assessment unit was tested and it is in compliance during 2008. If the column of the monitoring station it is in blank that indicates that it was not tested during 2008 cycle.

II. Water Segment Corrections

Estuaries

- 1) Rio Guayenes **PREE35A** is on the list twice (on pg 1 and pg 2).
- 2) In addition, Rio Guayenes **PREE35A** is missing cadmium from the 2006 list.

RIO GUAYANES PRER35A	RIO GUAYANES PREE35A	23.29	NS 50083500	5	5	5	N/A	Onsite Wastewater Systems (6500) Agriculture (1000)	Arsenic (0510) Fecal Coliform (1700) <i>Cyanide (0720)</i> <i>Low Dissolved Oxygen (1200)</i>
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Response from EQB: Corrected.

- 3) Rio Espiritu Santo **PREE16A** is also on the list twice. It should be on the list only once and with fecal coliform and low dissolved oxygen as the causes of impairment.

RIO ESPIRITU SANTO PRER16A	RIO ESPIRITU SANTO PREE16A	316.8	5	5	5	N/A	Minor Sources Onsite Systems (6500)	Municipal Wastewater (0220)	Point (0220)	<i>Fecal Coliforms (1700) Low Dissolved Oxygen (1200)</i>
RIO ESPIRITU SANTO PRER16A	RIO ESPIRITU SANTO PREE16A	51.71	5	3	3	N/A	Collection System Failure (0500) Minor Sources Onsite Systems (6500)	Municipal Industrial Wastewater (0110)	Point (0110)	<i>Fecal Coliforms (1700)</i>

Response from EQB: Corrected.

- 4) Caño Santiago **PREE35.1** is also on the list twice.
 5) Also in 2006, there is Caño Santiago **PREK34.1** for fecal coliform and low dissolved oxygen. Is this segment missing from the 2008 list or is **PREK34.1** the same as **PREE35.1**?

CAÑO SANTIAGO PREK35.1	CAÑO SANTIAGO PREE35.1	73.72				5	3	5	N/A	Major Sources Onsite Systems Agriculture (1000)	Industrial Wastewater (6500)	Point (0110)	<i>Fecal Coliforms (1700) Low Dissolved Oxygen (1200)</i>
CAÑO SANTIAGO PREK35.1	CAÑO SANTIAGO PREE35.1	11.9 miles				5	1	1	N/A	Urban Sewers Onsite Systems (6500) Major Sources (0210) Minor Sources (0120) Landfills (6300)	Runoff/Storm Wastewater (4000)	Point (0210)	<i>Fecal Coliforms (1700)</i>

Response from EQB: The correct number is PREK35.1.

Lakes

6) Is Lago Luchetti **PRSL68A1** on pg 3, suppose to be **PRSL68A?**

RIO YAUCO	LAGO LUCHETTI PRSL68A1	266 ac. 14.0 mi	NS 89017 89018 89019	5	1	5	1	Onsite Wastewater Systems (6500) Agriculture (1000)	Pesticides (0200) Low Disolved Oxygen (1200) Fecal Coliform (1700)
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Response from EQB: Corrected.

Rivers and Streams

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- 7) Missing Cyanide from 2006 listing in Rio Guajataca **PRNR3A2**
- 8) Copper was italicized in 2006 in Rio Guajataca **PRNR3A2**, therefore it needs to be in parenthesis if it is also in compliance in 2008.

	RIO GUAJATACA PRNR3A2	22	NS 50010500	5	5	5	5	Onsite Wastewater Systems (6500) Collection System Failure(0500) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210)	Arsenic (0510) Fecal Coliform (1700) Turbidity (2500) <i>Copper (0530)</i> <i>MBAS (0400)</i> <i>Lead (0550)</i>
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Response from EQB: Corrected.

- 9) Copper was italicized in 2006 for RIO GRANDE DE ARECIBO **PRNR7A1**, therefore it needs to be in parenthesis if it is also in compliance in 2008.

RIO GRANDE DE ARECIBO	RIO GRANDE DE ARECIBO PRNR7A1	31.4	NS 50029000 50027250 A1-B	5	1	5	5	Onsite Wastewater Systems (6500) Confined Animal Feeding Operations (1640) Urban Runoff/Storm Sewers (4000) Major Industrial Point Source (0110) Minor Industrial Point Source (0120)	Arsenic (0510) Low Dissolved Oxygen (1200) Fecal Coliform (1700) <i>Copper (0530)</i> <i>Cyanide (0720)</i> <i>MBAS (0400)</i> <i>Turbidity (2500)</i> <i>Lead (0550)</i>
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Response from EQB: Corrected.

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10) Rio Grande de Manati **PRNR8A1** did not have Cyanide in italics in 2006, therefore it should not be in parenthesis in 2008.

RIO GRANDE DE MANATÍ	RIO GRANDE DE MANATÍ PRNR8A1	31	NS 50038100	5	1	5	5	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Confined Animal Feeding Operations (1640) Major Municipal Point Source (0210) Collection System Failure(0500) Landfills (6300)	MBAS (0400) Arsenic (0510) Fecal Coliform (1700) Turbidity (2500) Copper (0530) Lead (0550) <i>(Cyanide (0720))</i>
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Response from EQB: Corrected.

11)Rio Grande de Manati **PRNR8A2** has MBAS listed twice

RIO GRANDE DE MANATÍ PRNR8A2	38.1	NS 50035500 50031200 SS 50031000 50032100	5	1	5	5	Confined Animal Feeding Operations (1640) Collection System Failure(0500) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	MBAS (0400) Arsenic (0510) Fecal Coliform (1700) Turbidity (2500) Copper (0530) Cyanide (0720) MBAS (0400) (Mercury (0560))
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Response from EQB: Corrected.

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12) Is RIO BUCANA-CERRILLOS **PRSR62A1** supposed to be **PRSR62A**?

RIO BUCANA-CERRILLOS	RIO BUCANA-CERRILLOS PRSR62A1	27.8	NS 50114000 SS 50114600	5	1	5	5	Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000) Surfaces Mining (5100)	Arsenic (0510) Cyanide (0720) Fecal Coliform (1700)
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Response from EQB: Corrected.

Coastal Shoreline

13) Segment **PRSS002b_00** was listed in 2006 and could not be found on the revised version of the coastal shoreline 303(d) list

Response from EQB: Corrected.

Definition of Class SC waters:

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

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

Table 2: Water Quality Standards for Specific Classifications

PARAMETER	SA	SB	SC	SD	SE
Chlorides	Note 1	-	-	250 mg/L	Note 1
Color	Note 1	Shall not be altered except by natural causes	Shall not be altered except by natural causes	15 Pt-Co.	Note 1
Dissolved Oxygen	Note 1	Not less than 5 mg/L	Not less than 4mg/L	Not less than 5 mg/L	Note 1
Enterococcus	Note 1	35 col/100 ml	35 col/100 ml (Note 2)	-	Note 1
Fecal Coliforms	Note 1	200 col/100 ml	200 col/100 ml (Note 2)	200 col/100 ml	Note 1
Other Pathogenic Organisms	Note 1	-	-	Free of Pathogens	Note 1
pH		7.3-8.5	7.3-8.5	6.0-9.0	Note 1
Sulfates	Note 1	2,800 mg/L	2,800 mg/L	250 mg/L	Note 1
Surfactants as MBAS		500 ug/L	500 ug/L	100 ug/L	Shall not be present
Taste and odor producing substances		Shall not be present	Shall not be present	Shall not be present	Note 1
Total Dissolved Solids	Note 1	-	-	500 mg/L	Note 1
Total Ammonia*	-	-	-	1mg/L at specific segments established in the WQSR	-
Total Coliforms		-	-	10,000 col/100 ml	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:

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

Note 2 – Water Quality Standard Regulations, Federal Register, Vol. 69, No. 16, Monday, January 26, 2004, Rules and Regulations, Page 3514.

C5. Water Quality Assessment by Designated Uses

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

1. Swimming (Primary Contact Recreation):

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

2. Secondary Contact Recreation:

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

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

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

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

Cadmium (Cd)	Nitrates + Nitrites (NO ₃ + NO ₂)
Copper (Cu)	Selenium (Se)
Cyanides (CN)	Silver (Ag)
Fluoride	Total Chromium (Cr)
Lead (Pb)	Total Phosphorus (P)
Mercury (Hg)	

~~For the non toxic substances (TP, NO₃ + NO₂, TP and F), when the percent of violations of the total monitoring values for the respective AU is less than or equal to 10%, the AU was considered as not being impaired. If the percent of violations exceeded 10%, the AU was considered as impaired for the RSDW use. Given that (1) the streams provide the raw water that is subsequently submitted to the required treatment processes, prior to its use in the public drinking water supply system, and (2) the PR Department of Health, which is the local agency with the responsibility to implement the Public Drinking Water Supervision Program in Puerto Rico, has not banned the use of any stream as RSDW, under normal conditions, we consider that the current assessment methodology addresses adequately the implementation of the current applicable water quality criteria. Normal conditions do not include extreme atmospheric conditions such as hurricanes or extreme draught, nor environmental emergencies, such as spills. These are conditions that may prompt the Department of Health to issue advisories on the use of streams as RSDW.~~

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

The aquatic life use support was determined on the basis of physical and chemical data obtained from the monitoring stations. At the present time PREQB's efforts to implement the current EPA developed Rapid Bioassessment Protocol (RBP) have not been successful. We have continued to participate with EPA in seeking different alternatives to determine if lower resolution of taxonomic identification provides useful relationships to determine if the RBP are applicable or not to the Caribbean waters. Currently, the ALUS was based on the physical/chemical data collected on a semi-annual frequency grab sampling during key periods (high and low flows) for all parameters applicable to this use as indicated in the PRWQSR.

In all cases, each parameter considered was evaluated strictly in accordance with the applicable standard.

The toxic parameters taken into consideration were:

Ammonia (NH ₃)	Mercury (Hg)	Selenium (Se)
Arsenic (As)	Silver (Ag)	Surfactants
Cadmium (Cd)	Total Chromium (Cr)	Copper (Cu)
Cyanides (CN)	Lead (Pb)	

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

~~Various conventional parameters were also evaluated using the percent of exceedance of the applicable water quality standard. If the percent of exceedance is equal or less than 10%, AU was classified as support for aquatic life use. The AU in which more than 10% of the data exceeded the standard was assessed as being non support for aquatic life use. The conventional parameters used for the assessment of aquatic life use support were:~~

Dissolved Woxygen (D)O)	Temperature
Turbidity (Lakes only)	pH

C7.2. [Delisting Criteria](#)

When an assessment unit previously listed parameter complied fully with the applicable water quality standard during the 2004 cycle and during the 2006 cycle, that specific parameter will be delisted from Category 5.

Also, PREQB delisted a specific parameter from the list when the Total Maximum Daily Load for the corresponding assessment unit was approved by EPA.

Follows the segment/pollutant combinations that PREQB require to be delisting from the 2006 cycle.

Table 1: Segment/Pollutant Combinations Removed (Delisting) from Puerto Rico Year 2006 Section 303(d) List

SEGMENT / POLLUTANT COMBINATION FROM PUERTO RICO YEAR 2006 SECTION 303(d) LIST	SEGMENT ID	SUMMARY RATIONALE FOR DELISTING OF SEGMENT / POLLUTANT COMBINATION
RÍO CIBUCO/FECAL COLIFORMS	PRNR9A	EPA approval of TMDL
RÍO CIBUCO/FECAL COLIFORMS	PRNR9B1	EPA approval of TMDL
RÍO CIBUCO/FECAL COLIFORMS	PRNR9B2	EPA approval of TMDL
RÍO CIBUCO/FECAL COLIFORMS	PRNR9C	EPA approval of TMDL
RÍO CIBUCO/FECAL COLIFORMS	PRNR9B3	EPA approval of TMDL
RÍO CIBUCO/FECAL COLIFORMS	PRNR9D	EPA approval of TMDL
RIO DE LA PLATA/FECAL COLIFORMS	PRER10A1	EPA approval of TMDL
RIO DE LA PLATA/FECAL COLIFORMS	PRER10A2	EPA approval of TMDL
RIO DE LA PLATA/FECAL COLIFORMS	PRER10A3	EPA approval of TMDL
RIO DE LA PLATA/FECAL COLIFORMS	PRER10A4	EPA approval of TMDL
RIO DE LA PLATA/FECAL COLIFORMS	PRER10E	EPA approval of TMDL
RIO DE LA PLATA/FECAL COLIFORMS	PRER10G	EPA approval of TMDL

SEGMENT / POLLUTANT COMBINATION FROM PUERTO RICO YEAR 2006 SECTION 303(d) LIST	SEGMENT ID	SUMMARY RATIONALE FOR DELISTING OF SEGMENT / POLLUTANT COMBINATION
RIO DE LA PLATA/FECAL COLIFORMS	PRER10H	EPA approval of TMDL
RIO DE LA PLATA/FECAL COLIFORMS	PRER10J	EPA approval of TMDL
RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14A1	EPA approval of TMDL
RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14A2	EPA approval of TMDL
RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14F	EPA approval of TMDL
RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14G1	EPA approval of TMDL
RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14G2	EPA approval of TMDL
RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14H	EPA approval of TMDL
RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14I	EPA approval of TMDL
RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14J	EPA approval of TMDL
RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14L	EPA approval of TMDL
RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14K	EPA approval of TMDL

C7.3. Priority Ranking and TMDL Development Status

In October of 1998, the PREQB in collaboration with the Natural Resources Conservation Service (NRCS) and EPA developed the document Puerto Rico Unified Watershed Assessment and restoration Activities (*“Evaluación de Cuencas y Actividades de Restauración para Puerto Rico”*). As a result of this initiative eighteen (18) main basins were identified as water bodies of high priority where the PREQB would implement restoration activities. These basins are detached next according to the corresponding region:

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

BASIN	REGION
Río Grande de Manatí	North
Río Guajataca	North
Río Coamo	South
Río Grande de Patillas	South
Río Guayanilla	South
Río Culebrinas	West
Río Grande de Añasco	West
Río Guanajibo	West
Río Yaguez	West

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

The List 303 (d) of 2002, the PREQB established a priority ranking to determine the sequence of development for restoration activities, including the development and implementation of the total maximum daily loads (TMDL). This priority ranking considered the priority of basins restoration and established three levels of priority. These are:

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

According, to the priority ranking established the PREQB in collaboration of EPA and others federal and state agencies worked together in order to

develop and implement the TMDL for those watersheds. The next table presents a summary of the TMDL development status in Puerto Rico.

Table 2: TMDL Development Status

SEGMENT/POLLUTANT	SEGMENT ID	PROJECT STATUS	PROJECTED TMDL SUBMITTAL DATE
1. RIO BAIROA/COPPER	PRER14H	IN DRAFT	Submitted to EPA on August 2007
2. RIO BAIROA/DISSOLVED OXYGEN	PRER14H	IN DRAFT	Submitted to EPA on August 2007
3. RIO CAGUITAS/COPPER	PRER14I	IN DRAFT	Submitted to EPA on August 2007
4. RIO CAGUITAS/DISSOLVED OXYGEN	PRER14I	IN DRAFT	Submitted to EPA on August 2007
5. RÍO CIBUCO/FECAL COLIFORMS	PRNR9A	Approved by EPA	
6. RÍO CIBUCO/FECAL COLIFORMS	PRNR9B1	Approved by EPA	
7. RÍO CIBUCO/FECAL COLIFORMS	PRNR9B2	Approved by EPA	
8. RÍO CIBUCO/FECAL COLIFORMS	PRNR9B3	Approved by EPA	
9. RÍO CIBUCO/FECAL COLIFORMS	PRNR9C	Approved by EPA	
10. RÍO CIBUCO/FECAL COLIFORMS	PRNR9D	Approved by EPA	
11. RIO DE LA PLATA/FECAL COLIFORMS	PRER10A1	Approved by EPA	
12. RIO DE LA PLATA/FECAL COLIFORMS	PRER10A2	Approved by EPA	
13. RIO DE LA PLATA/FECAL COLIFORMS	PRER10A3	Approved by EPA	
14. RIO DE LA PLATA/FECAL COLIFORMS	PRER10A4	Approved by EPA	
15. RIO DE LA PLATA/FECAL COLIFORMS	PRER10A5	Approved by EPA	
16. RIO DE LA PLATA/FECAL COLIFORMS	PRER10B	Approved by EPA	
17. RIO DE LA PLATA/FECAL COLIFORMS	PRER10C	Approved by EPA	
18. RIO DE LA PLATA/FECAL COLIFORMS	PRER10D	Approved by EPA	
19. RIO DE LA PLATA/FECAL COLIFORMS	PRER10E	Approved by EPA	
20. RIO DE LA PLATA/FECAL COLIFORMS	PRER10F	Approved by EPA	
21. RIO DE LA PLATA/FECAL COLIFORMS	PRER10G	Approved by EPA	
22. RIO DE LA PLATA/FECAL COLIFORMS	PRER10H	Approved by EPA	
23. RIO DE LA PLATA/FECAL COLIFORMS	PRER10I1	Approved by EPA	
24. RIO DE LA PLATA/FECAL COLIFORMS	PRER10I2	Approved by EPA	
25. RIO DE LA PLATA/FECAL COLIFORMS	PRER10J	Approved by EPA	
26. RIO DE LA PLATA/FECAL COLIFORMS	PRER10K	Approved by EPA	

SEGMENT/POLLUTANT	SEGMENT ID	PROJECT STATUS	PROJECTED TMDL SUBMITTAL DATE
27. RIO GRANDE DE ANASCO/FECAL COLIFORMS	PRWR83A	IN DRAFT	FY08
28. RIO GRANDE DE ANASCO/FECAL COLIFORMS	PRWR83B	IN DRAFT	FY08
29. RIO GRANDE DE ANASCO/FECAL COLIFORMS	PRWR83C	IN DRAFT	FY08
30. RIO GRANDE DE ANASCO/FECAL COLIFORMS	PRWR83D	IN DRAFT	FY08
31. RIO GRANDE DE ANASCO/FECAL COLIFORMS	PRWR83E	IN DRAFT	FY08
32. RIO GRANDE DE ANASCO/FECAL COLIFORMS	PRWR83F	IN DRAFT	FY08
33. RIO GRANDE DE ANASCO/FECAL COLIFORMS	PRWR83G	IN DRAFT	FY08
34. RIO GRANDE DE ANASCO/FECAL COLIFORMS	PRWR83H	IN DRAFT	FY08
35. RIO GRANDE DE ANASCO/FECAL COLIFORMS	PRWR83I	IN DRAFT	FY08
36. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7A1	IN DRAFT	FY08
37. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7A2	IN DRAFT	FY08
38. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7A3	IN DRAFT	FY08
39. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7B1	IN DRAFT	FY08
40. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7B2	IN DRAFT	FY08
41. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7C1	IN DRAFT	FY08
42. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7C2	IN DRAFT	FY08
43. RIO GRANDE DE ARECIBO/FECAL COLIFORMS	PRNR7C3	IN DRAFT	FY08
44. RIO GRANDE DE LOIZA/DISSOLVED OXYGEN	PRER14A2	IN DRAFT	Submitted to EPA on August 2007
45. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14A1	Approved by EPA	
46. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14A2	Approved by EPA	
47. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14F	Approved by EPA	
48. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14G1	Approved by EPA	
49. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14G2	Approved by EPA	
50. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14H	Approved by EPA	
51. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14I	Approved by EPA	
52. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER1JF	Approved by EPA	

SEGMENT/POLLUTANT	SEGMENT ID	PROJECT STATUS	PROJECTED TMDL SUBMITTAL DATE
53. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14K	Approved by EPA	
54. RIO GRANDE DE LOIZA/FECAL COLIFORMS	PRER14L	Approved by EPA	
55. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8A1	IN DRAFT	FY08
56. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8A2	IN DRAFT	FY08
57. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8A3	IN DRAFT	FY08
58. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8B	IN DRAFT	FY08
59. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8C1	IN DRAFT	FY08
60. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8C2	IN DRAFT	FY08
61. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8D	IN DRAFT	FY08
62. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8E1	IN DRAFT	FY08
63. RIO GRANDE DE MANATÍ/FECAL COLIFORMS	PRNR8E2	IN DRAFT	FY08
64. RIO GURABO/DISSOLVED OXYGEN	PRER14G1	IN DRAFT	Submitted to EPA on August 2007
65. RIO BAYAMON/FECAL COLIFORM	PRER12A1	TO BE DEVELOPED	FY09
66. RIO BAYAMON/FECAL COLIFORM	PRER12A2	TO BE DEVELOPED	FY09
67. RIO BAYAMON/FECAL COLIFORM	PRER12B	TO BE DEVELOPED	FY09
68. RIO HONDO/FECAL COLIFORM	PRER11A	TO BE DEVELOPED	FY09

Also, in coordination with EPA contractor we are ready to developed fecal coliforms for the rest of the island in the near future.