



COMMONWEALTH OF  
PUERTO RICO  
ENVIRONMENTAL QUALITY BOARD

# PERFORMANCE CRITERIA 2016-2017

Puerto Rico Environmental Quality Board  
Beach Monitoring and Public Notification Program

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## Acronyms

BAV	Beach Action Value
BMPNP	Beach Monitoring and Public Notification Area
DNER	Department of Natural and Environmental Resources
EPA	United States Environmental Protection Agency
ESPA	Evaluation and Strategic Planning Area
FY	Fiscal Year
ISO	Information System Office
SAPN	<i>Secretaría Auxiliar de Parques Nacionales, Departamento de Recreación y Deportes</i>
PBD	Public Beach District
PO	Press Officer
PREQB	Puerto Rico Environmental Quality Board
PREQB-ERLPR	Puerto Rico Environmental Quality Board-Environmental Research Laboratory
PRPB	Puerto Rico Planning Board
PSPD	Plans and Special Project Division
QA/QC	Quality Assurance and Quality Control
QAO	Quality Assurance Officer
QAPP	Quality Assurance Project Plan
SOP	Standard Operating Procedure
WQA	Water Quality Area

## Introduction

For the last 13 years, the Puerto Rico Environmental Quality Board (PREQB), through the Water Quality Area (WQA), has implemented the Beach Monitoring and Public Notification Program (BMPNP) in beaches of frequent use in Puerto Rico's Main Island, to protect the water quality by determining compliance with the Puerto Rico Water Quality Standards Regulation (PRWQSR); thereby, protecting the human health by achieving the primary contact recreation use (swimming). BMPNP is implemented to achieve the goals of the Beaches Environmental Assessment and Coastal Health Act (Beach Act), as of reducing the risk of recreational beach users to the exposure of diseases.

This document discusses the 11 performance criteria that must be met for the awarding of the Beach Grant<sup>1</sup>, for the implementation of coastal recreation monitoring and public notification program, namely: Risk-based Beach Evaluation and Classification Process; Tiered Monitoring Plan; Method Assessment Procedures; Monitoring Report Submission; Delegation of Monitoring Responsibilities; Public Notification and Risk Communication Plan; Actions to Notify the Public; Notification Report Submission; Delegation of Notification Responsibilities; Implementation Requirements for Adopting the 2012 RWQC into State and Tribal WQS and Identifying and Using a Beach Notification Threshold; Public Evaluation of Program.

For Fiscal Year (FY) 2016-2017, PREQB will continue implementing the BMPNP in 35 beaches of the 36 selected and approved by the United States Environmental Protection Agency (EPA) on October, 2013. As stated in the 2015-2016 Performance Criteria document, Playa Jauca-Santa Isabel was eliminated from the BMPNP, due to safety reasons. Sampling will continue to be carried out every two weeks; and sampling, analyses, and assessment for BMPNP will continue to focus only on the Puerto Rico water quality indicator for direct contact of *Enterococcus*, which is best suited for predicting the presence of pathogens that cause illness for marine waters. Since October 2015, the public notification has been issued based on the Beach Action Value (BAV) of 70 colonies/mL.

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<sup>1</sup> As required by EPA in its National Beach Guidance and Required Performance Criteria for Grants (2014).

If the BAV is exceeded, PREQB will continue notifying the public, through the agency's webpage and a public release notification, that the beach is not suitable for primary contact recreation. In addition, beach administrators and EPA will continue to be notified through an electronic mail. Beach administrators are responsible for notifying the public when the BAV is exceeded. This notification could be done by updating the sign on the beach and hoisting the Yellow Flag when the BAV is exceeded.

Effectiveness of the notification process will continue to be evaluated through a survey that will be posted in PREQB's webpage, which shall be answered by the general public (including administrators). In addition, the survey will be conducted on visits that will be carried out on various beaches. Likewise, effectiveness will be assessed by surveying mass media editors.

## Performance Criteria

### **Performance Criterion 1: Risk-based Beach Evaluation and Classification Process**

#### Coastal Recreational Waters Identification

For Fiscal Year (FY) 2016-2017, PREQB will continue implementing the BMPNP in 35 beaches of the 36 selected and approved by EPA on October, 2013. Due to safety reasons, Playa Jauca-Santa Isabel was eliminated from the BMPNP. To identify coastal recreation waters, PREQB evaluated the Department of Natural and Environmental Resources (DNER) Bathing Zones Inventory (2007)<sup>2</sup>, which consists of coastal areas of Puerto Rico suitable for bathing and passive recreation that are classified as public beaches by the *Reglamento Número 4*<sup>3</sup> of the Puerto Rico Planning Board (PRPB). In addition, PREQB evaluated bathing areas that are not classified as Public Beach District (PBD) and are not included in the inventory, namely: Playa Lucía - Yabucoa, Playa Jobos - Isabela, Las Criollas- Barceloneta, Parque Colón - Aguadilla, Punta Caracoles - Arecibo, Boca de Cangrejos - Loíza, Playa Almirante - Añasco, and Playa Sixto Escobar - San Juan.

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<sup>2</sup> *Inventario de áreas para bañistas* (Marzo 2007)

<sup>3</sup> *Reglamento de Zonificación de Puerto Rico del 16 de septiembre de 1992*, as amended as *Reglamento de Calificación de Puerto Rico del 11 de enero de 2009*.

## “BEACH Act” Beaches Identification

To identify “BEACH Act” Beaches, in FY 2014-2015, PREQB inspected the PBDs to determine if they were suitable for recreation activities. As result, the following coastal areas were excluded: Húcares - Naguabo, Laguna del Condado-San Juan, Peñon Brusy - Camuy, Parque Colón- Aguadilla, Punta Caracoles - Arecibo, Boca de Cangrejo - Loíza, Las Salinas - Cabo Rojo, and Playa Lucía - Yabucoa. On the other hand, in FY 2015-2016 Playa Jauca-Santa Isabel was eliminated from the BMPNP, since sampling activities in this beach could compromise the safety of the Sampling Officers. The following list includes PBDs and other coastal areas identified as “BEACH Act” Beaches.

Table 1: “BEACH Act” Beaches List

Balneario de Patillas - Patillas	Playa Azul - Luquillo
Balneario La Monserrate - Luquillo	Playa Jobs - Isabela
Playa Santa - Guánica	Villa La Mela - Cabo Rojo
Balneario de Puerto Nuevo - Vega Baja	Las Criollas - Barceloneta
Balneario Manuel “Nolo” Morales or Sardinera - Dorado	Ocean Park - San Juan
Balneario Seven Seas - Fajardo	Mar Chiquita - Manatí
Balneario Cerro Gordo or Javier Calderón Nieves- Vega Alta	Playa Almirante - Añasco
Balneario Crash Boat - Aguadilla	Balneario de Salinas - Salinas
Balneario de Rincón - Rincón	Playa Sixto Escobar - San Juan
Playa Buyé - Cabo Rojo	Playa de Ponce (Hilton) - Ponce
Balneario El Escambrón - San Juan	Cayo Obispo - Fajardo
Balneario Flamenco - Culebra	Cayo Palomino - Fajardo
Pico de Piedra - Aguada	Cayo Icacos - Fajardo
Playa El Combate - Cabo Rojo	Balneario Media Luna - Vieques
Balneario Punta Salinas - Toa Baja	Caja de Muertos - Ponce
Balneario de Añasco (Tres Hermanos) - Añasco	Cayo Ratones - Joyuda
Balneario de Carolina - Carolina	Playita Rosada - Lajas
Balneario Sun Bay - Vieques	Tropical Beach - Naguabo
Balneario Boquerón - Cabo Rojo	Balneario Punta Santiago - Humacao
Caña Gorda - Guánica	Pine Grove - Carolina
Playa Moja Casabe - Cabo Rojo	Playa Guayanés - Yabucoa
Balneario Punta Guilarte - Arroyo	Vacía Talega - Loíza
Playita del Condado - San Juan	Holiday Inn - Carolina
Muelle de Arecibo	

## Beach Characterization to Determine Risk and Use

Characterization of the beaches to determine risk and use was based on the following factors(2014-2015 Performance Criteria): PBDs, frequency of use by local bathers and tourists, activities carried out, public sanitation facilities, location of pollution sources (point and non-point), and exceedance of water quality standard, as well as its accessibility and appropriateness for bathing activities. A value was assigned to every factor, which were added to determine beaches with higher usage by the public and potential risk of adverse public health. Appendix 1 includes the characterization list for determining risk and use of the beaches.

## Beach Ranking by Tiers

After evaluating the Beach Characterization List, PREQB decided to still rank the 35 beaches that could be included in the Beach Program as Tier 1, since in Puerto Rico there is no significant season variability through the whole year and there is a high beach usage in all PBDs and other coastal areas. (See Table 2). In addition, it should be pointed out that, these beaches still have exceeded the *Enterococcus* water quality standard. No more beaches could be included in the program due to economic or accessibility limitations.

Table 2: Beach Ranking by Tiers

Rank #	Name	Monitoring and Considerations
<b>Program Beaches</b>		
<b>Tier 1</b>		
1	Balneario de Patillas - Patillas	PBD of high use; Nearby pollution sources (livestock enterprises, waste water discharges, pumping stations, and septic tanks); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
2	Balneario La Monserrate - Luquillo	PBD of high use; Nearby pollution sources (businesses, pumping stations, and septic tanks); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology

Rank #	Name	Monitoring and Considerations
3	Playa Santa - Guánica	PBD of high use; Nearby pollution sources (livestock enterprises, waste water discharges, pumping stations, and septic tanks); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
4	Balneario de Puerto Nuevo - Vega Baja	PBD of high use; Nearby pollution sources (businesses, wastewater discharges, and septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
5	Balneario de Manuel "Nolo" Morales or Sardinera - Dorado	PBD of high use; Pollution sources (industries, businesses, and septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
6	Balneario Seven Seas - Fajardo	PBD of high use; Nearby pollution sources (businesses, pumping station, and septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
7	Balneario Crash Boat - Aguadilla	PBD of high use; Nearby pollution sources (businesses, wastewater discharges, and septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
8	Balneario de Rincón - Rincón	PBD of high use; Nearby pollution sources (industries, businesses, and septic tanks); Exceedance of water quality standard ; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
9	Playa Buyé - Cabo Rojo	PBD of high use; Pollution sources (pumping station and septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
10	Balneario Cerro Gordo or Javier Calderón Nieves - Vega Alta	PBD of high use; Pollution sources (businesses and septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology

Rank #	Name	Monitoring and Considerations
11	Balneario Punta Salinas – Toa Baja	PBD of high use; Nearby pollution sources (businesses, and septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
12	Pico de Piedra - Aguada	PBD of high use; Nearby pollution sources (businesses and septic tanks); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
13	Balneario El Escambrón - San Juan	PBD of high use; Nearby pollution sources (businesses and pumping station); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
14	Playa El Combate - Cabo Rojo	PBD of high use; Nearby pollution sources (businesses and pumping station); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
15	Playa Moja Casabe - Cabo Rojo	PBD of high use; Nearby pollution sources (businesses and septic tanks); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
16	Balneario Boquerón - Cabo Rojo	PBD of high use; Nearby pollution sources (businesses and pumping station); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
17	Balneario de Añasco (Tres Hermanos) - Añasco	PBD of high use; Nearby pollution sources (businesses and pumping station); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
18	Balneario de Carolina - Carolina	PBD of high use; Nearby pollution sources (businesses and pumping station); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
19	Caña Gorda - Guánica	PBD of high use; Nearby pollution sources (pumping station); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology

Rank #	Name	Monitoring and Considerations
20	Playita Rosada - Lajas	PBD of high use; Nearby pollution sources (septic tanks); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
21	Balneario Punta Guilarte - Arroyo	PBD of high use; Nearby pollution sources (businesses and pumping station); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
22	Tropical Beach - Naguabo	PBD of high use; Nearby pollution sources (businesses and pumping station); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
23	Balneario Punta Santiago - Humacao	PBD of high use; Nearby pollution sources (businesses); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
24	Playa Guayanés - Yabucoa	PBD of high use; Nearby pollution sources (businesses and septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
26	Playita del Condado - San Juan	PBD of high use; Nearby pollution sources (businesses); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
26	Vacía Talega - Loíza	PBD of high use; Nearby pollution sources (septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
27	Ocean Park - San Juan	PBD of high use; Nearby pollution sources (businesses and pumping stations); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
28	Playa Azul - Luquillo	PBD of high use; Nearby pollution sources (businesses and pumping stations); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
29	Mar Chiquita - Manatí	PBD of high use; Nearby pollution sources (businesses and septic tanks); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology

Rank #	Name	Monitoring and Considerations
30	Playa de Ponce (Hilton) - Ponce	PBD of high use; Nearby pollution sources (businesses); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
31	Villa La Mela - Cabo Rojo	PBD of moderate use; Nearby pollution sources (septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
32	Playa Almirante - Añasco	PBD of moderate use; Nearby pollution sources (pumping station); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
33	Balneario de Salinas - Salinas	PBD of low use; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
34	Muelle de Arecibo	Coastal area of high use; Nearby pollution sources (businesses); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
35	Playa Sixto Escobar - San Juan	Coastal area of high use; Nearby pollution sources (businesses and wastewater discharges); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology
<b>Non-Program Beaches</b>		
36	Playa Jauca - Santa Isabel	PBD of high use; Nearby pollution sources (businesses and septic tanks systems); Exceedance of water quality standard; Frequency of sampling: every two weeks; Analytical method: Defined Substrate Technology. Although this beach was ranked in the 26 <sup>th</sup> position in the Characterization List of FY 2014-2015, it is not included in the BMPNP anymore, due to the fact that sampling activities in this beach could compromise the safety of the Sampling Officers.

Rank #	Name	Monitoring and Considerations
37	Balneario Sun Bay - Vieques	PBD of high use; Nearby pollution sources (businesses, livestock enterprises, and septic tanks systems); Low exceedance of water quality standard. Not included in the program due to accessibility limitations. Nevertheless, samples are analyzed in PREQB-ERLPRPR, through a collaborative agreement between PREQB and <i>Secretaría Auxiliar-Programa de Parques Nacionales</i> (SAPN), ascribed to <i>Departamento de Recreación y Deportes</i> .
38	Balneario Flamenco - Culebra	PBD of high use; Nearby pollution sources (businesses and septic tanks systems); low exceedance of water quality standards. Not included in the program due to accessibility limitations. Nevertheless, a collaborative project between PREQB and the Municipality of Culebra was carried out from January through June 2016 in which PREQB-ERLPR analyzed 20 samples. Not a single result exceeded the BAV.
39	Caja de Muertos-Ponce	PBD of high use; Nearby pollution sources (businesses, livestock enterprises, and septic tanks systems); Low exceedance of water quality standard. Not included in the program due to accessibility limitations. Nevertheless, samples are analyzed at PREQB-ERLPR, through a collaborative agreement between PREQB and DNER.
40	Balneario Media Luna - Vieques	PBD of moderate use; Nearby pollution sources (businesses, livestock enterprises, and septic tanks systems); Low exceedance of water quality standard. Not included in the program due to accessibility limitations and economic constraints.
41	Playa Jobos - Isabela	Coastal area of moderate use; Nearby pollution sources (businesses and septic tanks systems); Low exceedance of water quality standards. Not included in the program due to resources limitation. Nevertheless, this beach is monitored as part of the Puerto Rico Coastal Water Quality Monitoring Network, through which sampling is performed every two months.
42	Las Criollas - Barceloneta	Coastal area of moderate use; Nearby pollution sources (businesses and septic tanks systems); Low exceedance of water quality standards. Not included in the program due to resources limitation. Nevertheless, this beach is monitored as part of the Puerto Rico Coastal Water Quality Monitoring Network, through which sampling is performed every two months.

Rank #	Name	Monitoring and Considerations
43	Cayo Icacó - Fajardo	PBD of low use. Not included in the program due to accessibility limitations and economic constraints.
44	Cayo Obispo - Fajardo	PBD of low use. Not included in the program due to accessibility limitations and economic constraints.
45	Cayo Palomino - Fajardo	PBD of low use. Not included in the program due to accessibility limitations and economic constraints.
46	Cayo Ratones - Joyuda	PBD of low use. Not included in the program due to accessibility limitations and economic constraints.

### List of Beaches

Table 3 contains the List of Beaches included in FY 2016-2017 BMPNP, which are the ones included in FY 2015-2016. These beaches will continue to be monitored every two weeks (Monday or Tuesday, depending on the route), throughout the year, since in Puerto Rico, the season variability through the whole year is not significant and local bathers and tourists visit the beaches frequently. When the results of a routine sampling exceed the BAV, PREQB will continue notifying the beach administrator via an electronic notification (email) and the general public (through a public release notification and PREQB's webpage) that the beach is not suitable for primary contact recreation. Notification remains in effect until resampling indicates that the beach notification threshold is no longer been exceeded. Re-sampling will be performed one week from the day of exceedance (Monday or Tuesday). Beach administrators are responsible for notifying the public when the BAV is exceeded. This notification could be done by updating the sign on the beach and hoisting the Yellow Flag when the BAV is exceeded.

Table 3: List of Beaches

Beach Name	Location	AU ID	Classification	Station ID and Location	Coordinates
<b>Route 1: Dorado - Loíza</b>					
Balneario Manuel "Nolo" Morales or Sardinera	Road PR-693 Int. PR-697, Costas de Oro, Dorado	PRNC08	SB	RW-18 At the front of the administration building.	18°28'28.90" 66°16'51.21"
Balneario Punta Salinas	Road PR-165, Levittown, Toa Baja	PRNC09	SB	RW-19 At the front of the administration building.	18°28'17.97" 66°11'09.58"
Balneario El Escambrón	Muñoz Rivera Ave., Stop 8, Puerta de Tierra, San Juan	PREC12	SB	RW-20A At the front of the showers and lifeguard stand.	18°28'02.05" 66°05'23.85"
Playa Sixto Escobar	Muñoz Rivera Ave., Stop 8, Puerta de Tierra, San Juan	PREC12	SB	RW-25A At the center of the bathers area.	18°28'00.23" 66°05'12.00"
Playita del Condado	Ashford Ave., west to El Condado Plaza Hotel, San Juan	PRC13	SB	RW-26 At the center of the bathers area.	18°27'40.07" 66°04'56.67"
Ocean Park	General Patton Street, San Juan	PREC13	SB	RW-27 At the center of the bathers area.	18°27'10.84" 66°02'55.97"
Playa El Alambique	Isla Verde Ave., José M. Tartak Street, Carolina	PREC14	SB	RW-28 At the center of the bathers area.	18°26'38.73" 66°01'19.74"
Balneario de Carolina	Road PR-187, Boca de Cangrejos, Carolina	PREC14	SB	RW-21C At the center of the bathers area.	18°26'45.56" 66°00'12.86"
Vacía Talega	Road PR-187, Loíza	PREC15	SB	RW-29 At the center of the bathers area.	18°26'52.29" 65°54'22.43"
<b>Route 2: Arroyo - Luquillo</b>					
Balneario Punta Guilarte	Road PR-3 Km 126, Arroyo	PRSC32	SB	RW-7 At the center of the bathers area	17°57'43.35" 66°02'24.00"
Balneario de Patillas	Road PR-3 Km 1.7, Los Bajos Ward, Patillas	PRSC32	SB	RW-6 At the center of the bathers area.	17°58'26.31" 65°59'20.33"
Playa Guayanés	El Ancla Beach Hotel, Yabucoa	PREC28C	SB	RW-30 At the center of the bathers area.	18°03'45.70" 65°49'09.10"

Beach Name	Location	AU ID	Classification	Station ID and Location		Coordinates	
Balneario Punta Santiago	Road PR-3 Km72.4, Humacao	PREC25	SB	RW-4	At the center of the bathers area.	18°09'30.29"	65°45'18.67"
Tropical Beach	Road PR-3 (confluence of Río Blanco and Río Santiago), Naguabo	PREC25	SB	RW-31	At the center of the bathers area.	18°11'12.94"	65°43'33.48"
Balneario Seven Seas	Road PR-195 Km 4.8 Las Croabas, Fajardo	PREC18	SB	RW-2	At the center of the bathers area	18°22'09.36"	65°38'09.86"
Playa Azul	Luquillo Beach Boulevard (east of town), Luquillo	PREC18	SB	RW-32	At the center of the bathers area	18°22'54.72"	65°43'06.45"
Balneario La Monserrate	Road PR-3, Luquillo	PREC17	SB	RW-1A	In front of the administration building.	18°23'08.13"	65°43'46.1"
<b>Route 3: Lajas - Salinas</b>							
Playita Rosada	Camino de los Guayacanes, Lajas	PRSC41B2	SB	RW-33	In the pool.	17°58'18.18"	66°01'53.40"
Playa Santa	Road PR-325 Final, Providencia, Guánica	PRSC41B1	SB	RW-10	At the center of the bathers area, in front of AEELA building.	17°56'15.76"	66°57'18.71"
Caña Gorda	Road PR-333 Km 2.6 Caña Gorda Ward, Guánica	PRSC40	SB	RW-9	At the center of the bathers area.	17°57'09.11"	66°53'04.42"
Playa del Hilton	Ponce Hilton Hotel, Ponce	PRSC36B	SB	RW-34	In front of the hotels bathers area.	17°58'9.42"	66°36'9.82"
Balneario de Salinas	Road PR-1, Salinas	PRSC34	SB	RW-36	At the center of the bathers area.	17°58'39.32"	66°19'56.99"
<b>Route 4: Cabo Rojo</b>							
Playa El Combate	Road PR-3301 Final West Side, Cabo Rojo	PRSC43	SB	RW-12B	Near Los Salitrales	17°58'29.26"	67°12'46.46"
Playa Moja Casabe	Road PR-3301 Final, East Side, Cabo Rojo	PRWC43	SB	RW-14A	Alongside of where the office of the Department of Natural and Environmental Resources is located	17°59'8.92"	67°12'52.52"

Beach Name	Location	AU ID	Classification	Station ID and Location		Coordinates	
Balneario de Boquerón	Road-101, Poblado Boquerón, Cabo Rojo	PRWC43	SB	RW-13	At the center of the bathers area.	18°01'09.99"	67°10'20.08"
Playa Buyé	Road PR-307 Km 3.8, Pederrales Ward, Cabo Rojo	PRWC44	SB	RW-8	At the center of the bathers area	18°02'55.94"	67°11'55.05"
Villa Lamela	Camino La Mela Final, Cabo Rojo	PRWC44	SB	RW-37	At the center of the bathers area.	18°03'52.32"	67°11'51.10"
<b>Route 5: Añasco - Aguadilla</b>							
Balneario de Añasco or Balneario Tres Hermanos	Road PR-115 Km 5, Hatillo Ward, Añasco	PRWC49	SB	RW-15	At the center of the bathers area.	18°17'16.79"	67°11'38.12"
Balneario de Rincón	Road PR-115 Int. Cabijas, Rincón	PRWC50	SB	RW-5	At the center of the bathers area.	18°20'27.33"	67°15'21.62"
Pico de Piedra	Road PR-115 Km 21, Aguada	PRWC51	SB	RW-22	At the center of the bathers area.	18°23'03.71"	67°12'46.76"
Balneario Crash Boat	Road PR-458 Final, Borinquen Ward, Aguadilla	PRWC52	SB	RW-16	At the center of the bathers area.	18°27'27.60"	67°09'49.60"
<b>Route: 6: Arecibo - Vega Alta</b>							
Muelle de Arecibo	Road PR-655, Arecibo	PRNC03	SB	RW-38	At the center of the bathers area.	18°28'45.33"	66°42'01.68"
Mar Chiquita	Road PR-648, Manatí	PRNC05	SB	RW-39	At the center of the bathers area.	18°28'22.50"	66°29'08.36"
Balneario de Puerto Nuevo	Road PR-692 Km 12, Vega Baja	PRNC06	SB	RW-23	At the center of the bathers area.	18°29'28.92"	66°23'56.56"
Balneario Cerro Gordo or Javier Calderón Nieves	Road PR-690, Cerro Gordo Ward, Vega Alta	PRNC07	SB	RW-17	At the center of the bathers area.	18°28'52.50"	66°20'26.36"
<p><b>AU</b> = Assessment Unit  <b>SB</b> = Coastal and estuarine waters designated for primary and secondary contact recreation, and propagation and preservation of desirable species including threatened or endangered species, as defined in the PRWQSR.  <b>RW</b> = Recreational Waters</p>							

## **Performance Criterion 2: Tiered Monitoring Plan**

### Prioritization of the Frequency, Locations, and Methods of Monitoring and Assessment of Coastal Waters

#### Tiered Monitoring Plan

BMPNP Monitoring Plan (MP) was developed for FY 2014-2015 taking into consideration the Beach Characterization List, resources availability and location restrictions (See Table 4). As stated in other sections of this document, Playa Jauca-Santa Isabel was eliminated from the BMPNP, due to the fact that sampling activities in this beach could compromise the safety of the Sampling Officers. Since in Puerto Rico there is no season variability, all beaches included in the BMPNP were ranked Tier 1. It should be pointed out that, this beaches still have high use and exceedance of the BAV.

Sample collection will continue to be every two weeks, throughout the whole year, early in the day. There is no change regarding the location of the sampling stations. One sampling point was located at each PBD, since the beachfront have relative small size. The primary beach site is located where bathing zones have been established (where buoys were set). All the monitoring stations were located strategically where bathers concentrate the most. The stations and their location are representative of the overall water quality of the beach. It should be pointed out that, although sampling takes place in a particular point, the whole coast comprising the beach is classified as not suitable for primary contact recreation.

Sampling will continue to be carried out following the procedures established in the Standard Operating Procedure for Surface Water Sampling (SOP-100) and Quality Assurance Project Plan (QAPP) for Beach Monitoring and Public Notification Program (See Appendix 2). When the results of a routine sampling exceed the BAV, PREQB will continue notifying the beach administrator via an electronic notification (email) and the general public (through a public release notification and PREQB's webpage) that the beach is not suitable for primary contact recreation. Notification remains in effect until resampling indicates that the beach notification threshold is no longer been exceeded. Resampling will be performed one week from the day of exceedance (Monday or Tuesday). Beach administrators are responsible for notifying the public when the BAV is exceeded. This notification could be done by updating the sign on the beach and hoisting the Yellow Flag when the BAV is exceeded.

Table 4: Monitoring Plan

Beach Name	Rank # (Risk/Use)	Tier	Analytical Method	Monitoring Frequency	Model	Contributing Factors	Additional Information
<b>PROGRAM (P) BEACHES</b>							
Balneario de Patillas - Patillas	1	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario La Monserrate - Luquillo	2	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Playa Santa - Guánica	3	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario de Puerto Nuevo - Vega Baja	4	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario de Manuel "Nolo" Morales or Sardinera - Dorado	5	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario Seven Seas - Fajardo	6	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario Crash Boat - Aguadilla	7	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario de Rincón - Rincón	8	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Playa Buyé - Cabo Rojo	9	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources

Beach Name	Rank # (Risk/Use)	Tier	Analytical Method	Monitoring Frequency	Model	Contributing Factors	Additional Information
Balneario Cerro Gordo or Javier Calderón Nieves - Vega Alta	10	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario Punta Salinas - Toa Baja	11	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Pico de Piedra - Aguada	12	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario El Escambrón - San Juan	13	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Playa El Combate - Cabo Rojo	14	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Playa Moja Casabe-Cabo Rojo	15	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario Boquerón - Cabo Rojo	16	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario de Añasco (Tres Hermanos) - Añasco	17	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario de Carolina - Carolina	18	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Caña Gorda - Guánica	19	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources

Beach Name	Rank # (Risk/Use)	Tier	Analytical Method	Monitoring Frequency	Model	Contributing Factors	Additional Information
Playita Rosada - Lajas	20	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario Punta Guilarte - Arroyo	21	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Tropical Beach - Naguabo	22	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario Punta Santiago - Humacao	23	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Playa Guayanés - Yabucoa	24	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Playita del Condado - San Juan	25	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Vacía Talega - Loíza	26	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Ocean Park - San Juan	27	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Playa Azul - Luquillo	28	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Mar Chiquita - Manatí	29	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Playa de Ponce (Hilton) - Ponce	30	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources

Beach Name	Rank # (Risk/Use)	Tier	Analytical Method	Monitoring Frequency	Model	Contributing Factors	Additional Information
Villa La Mela - Cabo Rojo	31	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Playa Almirante - Añasco	32	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Balneario de Salinas - Salinas	33	P-1	Defined Substrate Technology	Every two weeks	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources
Muelle de Arecibo - Arecibo	34	P-1	Defined Substrate Technology	Every two weeks	No	Coastal area of high use; Exceedance of water quality standard	Nearby pollution sources
Playa Sixto Escobar - San Juan	35	P-1	Defined Substrate Technology	Every two weeks	No	Coastal area of high use; Exceedance of water quality standard	Nearby pollution sources
<b>NON-PROGRAM (NP) BEACHES</b>							
Playa Jauca - Santa Isabel	36	NP	None	None	No	PBD of high use; Exceedance of water quality standard	Nearby pollution sources. Beach eliminated from the BMPNP due to safety reasons.
Balneario Sun Bay - Vieques	37	NP	None	None	No	PBD of high use; Low exceedance of water quality standard.	Nearby pollution sources. Not included in the program due to accessibility limitations.
Balneario Flamenco - Culebra	38	NP	None	None	No	PBD of high use; Low exceedance of water quality standards.	Nearby pollution sources. Not included in the program due to accessibility limitations.

Beach Name	Rank # (Risk/Use)	Tier	Analytical Method	Monitoring Frequency	Model	Contributing Factors	Additional Information
Caja de Muertos - Ponce	39	NP	None	None	No	PBD of high use; Low exceedance of water quality standard.	Nearby pollution sources. Not included in the program due to accessibility limitations.
Balneario Media Luna - Vieques	40	NP	None	None	No	PBD of moderate use; Low exceedance of water quality standards.	Nearby pollution sources. Not included in the program due to accessibility limitations and economic constraints.
Playa Jobos - Isabela	41	NP	None	None	No	Coastal area of moderate use; Low exceedance of water quality standards.	Nearby pollution sources. Not included in the program due to resources limitation.
Las Criollas - Barceloneta	42	NP	None	None	No	Coastal area of moderate use; Low exceedance of water quality standards.	Nearby pollution sources. Not included in the program due to resources limitation.
Cayo Icaco - Fajardo	43	NP	None	None	No	PBD of low use	Not included in the program due to accessibility limitations and economic constraints
Cayo Obispo - Fajardo	44	NP	None	None	No	PBD of low use	Not included in the program due to accessibility limitations and economic constraints
Cayo Palomino - Fajardo	45	NP	None	None	No	PBD of low use	Not included in the program due to accessibility limitations and economic constraints.



## Performance Criterion 3: Methods and Assessment Procedures

### EPA Methods for Characterizing Water Quality

For the characterization of the water quality of the beaches, PREQB will continue to analyze the samples using the Enterolert Defined Substrate Technology and Quanti-Tray. This test is EPA approved/validated analytical method. This method will be used to determine whether or not the water quality at the beaches exceeds the BAV for *Enterococcus* (70 colonies /100 mL).

It should be pointed out, that qPCR was again considered, but at present time cannot be implemented, due to resources limitation (unavailability of funds and of expertise). In addition, the potential use of predictive model and/or tools was also considered, but at this time there are no available resources to develop them.

### Performance Methods Other Than EPA Approved of Validated

This section does not apply, since PREQB will only analyze the samples with EPA approved methods.

### Beach Action Value

Starting on October, 2015, the public notification has been issued based on the BAV for *Enterococcus* (70 colonies/mL).

## Performance Criterion 4: Monitoring Report Submission

### Monitoring Report

Analytical results will continue to be verified and validated by the QA Officer, following the procedures established in the Standard Operating Procedure Field Sampling and Laboratory Data Validation (SOP-132) and BMPNP QAPP (See Appendix 2). Data verification and validation will continue to include: summary of the activities carried out; evaluation of the parameters measured and analyzed; QA/QC assessment (including precision results); corrective actions (if applicable); and general recommendations to PREQB-ERLPR and WQA-SD.

Once analytical results are validated, PSPD personnel will continue identifying which beaches exceeded the BAV for *Enterococcus*. This information will continue to be submitted to: 1) Press Officer, who is in charge of publishing the press release notification; and 2) Information System Office (ISO) personnel, who are in charge of posting the data (analytical results) and updating the Beach Map on PREQB website. In addition, PREQB will continue to notify the beach administrators and EPA via an electronic notification (e-mail) that the beach is not suitable for primary contact recreation. It should be pointed out that, PREQB's employees will continue to be notified through the agency's intranet about which beaches are Green Flag (do not exceeded the BAV) and which are Yellow Flag (exceeded the BAV).

On the other hand, PREQB will submit the monitoring data to EPA. This report will include: bacteriological results (routine sampling and resampling), public notification and data sharing, as well as data management and quality assurance. All field and bacteriological results are stored in the PREQB database (Excel and Access) and is provided to EPA-CDX program through a XLM format. This data is used to supplement the information in the EPA Storage and Retrieval (STORET) Database Warehouse. All notification and monitoring data of FY 2015-2016 will be submitted to EPA by January 31<sup>st</sup>, 2017.

#### **Performance Criterion 5: Delegation of Monitoring Responsibilities**

This criterion does not apply. PREQB does not delegate to other government agency its monitoring responsibility.

#### **Performance Criterion 6: Public Notification and Risk Communication Plan**

Appendix 3 includes PREQB's Public Notification and Risk Communication Plan.

#### **Performance Criterion 7: Actions to Notify the Public**

##### Press Release Notification (PRN)

Once bacteriological results are received and validated, PO will continue issuing a PRN, in press release format, to main mass media in Puerto Rico that will include which beaches are affected (Yellow Flag). This notification advises the public of the exceedance of the BAV on the basis of water quality sampling and it, also, states that the water is not suitable

for primary contact recreation. In addition, PREQB will continue to warn the public to take into consideration that after constant rain events is not recommended to have contact with any water body until twenty-four (24) hours elapsed after these are finished, as swimmers are more likely to acquire infectious diseases caused by bacterial pathogens. Likewise, PRN will continue to include the agency's information, as well as the contact persons. It, also, will continue to include PREQB's webpage link (<http://www.jca.pr.gov>).

### Website

ISO personnel will continue to update PREQB's webpage information. The webpage will continue to include the latest map with the beaches that exceed the BAV (Yellow Flag), as well as the ones that do not exceeded it (Green Flag). In addition, it will continue to contain the analytical results table, which includes the following information for the current Fiscal Year: Date, Station ID, Beach Name, Route, Type of Event, Results, and Comments. This table will be updated as per the last sampling event. Also, the webpage will continue to have the contact information, telephone numbers and electronic mail addresses where the public can communicate to obtain any information regarding the BMPNP.

In addition, PO will continue to send to the ISO personnel the PRN, which is uploaded on PREQB's webpage.

### Email

PSPD personnel will continue notifying the beach administrators via an email the results of the sampling activities and which beaches are suitable for primary contact recreation and which beaches are not. Beach administrators are responsible for notifying the public when the BAV is exceeded. This notification could be done by updating the sign on the beach and hoisting the Yellow Flag when the BAV is exceeded.

### PREQB's Internal Website

In addition to notifying the general public, PSPD personnel will continue issuing a notification to PREQB's President Office, which is then sent to PREQB's employees through the agency's intranet (*Tu Junta*), stating which beaches are Green Flag and which are Yellow Flag.

## Social Media

On July 2015, PREQB started publishing on Twitter (@jcaeqb) the latest map with the beaches that are suitable for primary contact recreation (Green Flag), as well as the ones that are not suitable. This assists in disseminating the public notification, amplifying the target audience. PREQB will continue using social media to publish the latest map showing which beaches are Green Flag and which are Yellow Flag.

## **Performance Criterion 8: Notification Report Submission**

PSPD personnel will continue to include EPA representatives in the email that is sent to the beach administrators. Also, PSPD personnel will inform to EPA the monitoring notification data in the Annual Performance Report. This report will be submitted to EPA at the end of the FY, on September 30<sup>th</sup>. In addition, PREQB will submit yearly a Final Annual Report, as the final data is submitted to EPA.

## **Performance Criterion 9: Delegation of Notification Responsibilities**

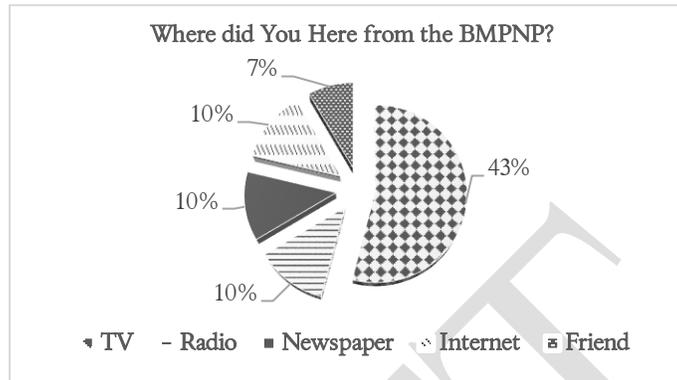
This criterion does not apply. PREQB does not delegate to other government agency its notification responsibility.

## **Performance Criterion 10: Implementation Requirements for Adopting the 2012 RWQC into State and Tribal WQS and Identifying and Using a Beach Notification Threshold**

On October 2015, PREQB started issuing the public notification based on the BAV for *Enterococcus*, 70 colonies/mL. In addition, on April 2016, PREQB adopted the 2012 RWQC for *Enterococcus*, which includes Class SB waters. *Enterococcus* criteria for these waters establish that “enterococci density, in terms of geometric mean shall not exceed 35 colonies/100 mL in any 90-day interval; either the 90<sup>th</sup> Percentile of the samples taken shall exceed 130 colonies/100 mL in the same 90-day interval”.

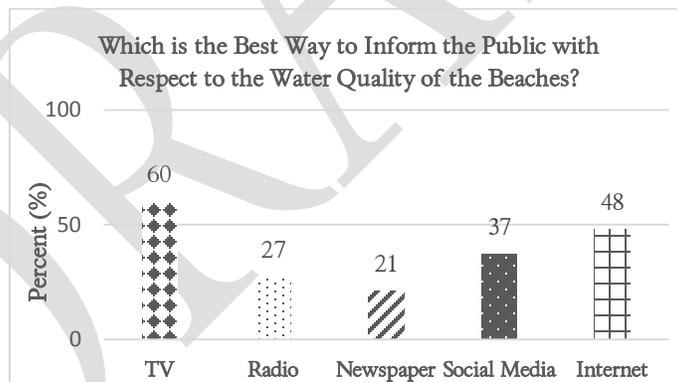


Graph 1: Where does the Beachgoers Heard from the BMPNP?



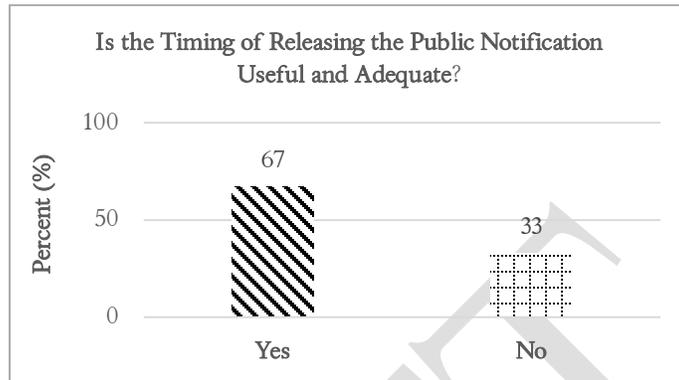
Fifty three percent of the surveyed persons answered that they know the diseases to which they can be exposed to if they swim in a beach that exceeds the BAV. In addition, 60% pointed out that the best way to inform the public about the water quality is through television media; followed by Internet with 48%. The least favorable way to inform the public is through newspaper, with 21%.

Graph 2: Which is the Best Way to Inform the Public?



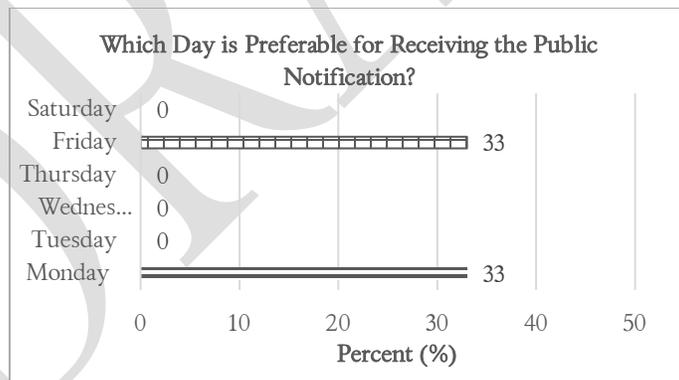
Between July and August 2016 PREQB sent a survey to editors in media outputs, to measure the notification effectiveness, as stated in the Public Notification and Risk Communication Plan (See Appendix 3). Three media editors answered the survey, namely: Cybernews, Máxima Actualidad 940 (Radio), and El Visitante. As Graph 3 shows, sixty seven percent of the participants indicated that the timing of the notification is useful and adequate for their media output.

Graph 3: Notification Timing

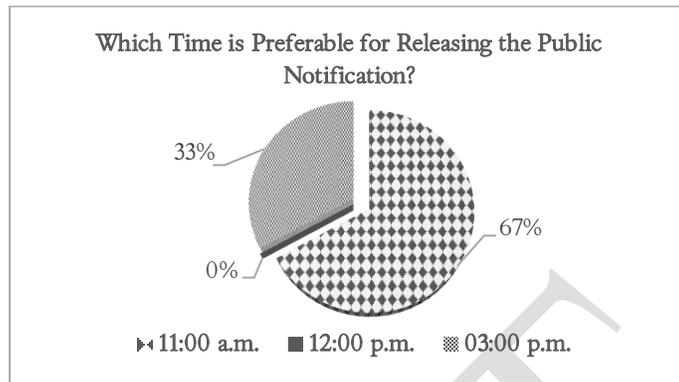


On the other hand, editors indicated that the most suitable days to receive the notification are Monday and Friday with 33% each (See Graph 4). In addition, 67% pointed out that they would like to receive the public notification at 11:00pm; while 33% of them suggested that the time of releasing the public notification could be at 3:00pm (See Graph 5). Also, 67% of the editors indicated that the best period to receive the public notification is year-round (See Graph 6). This is due to the fact that in Puerto Rico there is no significant season variability through the whole year and there is a high beach usage year-round.

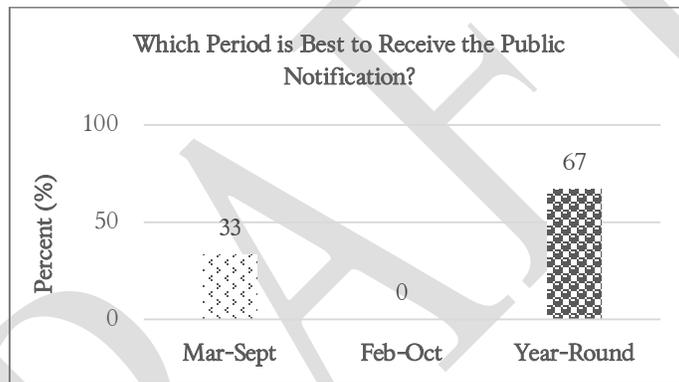
Graph 4: Day of Preference for Releasing the Public Notification



Graph 5: Time of Preference for Releasing the Public Notification



Graph 6: Best Period to Receive the Public Notification



In addition, 100% of the editors indicated that the information included in the public notification is useful and is well explained, and it is relevant and newsworthy. The Public Notification does not lack information and it is well suited for the easy comprehension of the general public.

On the other hand, PREQB has a hit counter in its webpage, to capture the number of visitors and determine if the webpage is being effective on notifying the public about the beaches' water quality compliance, thus protecting the human health. From October 2015 through August 15, 2016, PREQB webpage received 67,409 visits from persons interested in the water quality of the beaches (See Table 6). As expected, the summer months are the ones that received the most visits; June being the month with most visits.

Table 6: PREQB's Webpage Visits per Month

Month	Visits
October 2015	3,014
November	1,757
December	2,397
January	4,364
February	7,516
March	7,469
April	4392
May	6566
June	15,303
July	13,656
August 15, 2016	975
<b>Total</b>	<b>67,409</b>

## Appendix 1: Beach Characterization List

DRAFT

Beach	Bathing Zone (DNER Inventory and PB Zoning): Yes=10, No=0	Sanitary Facilities: Yes=10, No=0	Existing Uses: Swimming=3, Aquatic Sports=1, Fishing=1, Camping=1	Users per year: High=5, Moderate=3, Low=1	Tourist per year: High=5, Moderate=3, Low=1	Pollution Sources						Exceedance of Fecal Coliform Standard: High=5, Moderate=3, Low=1	Total	
						Industries=1	Businesses=2	Livestock Enterprises=3	Wastewater Discharges=4	Pumping Station=5	Septic Tanks Systems=6			
Baño de Patillas - Patillas	10	10	5	5	1	0	2	0	4	5	6	5	3	56
Baño La Monserrate - Lirio	10	10	5	5	5	0	2	0	0	5	6	5	3	56
Playa Santa-Columba	10	10	5	5	1	0	2	0	4	5	6	5	3	56
Baño de Puerto Nuevo - Vega Baja	10	10	5	5	3	0	2	0	4	0	6	5	3	53
Baño Manuel "Nolo" Morales or Sardinera - Dorado	10	10	5	5	5	1	2	0	0	0	6	5	3	52
Baño Seven Seas - Fajardo	10	10	5	5	5	0	2	0	0	5	6	3	1	52
Baño Crash Boat - Aguadilla	10	10	5	5	5	0	2	0	4	0	6	3	1	51
Baño Cerro Gordo or Javier Calderón Nieves - Vega Alta	10	10	5	5	5	0	2	0	0	0	6	5	1	49
Baño de Rincon - Rincon	10	10	4	5	5	1	2	0	0	0	6	5	1	49
Playa Buyé - Cabo Rojo	10	10	4	5	3	0	0	0	0	5	6	5	1	49
Baño Punta Salinas - Toa Baja	10	10	5	5	5	0	2	0	0	0	6	3	1	47
Baño El Escambrón - San Juan	10	10	5	5	5	0	2	0	0	5	0	3	1	46
Pico de Piedra - Aguada	10	10	4	5	1	0	2	0	0	0	6	5	3	46
Playa El Combate - Cabo Rojo	10	10	5	5	3	0	2	0	0	0	6	3	1	45
Baño Boquerón - Cabo Rojo	10	10	5	5	5	0	2	0	0	5	0	1	1	44
Baño de Ahíscu (Tres Hermanos) - Ahíscu	10	10	5	5	3	0	2	0	0	5	0	3	1	44
Baño de Carolina - Carolina	10	10	5	5	5	0	2	0	0	5	0	1	1	44
Baño Sun Bay - Vieques	10	10	5	5	1	0	2	3	0	0	6	1	1	44
Caña Gorda - Culebra	10	10	5	5	3	0	0	0	0	5	0	5	1	44
Playa Meja Cashe - Cabo Rojo	10	10	4	5	1	0	2	0	0	0	6	5	1	44
Baño Flamenco - Culebra	10	10	6	5	1	0	2	0	0	0	6	1	1	42
Baño Punta Guilarte - Arroyo	10	10	5	5	1	0	2	0	0	5	0	1	1	40
Playa Rosada - Lajas	10	10	3	5	1	0	0	0	0	0	6	3	1	39
Tropical Beach - Naguabo	10	0	5	5	1	0	2	0	0	5	0	5	5	38
Baño Punta Santiago - Humacao	10	10	5	5	1	0	2	0	0	0	0	3	1	37

Beach	Bathing Zone (DNER Inventory and PB Zoning): Yes=10, No=0	Sanitary Facilities: Yes=10, No=0	Existing Uses: Swimming=3, Aquatic Sports=1, Fishing=1, Camping=1	Users per year: High=5, Moderate=3, Low=1	Tourist per year: High=5, Moderate=3, Low=1	Pollution Sources						Exceedance of Enterococcus Standard: High=5, Moderate=3, Low=1	Exceedance of Fecal Coliform Standard: High=5, Moderate=3, Low=1	Total
						Industries=1	Businesses=2	Livestock Enterprises=3	Wastewater Discharges=4	Pumping Stations=5	Septic Tanks Systems=6			
Playa Juca - Santa Isabel	10	0	5	5	1	0	2	0	0	0	6	5	1	35
Playa Guaynús - Yabucoa	10	0	3	5	1	0	2	0	0	0	6	3	3	33
Vaica Tábaga - Loíza	10	0	5	5	3	0	0	0	0	0	6	3	1	33
Playita del Condado - San Juan	10	0	4	5	5	0	2	0	0	0	0	3	3	32
Caja de Muertos - Ponce	10	10	3	5	1	0	0	0	0	0	0	1	1	31
Ocean Park - San Juan	10	0	4	5	5	0	2	0	0	5	0	0	0	31
Playa Azul - Luquillo	10	0	4	5	3	0	2	0	0	5	0	1	1	31
Mar Chiquita - Manatí	10	0	4	5	1	0	2	0	0	0	6	1	1	30
Playa de Ponce (Hilton) - Ponce	10	0	3	5	3	0	2	0	0	0	0	1	5	29
Villa La Mela - Cabo Rojo	10	0	3	3	3	0	0	0	0	0	6	3	1	29
Playa Almirante - Añasco	10	0	3	3	1	0	0	0	0	5	0	1	5	28
Baño Medio Luna - Vieques	10	10	3	3	1	0	0	0	0	0	0	0	0	27
Pine Grove - Carolina	0	0	5	5	5	0	2	0	0	5	0	3	1	26
Baño de Salinas - Salinas	10	10	3	1	1	0	0	0	0	0	0	0	0	25
Muelle de Arecibo	10	0	5	5	1	0	2	0	0	0	0	0	0	23
Playa Sixto Escobar - San Juan	0	0	4	5	5	0	2	0	4	0	0	0	0	20
Playa Jobos - Isabela	0	0	4	5	1	0	2	0	0	0	6	1	1	20
Las Criollas - Barceloneta	0	0	3	3	1	0	2	0	0	5	0	3	1	18
Cayo Icaro - Fajardo	10	0	3	1	1	0	0	0	0	0	0	0	0	15
Cayo Obispo - Fajardo	10	0	3	1	1	0	0	0	0	0	0	0	0	15
Cayo Palomino - Fajardo	10	0	3	1	1	0	0	0	0	0	0	0	0	15
Cayo Racones - Joyuda	10	0	3	1	1	0	0	0	0	0	0	0	0	15

## Appendix 2: QAPP and SOPs

DRAFT

# Appendix 3: Public Notification and Risk Communication Plan

Appendix 4: 2016-2017 Public Evaluation  
of the Performance Criteria Document