COMMONWEALTH OF
PUERTO RICO
Environmental Quality Board

Puerto Rico Non-point Source Management Program
2014
(Revised)

EQB
ENVIRONMENTAL QUALITY BOARD
COMMONWEALTH OF PUERTO RICO

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A. History of the Non-point Source Program in Puerto Rico

Since 1979, the Puerto Rico Environmental Quality Board (PREQB) has been continually developing a Non-point Source (NPS) Management Program to control sources of non-point pollution ranging from agriculture to stormwater management. PREQB initiated the development of the non-point program in response to recommendations made as a result of the *"Plan de Manejo para la Calidad del Agua en Puerto Rico – Informe Final del Proyecto 208 Isla"* (*Islandwide Project: A Water Quality Management Plan for the Island of Puerto Rico)* (1978) (208 Islandwide Project) developed under Section 208 of the Federal Water Pollution Control Act (P.L. 92-500) of 1972. In addition, PREQB developed a Non-point Strategy as part of the 1980 agreement between the Commonwealth of Puerto Rico and the United States Environmental Protection Agency (State/EPA). Numerous demonstration projects were subsequently implemented under Section 208 of the Clean Water Act (CWA) of 1977, to address the various non-point source problems identified in the *208 Islandwide Plan,* (certified by the Governor of Puerto Rico and incorporated into the State Water Quality Management Plan) and the State/EPA Agreement.

In 1983, PREQB developed a State funded Sediment and Erosion Control Program, which has been implemented island-wide since 1984, to focus on the control of pollution resulting from construction and mining activities. Also, in 1984, PREQB began the implementation of a State funded island-wide Animal Waste Control Program, requiring the utilization of conventional Best Management Practices (BMPs) at poultry, hog and dairy farms. Later in 1987, PREQB started the development of a Groundwater Quality Management and Protection Strategy, which was later approved by EPA on October 1988. This strategy developed a comprehensive mechanism to protect our groundwater resources from all possible sources of contamination, including non-point sources.

In June 1989, in accordance with EPA NPS Guidance of December 1987, Puerto Rico's Non-point Source Management Program (PRNPSMP) was submitted to EPA. The purpose of this document was to seek the integration of the previous individual plans addressing different aspects of the non-point sources of pollution into a single Non-point Source Management Program for Puerto Rico (PREQB, 1989). In fiscal year 2000 and now in 2014, PREQB updated the PRNPSMP and will be revising it every 5 years according to the current NPS Guidelines from EPA.

On October 18, 1997, as part of the 25th anniversary of the CWA, Vice–President Al Gore directed the United States Department of Agriculture (USDA) and the EPA to work with other federal agencies and the public, to prepare an aggressive Clean Water Action Plan, hereinafter referred to as the Plan. The Plan intended to guarantee all citizens clean and safe water, in accordance with the goals of the CWA.

The Plan presented a broad view of watershed restoration and protection including coastal waters, surface freshwater, groundwater, estuarine waters and wetlands. Following the guidelines established in the Plan, the Natural Resources Conservation Service (USDA - NRCS), the PREQB, the EPA, and United States Forest Service (USFS), held various meetings to coordinate the work to develop the *Unified Watershed Assessment* (UWA) *and the Restoration Priorities* (PREQB, 1998). Different processes available to assess water quality and other natural resources conditions were used:

1. The Goals and Progress of Statewide Water Quality Management Planning for Puerto Rico 305(b), 1998 Cycle Report

2. The 303(d) List of waters not meeting clean waters goals

3. Water bodies impaired by non-point sources of pollution

4. Natural Resource Descriptor for aquatic life

5. Puerto Rico National Estuary Program

6. Drinking Water Resources Location and Population served

It was not until 1998, with the development of the PRUWA and Restoration Priorities (PREQB, 1998) document, when watershed evaluation was done on an islandwide basis. This interagency effort resulted in the evaluation and prioritization of sixty-one (61) watersheds that were grouped under four (4) categories. Category I included the watersheds that do not support water quality standards or were threatened and have the first restoration priority. In this category eighteen (18) watersheds were identified.

Table 1: Category I- Priority Watersheds

Watersheds	
1. Río La Plata	10. Río Guanajibo
2. Río Grande de Arecibo	11. Río Grande de Patillas
3. Río Grande de Loíza	12. Río Yaguez
4. Río Grande de Manatí	13. Río Blanco
5. Río Grande de Añasco	14. Río Coamo
6. Río Guajataca	15. Río Guayanilla
7. Río Culebrinas	16. Río Piedras
8. Río Bayamón	17. Río Hondo
9. Río Cibuco	18. Quebrada Blasina

B. Puerto Rico NPS - Problem Description

In Puerto Rico (PR), non-point sources of pollution present a serious threat to the quality of surface and ground waters. In fact, during the last decade, NPSs have represented the majority of PR's contamination problems. Table 2 includes the sources of impairments and the size of waters impaired, according to the 2014 305(b)/303(d) Integrated Report.

Table 2: Size of Waters Impaired by Sources
(Assessed and Monitored Rivers and Streams)

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

As discussed in *Section A.* ***NPS Programs in Puerto Rico***, recommendations were made to mitigate non-point sources of pollution since the program was evaluated during the late 70's and early 80's under the CWA Section 208 NPS Program.

NPS pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification. Unlike pollution from industrial and sewage treatment plants, NPS pollution comes from many diffuse sources. NPS pollution is caused by rainfall moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters and ground waters.

NPS pollution also includes flows of polluted water from sources not subject to permits, such as car washes and leaking septic tanks. Common NPS pollutants include: fertilizers, herbicides, and insecticides from agricultural lands and residential areas; oil, grease, and toxic chemicals from spills, roads, urban areas; energy production sediment from construction sites, crop and forest lands; eroding stream banks, bacteria and nutrients from livestock, pet waste, and leaking septic systems.

Some NPS pollution starts as air pollution deposited onto the ground and into waterways (atmospheric deposition). Changes in the flow of waterways due to dams and other structures (hydromodification) can also cause NPS pollution.

The principal priority NPS pollution sources in PR are those which contribute pathogens, nutrients and sediments to the waters of PR. Non-point sources that contribute the majority of pollution in PR come from urban areas and urban development; livestock enterprises (animal fecal waste handling, use and disposal, nutrient load, pathogens and fecal coliforms), agriculture, construction activities (erosion, sedimentation, nutrient load), and underground injection facilities or systems such as septic systems, leaking septic tanks, injection of waters from car washes, non-filer activities, (pathogens and nutrient loads).

Major urban areas are located near at least one stream or river. Protecting these streams and rivers is a major challenge and becomes more critical as urban areas experience population growth. The impervious surfaces (e.g. pavement, sidewalks, and buildings) that dominate urban areas increase the amount of surface runoff in these areas. Residential and industrial activities contribute a wide variety of pollutants to the runoff which eventually enters surface water or ground water. Potential pollutants include oil and grease from automobiles, pesticides from lawn care, pathogens from pet wastes, nutrients from excessive fertilizer applications, metals washed from industrial sites, and toxic chemicals from improperly-disposed hazardous substances. Construction sites that are not properly managed can contribute large amounts of sediment to surface waters from areas of exposed soils. Increased runoff from urban areas can cause increased flows or flooding within surface water channels causing increased bank erosion and sedimentation. Pollutants will accumulate in the urban setting during the

interval rainfall events. When rain falls there may be a sudden introduction of pollutants into lakes, rivers, streams, wetlands, and ground water because of such interval accumulation. This is known as the "first flush" effect. Urban BMPs can help to control the quantity and quality of urban runoff. Some urban BMPs increase the permeability of urban surfaces to increase infiltration and reduce runoff volumes, others detain storm water runoff to allow for pollutant treatment, and others work to reduce the amount of pollutants coming in contact with surface runoff.

NPS categories include the following: Agriculture; Collection system failure; Confined animal feeding operations; Construction; Contaminated sediment; Hydrologic and habitat modification; Land development; Land disposal; Leaks, spills and accidents; Marinas and recreational boating; Onsite wastewater treatment systems; Resource extraction, exploration and development; Roadbank erosion, Silviculture; Streambank and coastal erosion; Urban runoff.

II. Puerto Rico NPS Management Program- Key Components, Objectives and Measures

The PRNPSMP has been updated taking into consideration the key components described in EPA's Section 319 Non-point Source Guidelines document, called ***the Key Components of an Effective State Non-point Source Management Program,*** released in 2013. In the following section, each key component includes activities which satisfy the recommendations for each component in the guidelines.

A. EPA's Key Component 1:

The state program contains explicit short- and long-term goals, objectives and strategies to restore and protect surface waters.

The Commonwealth of PR recognizes that the pollution of the waters is detrimental to public health and welfare, creates public nuisances, is harmful to wildlife, fish and other aquatic life, and impairs domestic, agricultural, industrial, recreational and other beneficial uses of the water.

In accordance with Law No. 416, of September 22, 2004, as amended, known as the Public Policy Environmental Act, PREQB promulgated the Puerto Rico Water Quality Standards Regulation (PRWQSR). It is the goal of PREQB, and the PRWQSR, to preserve, maintain and enhance the quality of the waters of PR in such manner that they be compatible with the social and economic needs of the Commonwealth of PR.

The purpose of the PRWQSR are: (1) designate the uses for which the quality of the water bodies of Puerto Rico shall be maintained and protected; (2) promulgate the water quality standards (WQS) required to sustain the designated uses; (3) identify other rules and regulations applicable to sources of pollution that may affect the quality of the waters subject to this Regulation and (4) establish other measures necessary for achieving and maintaining the quality of the waters of Puerto Rico.

Puerto Rico NPS Management Program Goals

The main goal of the Puerto Rico Non-point Source Management Program (PRNPSMP) is:

"To identify non-point sources of pollution of surface waters in order to prevent and reduce non-point source pollution, such that water quality standards are achieved."

To achieve this primary goal, the PRNPSMP will focus on the following:
To control pollution from NPS to the waters of Puerto Rico.

Address priority NPS through a combination of state and federal regulatory programs and non-governmental organization programs to reduce NPS, development of total maximum daily loads (TMDLs) in the impaired basins, and install and maintain BMP systems to reduce the pollution of the waters of Puerto Rico.

To protect and restore the waters of Puerto Rico which are vulnerable to, or which are impaired by NPS pollution.

To restore and preserve the designated uses and water quality in our streams, lakes and coastal shorelines, PREQB will coordinate efforts with various government agencies, private enterprise and concerned citizen groups as well as outreach and educational programs, both in communities and through the public media.

The process for accomplishing the PRNPSM program's goals will be in a ***Continuous Planning Process (CPP)*** with target objectives, milestones, strategies and measures. The implementation of CPP will use the water quality data results to assess the overall water quality and determine the level of compliance with PRWQS. This will be performed in a continuous basis. The information generated will be utilized in the development of the biannual 305(b)/303(d) Integrated Report. Also this water quality data will be used to follow-up on implementation of required controls for pollution abatement and prevention. Refers to Figure 1.

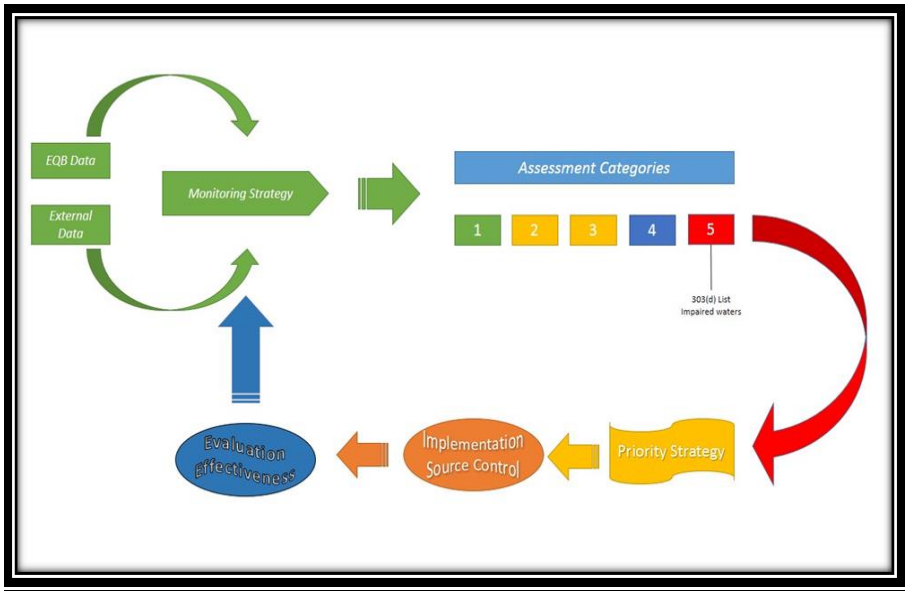

Figure 1: Continuous Planning Process

PRNPSMP has set the goal to establish the strategies that will mark the progress to achieve and maintain water quality standards and water quality benefits; short term or long terms objectives that are activity-based measures (milestones) were established to accomplishing the program's goal. The milestones associated with each objective may include those of local agencies which are partners in the PRNPSMP.

For the purpose of this document short term objectives are those that will be completed within five years; and long term objectives the ones that must be completed in ten years.

These milestones also serve as the basis of the NPS Program work plan development for federal Section 319 funds provided to PR through the Performance Partnership Grant (PPG) Agreement between PREQB and EPA.

1. *Objective 1. Waterbody Monitoring Strategy*

Increase to 50% (short- term) the percentage of monitored waters, like rivers and streams, lakes (reservoirs), estuaries, lagoons and coastal waters using data from both PREQB and the external data from various partners. It will progressively increase to 70 %(long-term).

Table 3: Milestone and Reporting Measures for Objective 1: Waterbody Monitoring Strategy

MILESTONES	TIMEFRAME
3.1 Update and Review the Puerto Rico Water Monitoring Strategy (PRWMS).	Every 5 years
3.2 Review Quality Assurance Management Plan (QAMP).	Every 5 years
3.3 Review all the Quality Assurance Projects Plans (QAPPs) and Standard Operations Procedures (SOPs).	Annually
3.4 PREQB will obtain readily available data and information about water quality monitoring sampling from different government agencies, members of academic institutions, associations and general public.	Continuous
3.5 PREQB will continue using the services of the USGS under the Interagency Cooperative Agreement, for the sampling and analyses of the surface water body portions of the Watersheds Monitoring Network.	Annually
3.6 PREQB will perform the sampling and analyses of samples collected from the monitoring networks (rivers and streams, coastal waters, lakes and groundwater) in accordance with the approved QAPPs for each of the respective projects.	Continuous
REPORTING MEASURES	
1. Percentage of monitored waterbodies assessed. 2. Number of plans, monitoring strategies and/or QAPPs updated and review. 3. Number of assessment units (AU) with water quality data from different government agencies, members of academic institutions, other associations and general public. 4. Memorandum of Understanding (MOU) with states and federal agencies, non-governmental organization (NGOs), other associations and academy institutions.	

2. *Objective 2. Assessment of Impaired Waters*

Identify and assess the potential water pollution sources throughout the identified on field inspections or surveys and water quality monitoring data readily available in order to obtain the number of water bodies (AU) already identified in IR and 303(d) list as being primarily NPS impaired.

Table 4: Milestone and Reporting Measures for Objective 2: Assessment of Impaired Waters

MILESTONES	TIMEFRAME
4.1 Maintain updated inventories of: • Potential water pollution sources, such as landfills, oxidation lagoons, underground storage tanks and underground injection facilities (e.g. on-site septic systems, storage and underground disposal of fluids through injection wells both induced by pressure or gravity flow through wells and non-residential and multifamily dwellings, sinkholes or natural drainage cavities and storage of fluids in underground storage tanks) subject to the Underground Injection Control (UIC) Regulation. • Potential water pollution sources, such as confined animal enterprises and projects subject to the Erosion Control and Sedimentation Prevention Regulation (ECSPR). • Update existing positioning data for these sources with global positioning system (GPS) coordinates and entered into geographic information system (GIS) database (Arc View format).	Continuous
4.2 Conduct surveys to identify potential NPS of pollution.	Continuous
4.3 Development of the PR 303(d) List of Impaired Waters.	Bi-annually
REPORTING MEASURES	
1. Number of potential water pollution sources identified on field inspections or surveys added during the reporting period, including changes from the previous year. To be reported annually. 2. Number of non-point water pollution sources identified on field inspections or surveys, including changes from the previous year. To be reported annually. 3. Numbers of AU identified as having a non-point source contribution as an impairment, including changes from the previous year. To be reported annually. 4. Number of AU newly identified as "Impaired" and added to 303(d) list of impaired waters due to non-point sources, including identification of new or emerging trends in impairments or restorations. To be reported bi-annually. 5. Number of AU's removed from 303(d) list. To be reported bi-annually.	

3. Objective 3. Priority Strategy

PREQB will work to prioritize those watersheds affected by NPS of pollution with the purpose of improving and restoring impaired watersheds.

Table 5: Milestone and Reporting Measures for Objective 3: Priority Strategy

MILESTONES	TIMEFRAME
5.1 Establish a priority ranking for those watershed affected primary by non-point sources of pollution, according to the Implementation Strategy described in Key Element 5.	Bi -annually
5.2 Identify those waters having the highest priority issues and refer them to the appropriate PREQB Water Quality Area (WQA) Divisions. This can include *Erosion Control Division (ECD), the Livestock Enterprises Permit and Compliance Division (LEPCD)* and the *Underground Injection Control Division (UICD)* for the corresponding action.	Bi -annually
5.3 Share the priority strategy with partnerships so they can incorporate it as part of their work plan strategy and thus can direct their efforts to address the highest priority waters.	Bi -annually
REPORTING MEASURES	
1. NPS Priority Ranking, according to the Implementation Strategy described in Key Element 5. Annually reporting the activities performed to achieve the milestone. 2. Number of AU having the highest priority according to the Implementation Strategy. Annually reporting the activities performed to achieve the milestone. 3. Types of coordination with partnerships.	

4. *Objective 4. Implementation*

Development and implementation of regulatory and non-regulatory programs to control the non-point sources of pollution.

According to the State Law No. 416 of September 22, 2004, as amended, PREQB may adopt regulations, issue permits and issue orders restricting the content of any waste(s) or discharged polluting substance(s) in the waters of Puerto Rico and establish and implement regulations for pretreatment of wastewater and NPS controls. In Puerto Rico, due to the risks to public health and the environment by pollutants coming from non-point sources, it was necessary to develop regulatory programs that included issuance of permits and enforcement actions to control and reduce the pollutants that reach our water bodies from NPS of pollution.

Basically our system has several program divisions that administer the permit and compliance system with laws and regulations. The main divisions regarding the prevention and enforcement of NPS pollution are: LEPCD, ECD and UICD.

Table 6: Milestones and Reporting Measures for Objective 4: Implementation

MILESTONES	TIMEFRAME
Regulatory	
6.1 Review and make the necessary amendments to the following water quality regulations: Animal Waste Control Regulation for Livestock Enterprises (AWCRLE); Erosion Control and Sedimentation Prevention Regulation (ECSPR) and Underground Injection Control Regulation (UICR).	PPG (Rollover)
6.2 Livestock Enterprises Permit and Compliance Division: • Continue the implementation of the AWCRLE, adopted by PREQB on FY-09. • Perform inspections of existing animal husbandry enterprises to determine compliance with PREQB's regulation requirements. • Prepare and offer seminars and workshops to the general public, state or federal agencies, and the regulated community on the AWCRLE, proper management and disposal of animal waste and pollution prevention measures.	Annually

MILESTONES	TIMEFRAME
6.3 Erosion Control Division: • Continue the implementation of the ECSPR as part of PREQB's annual 319 work plan. Implementation efforts are driven on a continuous basis through an aggressive permitting and inspection program. • Process the completed General Permit Applications (Consolidated General Permit for Construction Activities and General Permit for Other Activities) received during the fiscal year, in accordance to the provisions of the ECSPR and the General Permits Processing Regulation (GPPR). • Perform initial inspections and inspections of on-going projects with approved Consolidated General Permits for Construction Activities and General Permits for Other Activities to determine compliance with ECSPR requirements.	Annually
6.4 Underground Injection Control Division: • Perform compliance evaluation inspections of UIC permitted facilities. • Perform inspections to non-permitted facilities to determine applicability of UIC Regulations. • PREQB will take all appropriate enforcement actions against owners of sites where activities are being performed in violation of the UIC Regulation.	Annually
Non-Regulatory	
6.5 Development and adoption of water quality criteria for nutrients for Puerto Rico's freshwaters (Class SD waters). • The water quality criteria for nutrients for Puerto Rico's rivers and streams was adopted in the PRWQSR on August 2014. • Continue the development of water quality criteria for nutrients for Puerto Rico's lakes. In accordance with the schedule identified in the mutually agreed upon Nutrient Standard Plan, the final adopted revisions to the PRWQSR are to be submitted to EPA for approval in November of 2015 and the amendments are scheduled to become effective in February of 2016.	As established in the Puerto Rico Nutrient Plan

MILESTONES	TIMEFRAME
6.6 National Water Quality Initiative (NWQI): • Identified Priority Watersheds in order to improve water quality. • Evaluate nutrient management systems, erosion control projects for BMP implementation. • Analyzed water quality data for water quality improvements. • Develop NWQIs Annual Report.	Annually
REPORTING MEASURES	
1. Number of inspected facilities by permit. 2. Number of notification of violations (NOVs), Referrals to the PREQB Office of Legal Affairs, and Administrative Orders issued by permit. 3. Number of amended regulations. 4. Number of education and training activities per year. 5. NWQIs Annual Report.	

5. *Objective 5. Evaluation Effectiveness*

Review water quality data for reductions in sediment, fecal coliform bacteria and nutrients as a result of NPS reductions and restorations activities.

Table 7: Milestones and Reporting Measures for Objective 5: Evaluation of Effectiveness

MILESTONES	TIMEFRAME
7.1 Review State 305(b)/303(d) Integrated Report (IR) for NPS impairments removed.	Bi-annually
7.2 Delisted waterbodies from Water Quality Impairment List.	Bi-annually
7.3 Water Bodies identified in PREQB 2002 IR and 303(d) list or subsequent years as being primarily NPS impaired that are partially or fully-restored (WQ-10 measures): • Review delisted waters to note where NPS related activities in watersheds led to a where waterbody being restored. • Write NPS Success Story. • Identify activities to maintain water quality.	Annually
7.4 Water Bodies identified in PREQB 2002 IR and 303(d) list as not attaining WQS where standards are now fully attained (SP-11 measure): • Any water body or water body segment designated use identified in 2002 cycle as not being met. Designated use is fully attained. • Develop a list of water/watersheds candidates.	Annually
7.5 Water Bodies identified in PREQB 2002 IR and 303(d) list as not attaining WQS where standards are now fully attained (SP-12 measure): • Review 2002 IR for impaired waters. • Identified NPS priority parameters. • Identify NPS impaired waters that fully attain WQS. • Review NPS related activities in watershed where WQS are attained. • Write NPS Success Story.	Annually
7.6 Estimated Annual Reductions in Millions of Pounds of Phosphorous, Nitrogen and Sediment from NPS to waterbodies: • Review information from PREQB LEPCD for nitrogen and phosphorous load reductions estimated. • Review information from PREQB ECD for sediment load reductions estimated. • Include information in *NPS Annual Report* and *GRTS.*	Annually

REPORTING MEASURES
1. Number of Parameter/AU combinations to be delisted from 303(d) list. 2. Number of AU evaluated for WQ-10 measure. 3. One WQ-10 Success Story, annually. 4. List of assessments units for SP-11 measure. 5. Number of AU evaluated for SP-12 measure. 6. One SP-12 Success Story, annually. 7. Load reduction for sediments and nutrients. 8. GRTS update.

B. EPA's Key Component 2:

The State strengthens its working partnerships and linkages to appropriate state, interstate, tribal, regional, and local entities (including conservation districts), private sector groups, citizens groups, and federal agencies.

Mitigating NPS pollution problems within PR includes the efforts of many state and federal agencies. Partnerships and improved coordination will allow watershed restoration and protection efforts to occur more efficiently and effectively. The NPSMP will measure success in meeting state and federal targets in relation to water quality in PR. Also, serves participating agencies and entities, as a tool to evaluate the effectiveness and efficiency of program activities, and to make the necessary adjustments to maximize its success.

During the progress of the document, the input of the agencies identified as partners of the program, it is very important. Therefore, the first step was to establish a writing communication, in which was requested two persons of each agency (Appendix 2). These persons will contribute to the development of the document as is requested. In addition, an alternate official information is sought, if the designated is unavailable. According to the agencies were sending their designated personnel, it was requested the input about the programs or activities of each agency on non-point source management. These partners help provide technical assistance, education, training, technology transfer needed to achieve goals in this plan.

PREQB will work the PRNPS Management Plan (but are not limited to) with the state and federal agencies and with non-governmental organizations (NGOs) mentioned below. The coordination with the partnership will be achieved through close communication by different ways: electronic communication and work groups, meetings, phone calls, letters of collaboration, Memorandums of Agreements (MOA),

among others. Importantly, the communication will be performed quarterly or earlier if necessary.

Furthermore, this partnership strategy will (1) enhance coordination and improve efficiency, (2) facilitate communications among federal and state agencies and NGOs involved in non-point source management, (3) identify cooperative activities, (4) evaluate and promote guidance, and (5) coordinate programs of federal and local agencies and NGOs to better utilize existing resources.

Following you will find the participating agencies:

Agricultural Extension Service (AES) of University of Puerto Rico (UPR) – The AES was created in the United States by Smith Lever Act and begins in Puerto Rico in 1934. The AES, together with the Agricultural Experiment Station (AEE) and the Faculty of Agriculture, is an integral part of the Mayagüez Campus College of the UPR Agricultural Sciences. AES is the outreach arm, while the AEE is tasked with research portion. The Faculty is responsible for maintaining academic education for future agronomists. It is the mission of the AES to improve the quality of life of Puerto Rican families in socio-economic or disadvantage areas through an educational process based on scientific research and focused on the needs of clients and matters of public interest. The AES is an educational entity of the UPR which, among its functions educates farmers and other pesticides applicators on matters concerning the selection and the best use of fertilizers and pesticides. It receives funding from federal and state sources, and disseminates natural resource management guidelines. The AES signed with the Puerto Rico Department of Agriculture (PRDA) an agreement for implementation of training and examination activities pertaining to the Pesticides Applicators Certification Program (PACP). The AES is responsible for training the pesticides applicators using restricted use pesticides. These pesticides applicators must be certified by the PACP of the PRDA.

The PRAES has the following programs or activities regard to NPS:

1. Best Management Practices for Unpaved Roads.

2. 4-H Youth research and outreach project for Non-point Source Pollution at Cabo Rojo Coastal Communities.

Department of Natural and Environmental Resources (DNER) – The Reorganization Plan No. 4 of December 9, 1993, renames the Department of Natural Resources as the Department of Natural and Environmental Resources created by Act 23 of June 20,

1972. Its mission is to protect, preserve and manage the natural resources and environment in a balanced way to ensure future generations enjoyment and encourage a better quality of life. DNER administers the Law of Conservation, Development and Use of the Water Resources of Puerto Rico (Law No. 136 of June 3, 1976) and the Regulation for the Appropriation, Use, Conservation and Administration of the Waters of Puerto Rico. This Department is responsible for franchising and permitting the use of groundwater. The Law of Mines (Law No.6 of 1954), the Law of Extraction of Material from the Earth's Crust (Law No.144 of June 3, 1976), and Law No. 47 of 1963, to allow for the development of flood control, water use and conservation measures are also administered by DNER.

On October 2000, the National Oceanic and Atmospheric Administration (NOAA) and the EPA, approved the Plan for the Control of Non-point Source Pollution in the Puerto Rico Coastal Zone (the Plan). The Plan is jointly administered by the DNER and the PREQB. The coordination and implementation it is performed in a continuous basis through the Interagency Committee on Control of Non-point Source Pollution, created by an Executive Order (O.E. 1999-1908), and it is composed by federal and state agencies. This Plan was developed to control pollution from NPS through the island. To attain the control of the pollution by NPS, Puerto Rico must implement: (1) Mandatory Measures (MM's) in conformity with the guidance published by EPA, (2) management measures established by PR as they may be necessary to attain and sustain applicable water quality standards, and (3) MM's for the protection of Wetlands and Riparian Areas.

Puerto Rico Department of Agriculture (PRDA) – The PRDA, as it is known today, was created by Law No. 132 of July 17, 1960. The principal objective of this Department is to improve the conditions and the quality of living in the rural zones of PR, thus helping with the development of agricultural and livestock activities in these areas to help make it more self-sufficient for the population. The Department is to establish PR agricultural policy to ensure greater food security. As part of its mission seeks to ensure supply of safe and nutritious food based on Basic food basket recommended for PR. Also, PRDA has developed areas of advanced technology and entrepreneurship that is environmentally responsible and economically sustainable. This Department currently enforces laws and regulations for the uses of pesticides and fertilizers. In addition, this Department monitors the fate or disposal of the pesticides in the environment.

Puerto Rico Department of Health (PRDOH) – The PRDOH was established through the Health Service Reorganization Law (Law No. 81 of March 14, 1912, as amended). The agency is responsible for the protection of health and welfare of the complete island population. The PRDOH administrates and enforces Public Drinking Water

Systems under the Safe Drinking Water Act (PL-93-523) which was promulgated to ensure potable water supplies of the Island will not cause adverse health effects. The Law for the Protection of Drinking Water Quality (Law No. 5 of July 21, 1977) grants the PRDOH the responsibility of the protection of drinking water quality and the establishment of drinking water standards.
The PRDOH has the following programs or activities regard to NPS:

Environmental Health Program

1. Address complaints of septic tanks discharging to water bodies or adjacent to structures that are leaking or overflowing land.

2. Issues certificates of compliance for septic tanks required by funders of households located in rural areas and lacking of sewerage system.

3. Inspections for issue sanitary licenses to different facilities (restaurants, food stores, car washes, among others) includes the verification of wastewater disposition, which otherwise would become a non-point source of pollution.

4. Address household's problems with improper wastewater disposal such as those generated from washing utensils or clothes.

Puerto Rico Energy and Power Authority (PREPA) – PREPA is a public corporation that was founded in 1941. Its mission is to provide electric energy services to customers in the most efficient, cost-effective and reliable manner in harmony with the environment.

Puerto Rico Sewer and Aqueduct Authority (PRASA) – PRASA is a water company and the government-owned corporation responsible for water quality, water management, and water supply in PR.

The PRASA has the following programs or activities regard to NPS:

The PRASA has different types of discharges through its wastewater and drinking treatment plants (sludge treatment system). All of them have a NPDES permit and are point sources. However, there are occasions where the sanitary sewer and sanitary pump stations in the collection system is clogged by excess accumulation of fat solids and causing overflows. These waters can gain access to rivers and streams by storm sewers becoming a source spreads.

1. PRASA in order to safeguard the health and the environment, established the Spill Response and Cleanup Plan. This plan aims to standardize the appropriate response time, cleanup, mitigation and documentation.

2. The complaint reaches the PRASA overflow call center to: (1) the coordinator of complaints enters it in the SAP system, (2) the overflow notification reaches to the supervisor brigade, (3) the brigade goes to the site of the complaint and verify the overflow, (4) if sanitary overflow exist the personnel unclogs the pipe and cleans the surroundings, (5) if it was possible to resolve the complaint was closed, and the relevant agencies was notified and documented within 24 hours of starting the overflow, (6) if the complaint cannot solve at this time (if needed to replace or fix the plumbing) the personnel perform a 5 days notification, and the relevant agencies was notified and documented.

Puerto Rico Planning Board (PRPB) – The PRPB was establish through the Puerto Rico Planning Board Organic Law (Law No. 75 of June 24, 1975, as amended). This agency guides the overall development of the island, establishing a rational, balanced and sensible plan which agrees with current and future social, environmental, physical and economic conditions, and will foster a process of economic and social sustainable development. Essentially, it protects the health, economic growth, security, order, culture and natural resources for this and future generations. The mission of the PRPB is plan for the development of PR based on three fundamental principles: Competitive Economy, Healthy Environment and Improving Our Quality of Life. The PRPB supports the government, with emphasis to promote balanced and sustainable development in the island.

Puerto Rico Permit Management Office (PRPMO) – The PRPMO is created under the Reform Permitting Process Puerto Rico Law (Law No. 161 of December 1, 2009). This law states that the PRPMO office will be responsible for issuing final determinations and permits, licenses, inspections, licensure or other authorization or formality that is necessary to satisfy the requests of citizens. Facilitate and promote the comprehensive, economic, physical and social sustainable development of PR that will result in the growth of more, better and different industries and job creation in the private sector. This agency is responsible for the Evaluation of Environmental Compliance, perform an Environmental Recommendation and assess the Environmental Impact Statements.

Puerto Rico Highway Transportation Authority (PRHTA) – PRHTA develop and promote an integrated transportation system, together with the road infrastructure and service delivery, facilitate the economic development of PR in harmony with the environment. Its mission is bring to PR to the economic development through

efficient, safe transportation system, and in harmony with the environment, ensuring the provision of services of excellence.

Natural Resources and Conservation Services (NRCS) – Provides assistance to farmers to improve water quality. This includes improving nutrient and pesticide management and reducing soil erosion, thus decreasing sediment that would otherwise end up in lakes and streams. Technical assistance, including engineering, structure design and layout for manure management and water quality practices contributes significantly to state water quality efforts.

Following NRCS Caribbean Office programs or activities regard to NPS:

National EQIP Initiatives (available locally)

1. On-Farm Energy Initiative (NOFEI) (EQIP Energía) - The EQIP On-Farm Energy Initiative identifies ways to conserve energy on the farm through an Agricultural Energy Management Plan (AgEMP), conservation activity plan (CAP) or on-farm energy audit, and helps producers implement energy audit recommendations by applying NRCS conservation practices to improve energy efficiency.

2. Organic Initiative (NOI) - The EQIP Organic Initiative helps customers to get certified as organic producers and helps producers who are transitioning to organic to install conservation practices on organic agricultural operations. Resource concerns to be addressed include: Soil condition, Soil erosion, Water quality (nutrients, organics, sediment, pathogens and temperature), Water quantity, Domestic animals (inadequate feed, forage, water & shelter), Plant condition, and Fish & wildlife (inadequate cover/shelter, threatened & endangered species).

Caribbean Area EQIP Initiatives (All year initiatives)

1. Conservation Innovation Grants - Conservation Innovation Grants (CIG) is a voluntary competitive program intended to stimulate the development and adoption of innovative conservation approaches or ideas in conjunction with agricultural production.

2. Coral Reef Initiative - NRCS will help producers reduce non-point source pollutants (nutrients, sediment, or pesticides) in impaired

watersheds, reducing groundwater contamination, and conserving ground and surface water resources by cost-sharing conservation practices such as; Comprehensive Nutrient Management and Integrated Pest Management Plans.

3. National Water Quality Initiative (NWQI) - The Water Quality Initiative is a focused approach to help landowners in priority watersheds to apply selected conservation practices to reduce the flow of sediment, nutrients and other pollutants in runoff into impaired waterways. The priority watershed in the Caribbean Area for FY 2012 and 2013 is the **Añasco River Watershed**. For FY 2014, the **Río Guanajibo Watershed** has been added to NWQI.

4. South Aquifer Initiative - The South Aquifer Watershed Project in Juana Diaz and Santa Isabel, Puerto Rico, was initiated in 2005 to address a critical decline of the water table and the increase of salt water intrusion into the aquifer. The project aims to protect, preserve and improve the quality and quantity of agricultural resources in the watershed. It currently includes water management projects in Santa Isabel, Coloso Valley and Guánica.

5. Seasonal High Tunnel, Pineapple Specialty Crop, Agroforestry, U.S. Virgin Islands.

6. Agroforestry (Multy Story (Shaded Coffee) and Silvopasture.

7. Ecological Coffee processing system (water reduction equipment)

Caribbean Area Resource Concerns

1. Protecting and conserving soils to reduce soil erosion and sedimentation.

2. Improving air quality by reducing odors, greenhouse gases (methane and carbon dioxide) from AFOs/CAFOs, and chemical drift; planting trees for carbon sequestration.

3. Reducing energy consumption and improving energy use efficiency.

4. Promoting habitat recovery and protecting threatened/endangered species.

5. Improving grazing & crop land plant & soil condition (reducing compaction, invasive species, contaminants, organic matter depletion and improving plant productivity).

6. Improving water retention, water use efficiency and conserving water resources.

7. Reducing surface & ground water quality impairment from pathogens, pesticides, excessive nutrients & organics, salinity and sediment.

Non-Governmental Organizations (NGO) – NGOs will be included in order to strengthen the program by bringing new ideas and increase public understanding of the problems, and more important, public commitment to the solutions.

United States Environmental Protection Agency (EPA) – The mission of the EPA is to protect human health and the environment. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States. Under the CWA, EPA works closely with states, territories and tribes to implement pollution control programs such as setting wastewater standards for industry and water quality standards for pollutants in surface waters. The CWA goal is to restore and maintain oceans, watersheds, and their aquatic ecosystems to protect human health, support economic and recreational activities, and provide healthy habitat for fish, plants, and wildlife.

Stormwater runoff has been identified through the years as one of the most important sources of water pollution. Construction and agricultural activities, and the development and expansion of urban areas without control measures are increasing the loads of pollutants including sediments that are reaching our water bodies. The origin of those pollutant are non-point sources of contamination. Once these waters are collected in a confined and discrete conveyance like a pipe, or channel and are discharged to a water body, they are regulated as a point source through the EPA's NPDES Stormwater Program. This program control the stormwaters discharges to water bodies through a permits system that regulate the following sources: construction and development activities, municipal separate stormwater sewer systems and discharges related to industrial activities.

1. Stormwater discharges related with construction activities:

   Stormwater discharges related with construction activities (such as clearing, grading, excavating, and stockpiling) that disturb one or more acres, or smaller sites that are part of a larger common plan of development or sale are regulated through the NPDES General Permit for Discharges from Construction Activities (GCP). Prior to discharging stormwater, construction operators must obtain coverage under GCP. The CGP requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP).

2. Municipal Separate Storm Sewer System (MS4):

   In Puerto Rico polluted stormwater runoff is discharged untreated into local water bodies through municipal separate storm sewer systems (MS4s), as defined in the 40 CFR Part 122.26(b)(8). To prevent pollutants such as bacteria, oil and grease, sediments, pesticides, fertilizer and solid waste or trash gain access to water bodies, operators of MS4 must obtain a NPDES permit that requires the development and implementation of a Stormwater Management Program.

   a. Phase I of the NPDES stormwater program, issued in 1990, requires that operators of medium and large MS4 that serves populations of 100,000 or more to obtain NPDES permit coverage for their stormwater discharges.

   b. Phase II of the NPDES stormwater program, issued in 1999, extended the requirements of the program to small MS4s.

   In PR, MS4s are regulated under the Phase II of the program.

3. Stormwater discharges related with industrial activities:

   Stormwaters discharges associated with industrial activities are regulated through one of two types of NPDES permit: individual permits or the multi-sector general permit (MSGP). Individual permits establish specific effluent limits and requirements based on the particular conditions of the industrial facility and the receiving water body.

   The MSGP covers 29 sectors included in 10 of the 11 categories of stormwater discharges associated to industrial activities described in 40 CFR Part 122.26(b)(14)(i)-(xi). The MSGP requires the development and implementation of

a site-specific Stormwater Pollution Prevention Plan (SWPPP) in addition to the implementation of control measures.

Even though, the NPDES permit is a control measure for a point source of pollution, the requirement to develop and implement a SWPPP include BMPs to control the pollutant loads from NPS that contributes contaminants to the stormwaters regulated by the NPDES permit.

In PR, as described in the Construction and Other Activities section of EPA's Key Component 3, construction activities that impact an area of 900 m^2 or more, or generate 40 m^3 or more of material to be handled or disposed require a permit under the provisions of the PREQB's Erosion Control and Sedimentation Prevention Regulation (ECSPR). In those activities in which both permits are required, the operator is responsible to obtain and comply with the requirements of the state and federal regulations. In such case, PREQB and EPA may share information and coordinate inspections and enforcement actions in order to expand and increase the efforts to reduce and control non-point sources of pollution.

In addition, PREQB participate in seminars and workshops to provide technical assistance and training to the general public and regulated communities regarding pollution prevention measures and best management practices in order to reduce the pollutant loads discharged to the water bodies.

United States Geological Survey (USGS) – Caribbean Water Science Center in Puerto Rico, among others responsibilities implement water quality and environmental assessment projects on behalf of the PREQB. The USGS will collect surface water samples and will perform all water-quality analyses and data management according to the QAPP. All data collected will be published and issued to PREQB as part of the USGS annual data report and an open file report. In addition, preliminary results (subject to revision) will be provided to PREQB quarterly.

C. *EPA's Key Component 3:*

The state uses a combination of statewide programs and on-the-ground projects to achieve water quality benefits; efforts are well-integrated with other relevant state and federal programs.

In PR, the NPS Program has been focusing on the development and implementation of regulatory programs to control non-point sources of pollution. Regulations have been developed and implemented to control non-point sources of pollution in urban

areas and in rural areas where we have livestock enterprises. Some of the activities of concern in these areas include use and disposal of animal fecal waste handling, agriculture, construction activities causing erosion, sediment and nutrient loads underground injection control systems septic systems, leaking septic tanks, car washes, and non-filer activities.

1. Regulatory Programs:

a) Construction and Other Activities

The PREQB, in coordination with the DNER, and in consultation with the Interagency Committee for the review of the Program of Erosion Control and Sedimentation, identified the need to develop and adopt regulation to prevent and control the pollution of the waters of Puerto Rico and other resources. In 1998, the Erosion Control and Sedimentation Prevention Regulation (ECSPR) was developed and approved.

The Interagency Committee for the Revision of the Sedimentation and Erosion Control Program included representatives from the following agencies and organizations: the maybe better to spell it out. PRPB, the PRPMO, the NRCS of the USDA, and the AES of the UPR, the DNER, the PREQB and the Districts of the Soil Conservation Service.
The regulated activities are those that may cause or lead to the erosion of the soil. These activities include but are not limited to: the removal of the vegetative cover of the soil; the construction or demolition of structures; the removal, storage or disposition of soil, including dredged materials; or any other activity that impacts soil conditions.

Subparagraph C of Rule 1215 of the ECSPR, explains the exemptions under the regulations. Some of those exemptions include the excavation for the construction of water wells or ground water monitoring wells authorized by the DNER and agricultural activities that are part of a BMP implementation plan prepared by NRCS, PRDA, the AES of the UPR, or a licensed professional. Additionally, construction or demolition activities (in areas less than 900 square meters), where the material that will be used as fill or extracted, stored, stacked or removed, are less than 40 cubic meters and do not gain access to a body of water, are excluded from the Regulation.

On December 8, 2004, the Governing Board of the PREQB adopted the Puerto Rico Erosion and Sediment Control Handbook for Developing Areas (Appendix

3). The handbook is used as a technical reference by developers, planners, engineers, government officials, and others involved in land use planning, building site development, and natural resource conservation in rural and urban communities and developing areas.

The standards and associated materials included in the handbook describe BMPs for controlling non-point source pollution that may affect ecosystems in existing communities and developing areas. It includes an array of BMPs to accomplish the three basic elements to prevent sedimentation.

This handbook was prepared by the USDA-NRCS, Caribbean Area. Initially released in 2004, the handbook is being revised by a committee composed of the following state, federal and private entities: NRCS, PREQB, EPA Caribbean Environmental Protection Division (CEPD), PRPB, the PR Contractors Association and PR College of Engineers and Surveyors.

The Erosion Control Division (EDC) of the Water Quality Area (WQA) is responsible for implementing the applicable rules and regulations and provides training to our staff at the PREQB Regional Offices so they can implement the ECSPR (PREQB, 1997). The permits issued are more stringent than those issued by EPA National Pollutant Discharge Elimination System (NPDES) storm water permits for construction activities since the discharge of water with sediments to our water bodies is not allowed and permits are issued for projects that cover an area less than one acre. In Puerto Rico, a permit is required for those activities that cover an area as small as 900 m^2 or areas that generate more than 40 m^3 of material to be handled or disposed. This is necessary to prevent storm water runoff from a project or activity from impacting a water body.

The permit application must be submitted prior to the start of a project and an environmental assessment of the potential impact of the project to the environment must be prepared and submitted for the approval of the PRPMO. A permit for the project will not be issued if the environmental assessment is not prepared and submitted for approval.

The permit applications must be submitted by licensed engineers and architects. The permit applications include hydrographic plans, topographic plans and storm water runoff calculations. These documents are used to prepare the best management practices for the project and the site plan of the

project that will include the type and location of each management practice that will be implemented in the project to control erosion.

The permits are granted for a period of five years, during which the personnel of the division will inspect to verify compliance with the permit conditions and management practices implemented or to follow-up on complaints submitted to PREQB.

Projects for which a permit has been issued, shall submit a monthly report that includes the control measures implemented on the premises, its maintenance and efficiency since its implementation. This monthly report shall be accompanied with color photos as evidence of the practices that have been implemented and the effectiveness of such practices. The monthly report is prepared by a licensed engineer or architect.

At the end of the activities for which the permit was granted, a final report shall be submitted that includes the permanent control measures that were implemented and indicates that all impacted areas were stabilized minimizing or eliminating the potential for erosion of the soil and sedimentation of water bodies. The final report shall be accompanied with color photos and any other document needed as evidence that all the areas in the project were stabilized minimizing or eliminating the potential for erosion of the soil and sedimentation of water bodies and evidence of the permanent control measures that were implemented.

In 2007, GPPR was approved with the purpose of improving the processing of several permits which included those issued under the ECSPR (PREQB, 2007). This allowed the personnel from the ECD to increase their effort towards enforcement and compliance.

The aforementioned division and personnel from PREQB Regional Offices are responsible for performing inspections for all the proposed and active projects to ensure compliance with the permit conditions, and if necessary, issue notices of violation requiring corrective action. If the corrective action is not implemented they referred the facility to the Office of Legal Affairs for legal action. The regulation approved in 2007, changed the process with respect to issuance of permits and has increased the enforcement required for these activities.

Among the activities that are performed in the ECD are the following:

1. Identify and give follow up to those projects that do not have an approved permit and bring them into compliance with the regulations.

2. Inspect the projects to verify the implementation of the best management practices included in the permits and the effectiveness of such practices. If violations to the permit are observed during the inspection, a notice of violation is issued in the field by PREQB personnel. A period of five working days is granted so that the violations identified in the field inspection are corrected. Written and photographic evidence of improvements to the measures implemented to control erosion is required, as well as the submittal of any document regarding the improvement or any other information requested by PREQB personnel during the inspection.

   If any of the management practices implemented is not effective to control or prevent erosion, to protect the water bodies from the sedimentation problems, a modification of the practices included in the permit may be requested by PREQB.

3. Evaluate the best management practices plan (BMPP) included in the permit applications prepared by professional engineers, architects or licensed agronomists that are contracted by the owners or operators of the livestock enterprises to prepare it as well as the other documents required to submit a permit application in accordance with the applicable regulations.

4. Refer to the Office of Legal Affairs of PREQB, cases of projects that are not complying with their permits and the regulations. If a project fails to comply with a notice of violation and corrective action are not implemented in the facility to eliminate for example a discharge of storm water runoff with sediments to a water body, it will be referred for legal action. Also, if activities not covered by the permit are observed during the inspection or if the activities performed in the project may adversely affect public health or other properties, the project will be referred for legal action.

5. The Division may coordinate joint actions with other state or federal agencies in order to expand and increase the enforcement and compliance efforts to reduce and control non-point sources of pollution.

b) Livestock Enterprises

Since the early 80's, PR has been working to develop regulation to control the pollution problems from agricultural activities. Best management practice plans were required in order to control pollutants that could affect our waters. However, this was not enough to control the problem. Several committees with representatives of several state and federal agencies and the University of Puerto Rico, Mayagüez Campus worked with the PREQB in the development of the regulation. Finally, on 2008 the regulation was developed and promulgated. This regulation is titled *"Reglamento para el Control de los Desperdicios Fecales de Animales de Empresas Pecuarias"* (animal waste control regulation for livestock enterprises) (PREQB, 2008). This regulation establishes a permit system as the key element required to implement and operate an animal waste management system in a livestock enterprise to control and reduce pollutants that can get into our waters from the activities performed in this type of facilities. The discharge of water with animal waste to our water bodies is not allowed by these permits, because they are zero discharge permits.

The Livestock Enterprises Permit and Compliance Division (LEPCD) of the WQA is responsible for implementing the applicable rules and regulations for the control of livestock enterprises as a non-point source of pollution in Puerto Rico. The technical personnel that work in the LEPCD are licensed agronomists.

Among the activities that are performed in the LEPCD are the following:

1. Inspect and provide follow-up to livestock enterprises to prevent and control the impact to the environment that may occur as result of improper handling of animal waste, or improper implementation of the best management practices, deficiencies on the operation of the animal waste management system or lack of maintenance of the components of the animal waste management system operated under the permit issued by the PREQB. The follow-up performed by PREQB personnel to the implementation of the best management practices included in the permits is a key element to control and reduce the contribution of pollutants from livestock enterprises to our surface and ground waters. This activity includes inspection of the facilities and the follow-up to cases that were detected with violations to the conditions included in the permits, the evaluation of permit applications and if necessary referral of cases for the appropriate legal action.

The animal waste generated in a livestock enterprise not necessarily is managed and disposed in the facility due to the lack of space. If that is the situation, the operator of the livestock enterprise may submit one or more farms whose operators are willing to receive the waste and used as fertilizer. These farms are called receptor farms and are subject to comply with the requirements of the animal waste control regulation for livestock enterprises. PREQB issues an authorization to those receptor farms in accordance to the requirements in the regulation and PREQB personnel inspect these receptor farms to verify compliance with the requirements of the regulation and the authorization issued to receive and use the animal waste.

2. Evaluate the BMPP prepared by the NRCS, the PRDA, the AES of the UPR or professional engineers or licensed agronomists that are contracted by the owners or operators of the livestock enterprises to prepare it as well as the other documents required to submit a permit application in accordance with the applicable regulations.

3. Prepare technical reports and issue notice of violations as part of the inspections aimed at the control of pollution from livestock enterprises.

4. Refer to the Office of Legal Affairs of PREQB, cases of livestock enterprises that are not complying with their permits and the regulations. If a livestock enterprise fails to comply with a notice of violation and corrective action are not implemented in the facility to eliminate for example a discharge of animal waste that can affect the waters of PR, it will be referred for legal action.

5. Maintain all the information relative to the inventory of livestock enterprises and types of management systems including the quantity of animals, their physical address, location coordinates, and identification of watersheds where they are located.

6. Provide seminars and workshops to the general public, state or federal agencies, and the regulated community regarding proper management and disposal of animal waste and animal waste management systems regulation. Also in those seminars and workshops are included requirements from other PREQB regulations such as PR's UIC Regulation.

7. Establish the coordination with other state and federal agencies that provide services or regulate activities in livestock enterprises to increase awareness of the applicable state and federal regulations, to identify areas of concern that should be worked in coordination with other state and federal agencies. In addition, coordinate efforts to provide seminars to the regulated community and staff from state and federal agencies. At present, we are working closely with the NRCS to improve procedures that will facilitate the evaluation of permit applications.

c) Underground Injection Control

The Underground Injection Control Regulation (UICR) of the PREQB, has the purpose of protecting our groundwater resources that are used or have the potential to be used as drinking water. This is achieve through the implementation of a permit system to control the injection of fluids into the subsurface. In order to reduce the threat that contaminants such as pathogens, nutrients, heavy metals and other inorganic and organic compounds could contaminate our groundwater.

The requirements for the construction and operation of underground injection facilities or systems are included in Rule 302, 303 and 304 of the UICR. In Rule 301(A) we have the types of activities covered by the Regulation and in Rule 301(B) we have the type of activities excluded from it. The UICR also sets the type of injection activities allowed and those prohibited (Rules 201 and 202), controlling those permitted by implementing a permit system.

Septic systems (septic tank with a seepage pit, trenches or a leaching field or holding tanks) used in commercial facilities, federal or state facilities or multifamily dwellings are regulated by the UICR. Also, the injection of fluids through sinkholes or natural drainage cavities and the storage of wastewater and other fluids in underground storage tanks are regulated by the UICR.

The UICR does not regulate individual disposal systems (septic systems (septic tank with a seepage pit, trenches or a leaching field) or holding tanks) for the injection of domestic waste serving individual residences. These are regulated through the *"Reglamento Conjunto"* of the "*Oficina de Gerencia de Permiso"* (PRPMO). For the construction of this type of system, it is a requirement to include all the information for the construction of the system with the permit application for the construction of the individual residence. The information submitted to the Permit Management Office must comply with the requirements of the *"Reglamento Conjunto"*. The information submitted is

evaluated and an authorization is issued for the construction of the septic system.

It is important to point out that the construction and operation of cesspools is prohibited in PR's regulations. The UICR prohibit the construction and operation of cesspools and the regulations from the PRPMO also prohibit the construction of cesspools. If a cesspools that is under the jurisdiction of the UICR is identified in a facility, the owner or operator will have to close the system or convert it into a system that complies with the UICR.

Also, the PREQB is the state agency responsible for implementing the federal Underground Injection Control Program (UICP) since July 1992, when the UICP was delegated to PR by EPA.

The Underground Injection Control Division (UICD) of the WQA is responsible to implement the state and federal regulation regarding the injection of fluids into the subsurface. Some of the activities that are performed in the UICD are as follows:

1. Inspect and provide follow-up to underground injection facilities (UIF) that could be affecting the groundwater and surface waters resources.

2. Evaluate compliance plans and closure plans prepared by professional engineers that are contracted by the owners or operators of UIF.

3. Prepare technical reports and issue NOVs as part of the inspections aimed at the control of pollution from UIF.

4. Refer to the Office of Legal Affairs of the PREQB, cases of UIF that are not complying with their permits and the regulations for the pertinent legal action.

5. Provide seminars and workshops to the general public, state or federal agencies, and the regulated community regarding the UIC regulation and the proper management of UIF.

6. Coordinate joint actions with other state or federal agencies in order to expand and increase the enforcement and compliance efforts to reduce and control UIF as a non-point source of pollution.

PREQB recognizes that onsite wastewater treatment is the leading cause of potential NPS pollution impacting almost 5,000 miles of waters throughout the Commonwealth. While PREQB is responsible and has the UICR to address onsite wastewater treatment facilities, those regulations do not include addressing onsite systems for individual residences. PREQB role is to continue to be involved as an active participant when partner agencies solicit comments/request assistance regarding onsite wastewater treatment systems. Some of the actions taken by the PREQB include making referrals to PRDOH on complaints received about the onsite systems for individual residences.

d) Underground Storage Tanks

The Underground Storage Tanks Division (USTD) was created to regulated/control the UST facilities and responds to the problematic of escapes that could be affecting the underground water resource. In order to control this type 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 EPA thru a MOU delegated the pursuit of UST to PREQB.

2. State Revolving Fund

The *Infrastructure Projects Division* (IPD) of the WQA has the responsibility of managing the federal funds allocated by EPA through the Clean Water Act State Revolving Fund (CWSRF) program. Also, it assesses the planning, design and construction phases of each project funded by the program in order to verify compliance with Title VI of the CWA.

The CWSRF program maintains revolving loan funds to provide independent and permanent sources of low-cost financing for a wide range of water quality infrastructure projects including all types of NPS, watershed protection or restoration, and estuary management projects, as well as municipal wastewater treatment projects. The program allows the flexibility to target resources to the state particular environmental needs. Also, allows the flexibility to customize the loan terms to meet the needs of small and disadvantaged communities.

Some of the non-point sources activities eligible to be funded by the CWSRF are:

- Stormwater management program: This category includes the needs and costs to plan and implement structural and nonstructural measures to control

stormwater pollution from diffuse sources by (1) reducing pollutants from runoff from commercial and residential areas that are served by the storm sewer, (2) reducing pollutants in construction site runoff discharged to municipal separate storm sewers.

- Agriculture (Cropland): This category includes costs to address NPS pollution control needs associated with agricultural activities related to croplands, such as plowing, pesticide spraying, irrigation, fertilizing, planting and harvesting.

- Agriculture (Animals): This category includes all costs that address NPS pollution control needs associated with agricultural activities related to animal production, like animal waste storage facilities, animal waste nutrient management, composting facilities, and planned grazing.

3. Land Pollution Control Area

The Land Pollution Control Area (LPCA) of the PREQB is responsible to plan, develop and enforce the public policy related to the management of solid waste in Puerto Rico. The Non-Hazardous Solid Waste Management Regulation provides general prohibitions on non-hazardous solid waste management, special wastes, biosolids generated in the process composting and special provisions for collection and storage.

This regulation additionally provides the following prohibitions to avoid that NPS cause water contamination:

a) Wastewater Sludge and Septic Waste

No person shall cause or permit the provision, application or enters the incorporation of sewage sludge or waste from septic tanks, unless:

1. They are treated by some process that significantly reduces pathogens. The completion of this process they shall obtain prior approval from the PREQB.

b) Surface Water

No person shall discharge or permit solid waste is discharge, spill or gain access to surface water, wetlands or coastal waters within the jurisdiction of PR. Will only be permitted discharge of non-hazardous solid waste if it meets:

1. WQC as established in the PRWQSR;

2. Any of the requirements of the CWA, although this is not limited to the NPDES; and

3. Any other law or regulation, federal or from Puerto Rico that apply.

c) Groundwater

No person shall pollute or permit the pollution of groundwater in the jurisdiction of Puerto Rico. The owners or operators of solid waste facilities shall verify and ensure that your transaction complies with the applicable provisions of the UIC Regulations, promulgated by the PREQB.

4. Other Programs or Initiatives:

Other actions already being implemented by the PREQB to address the restoration of the water quality in streams, lakes and coastal waters are the following:

- Development of TMDLs in the Impaired Basins- Sections 305(b) and 303(d) of the CWA requires that states and territories, every two years, prepares a water quality assessment report. This report must include water quality of the country and its compliance with applicable WQS. Also, requests identify the water bodies that are in non-compliance with WQS (303(d) List); and the priorities to take them to compliance through the development of TMDLs.

- Outreach activities pertaining to NPS problems were also performed. These include educational activities regarding NPS problems. These activities include conferences, seminars, and distribution of brochures.

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

- Development of the Puerto Rico Nutrient Standard Plan (PRNSP). The PRNSP describes the approach to addressing nutrient over-enrichment, along with the plan to refine its current nutrient criteria in response to the EPA requirements that states/territories adopt nutrient criteria for their waterbodies.

As mutually agreed, PREQB continue to submit the revised plan on an annual basis to provide an update on ongoing research and progress in the area of nutrient criteria development. The nutrient criteria for rivers and streams was adopted and incorporated into the PRWQSR on August 19, 2014.

PREQB amended the PRWQSR to incorporate the new standards for TP and TN applicable to the rivers and streams of Puerto Rico. Actually, PREQB is in the process to complete the development and adoption of the numeric nutrient criteria (TP and TN) for lakes/reservoirs.

5. Collaborations

PREQB coordinated effort of various government agencies and other organizations to improve the restoration and preservation activities that results in a better water quality in Puerto Rico.

- Jobos Bay Reserve – National Estuarine Research Reserve System

The primary research goal of Jobos Bay Reserve (JBR) is to promote and coordinate high quality scientific research to expand knowledge of significant tropical estuarine resources in order to improve coastal management decision-making. Research and monitoring objectives are:

1. promote and conduct long-term baseline studies to characterize flora and fauna within the Reserve and gain an understanding of the ecological inter-relationships between organisms and their environment;

2. promote a better understanding of tributary water quality conditions, particularly spatial and temporal dynamics, requirements for growth and survival of living resources, and contribution and effects of point and non-point pollution;

3. promote a better understanding of the physical processes operating within the estuary and watersheds, such as tidal influence, circulation dynamics, freshwater inflow, stratification patterns, and sediment dynamics.

JBR supports and encourages many other research projects that help staff to better understand and manage the estuary. Most recently, the Reserve has been collaborating with the Conservation Effects Assessment Project (CEAP), a collaborative effort between NOAA and the USDA to address agricultural BMPs within the watershed. Research priorities within the Reserve include the

effects of climate change on coastal communities and resources, sea level rise, eutrophication, habitat loss and alteration, and resource conservation.

- San Juan Bay Estuary Program (SJBEP)

  The Conservation Corporation Estuary, a nonprofit organization, has as one of its main functions to manage federal funds and received the organization to meet the needs and operations of the office projects SJBEP. Other functions are: Promote and monitor the process of implementation of the management plan. Informing members of the Consortium on environmental response to this implementation process. Agglomerated and communicate with each other implementation efforts of the Management Plan. Conduct studies to understand, conserve and manage the resources of the SJEB. To the SJBEP it's important to enhance public awareness of the estuary. Furthermore, the SJBEP participates in the implementation process of the Management Plan.

- National Water Quality Initiative

  The NWQI work in priority watersheds was initiated to help farmers improve water quality and aquatic habitats in impaired streams. NRCS will help producers implement conservation and management practices through a systems approach to control and trap nutrient and manure runoff. Qualified producers will receive assistance for installing conservation practices such as cover crops, filter strips and terraces.

D. EPA's Key Component 4:

The state program describes how resources will be allocated between (a) abating known water quality impairments from NPS pollution and (b) protecting threatened and high quality waters from significant threats caused by present and future NPS impacts.

It is the goal of PREQB, through the PRWQSR, to preserve, maintain and enhance the quality of the waters of PR in such manner that they be compatible with the social and economic needs of the Commonwealth of PR. According to the State Law No. 416 of September 22, 2004, as amended, PREQB may adopt regulations, issue permits and issue orders restricting the content of any waste(s) or discharged polluting substance(s) in the waters of PR and establish and implement regulations for pretreatment of wastewater and NPS controls.

The PRWQSR establishes the water quality standards for surface, coastal and groundwater of PR. A water quality standard has three components determining a water bodies designated uses, adopting water quality criteria, and adopting an anti-degradation policy. Narrative and numeric water quality criteria are established to protect designated uses and to be able to evaluate the health of a water body.

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

- Protection and propagation of fish, shellfish and wildlife;
- Primary and secondary contact recreation; and
- 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 were evaluated, based on availability of water quality data and/or other available information to determine if they comply with the different applicable water quality standards and whether or not the designated uses were attained.

Moreover, PREQB has specific regulations to control the NPS of pollution like: confined animal enterprises, livestock enterprises, agriculture, urban development, construction activities, and UIC systems, among others. The regulations are the followings:

- Animal Waste Control for Livestock Enterprises
- Consolidated General Permit for Construction Activities and General Permit for Other Activities
- Erosion Control and Sedimentation Prevention
- Non-Hazardous Wastes Management
- Underground Injection Control
- Underground Storage Tanks

Pollution prevention is continually being promoted within the Agency and in external activities such as presentations on surface/groundwater protection, storm water management and erosion controls, proper management and disposal of animal waste and animal waste management systems regulation, as well as pesticides use. Technical support activities, seminars and orientation to the general public and regulated communities also include reminders of and suggestions of pollution prevention activities. Pollution prevention measures and conditions such as BMPPs, spill prevention plans and emergency contingency plans are included in permits, whenever appropriate.

1. *Anti-degradation Policy*

It is the policy of the Commonwealth of PR to conserve and protect the existing and designated uses of the waters of PR, including the water quality necessary to protect such uses, and the threatened and endangered species.

In those water bodies where the quality exceeds levels necessary to support propagation of fish, shellfish, wildlife, desirable species, including threatened or endangered species and recreation in and on the water, that quality shall be maintained and protected. A lower water quality may be allowed when the Board determines, after full satisfaction of the governmental coordination and public participation requirements of the Board's Continuing Planning Process, that allowing lower water quality is necessary to accommodate important economic or social development in the immediate area where the waters are located. In allowing such lower water quality, the Board shall require a water quality level adequate to fully protect existing and designated uses.

E. *EPA's Key Component 5:*

The state program identifies waters and watersheds impaired by NPS pollution as well as priority unimpaired waters for protection. The state establishes a process to assign priority and to progressively address identified watersheds by conducting more detailed watershed assessments, developing watershed-based plans and implementing the plans.

1. *NPS Management Program Implementation Strategy*

For many years, we focus our efforts towards enforcement and compliance, specifically in one or more of the 18 priority watersheds identified in the PRUWA and Restoration Priorities, document. Those actions occurs at basin level and not

in sub-basin or AU level. For example, in a given year the WQA could choose Río Grande de Loíza watershed to work on it, but not all efforts were directed to the same AU within the basin by each one of the divisions (UICD, ESCD, LEPCD). Thus, the effort was not focus on meeting the needs of the watershed; as a result the real causes of pollution would not be met completely. So efforts on many occasions thinned failing to reach the restoration of the water body.

Notwithstanding, all these efforts were not enough to control NPS problem in the island. Now, under this ***Non-point Source Management Program***, PREQB will change the approach in attending the watersheds NPS problems. PRNPS program will identifies waters as subwatersheds or AU impaired by NPS pollution as well as priority unimpaired waters for protection. It will be establishes a process to assign **priority** and to progressively address identified watersheds by conducting more detailed watershed assessments. Also, PREQB will assist by increase its compliance inspections in those watershed areas according to its priority.

a) Priority Ranking

PREQB will work in the following ***Priority System*** in order to prioritize those watersheds affected by non-point source of pollution. The purpose will be to improve water quality, restore impairs watersheds and protect healthy ones.

The Priority System has been developed to set priorities for the watersheds according to their needs. The priority system is based on twelve (12) criteria and a score allocation system based on the priority assigned to each criterion. To establish the degree of priority for the protection and restoration the evaluation will be by AU (See Appendix 1). The watersheds are ranked to form the ***NPS Ranking List*** (please refers to Figure 2 for an example of the NPS Ranking List). Following the propose criteria for calculate the corresponding ranking for each assessment unit.

1. **Segment Classification -** if the AU is part of our major drinking water sources.

2. **Population density-** The population density is an important criteria to determine which segments are in the greatest need for protection in relation to each other.

3. **Mean annual precipitation** - Precipitation generates run-off waters that run on the ground, which have the potential to drag and transport sediment and other pollutants into waterbodies.

4. **Predominant activities-** The classification established are: agricultural and industrial.

5. **Monitoring stations -** Monitoring stations are essential to gather data on water quality and keep it updated.

6. **Known Potential Pollution Source -** Communities without sanitary sewage, constructions projects, bypass, UIC facilities, landfills, superfund sites.

7. **AU frequency on 303(d) List -** frequency the AU was included in the 303 (d) List in each evaluation cycles.

8. **Watersheds with approved TMDLs**

9. **Priority Watersheds** (if the AU is part of one of the Priority Watersheds as stated in the PRUWA and Restoration Priorities, October 1998).

10. **Water intakes from PRASA**

11. **Sensitives Natural Areas** (Provided by the DNRE).

12. **Valuable Coral Reef Areas-** Assessments units that drains to an area identified as valuable coral threatened areas

Assessment Unit ID	1-Segment Clasification	2-Population-Density Value	3-Annual-precipitation value	9-Priority Watershed	10-Intakes (PRASA)	11- Sensitive Natural Areas	Final Priority Score	Priority Ranking Percent
PRER14G1	4	5	5	2	2	2	54	96%
PRER14I	4	5	4	2	0	2	52	93%
PRER14A2	5	3	4	2	0	2	51	91%
PRNR7C1	5	1	4	2	2	2	47	84%
PRER10A1	3	5	3	2	6	0	46	82%
PRNR9A	3	5	3	2	0	2	44	79%
PRER14A1	3	6	3	2	0	0	44	79%
PRER16A	3	3	5	0	8	2	44	79%
PRER14H	4	5	2	2	0	2	44	79%
PRER14G2	4	5	4	2	0	2	43	77%
PRER10A3	5	2	2	2	4	2	42	75%
PRER12B	2	6	3	2	2	0	42	75%
PRWR95A	3	2	4	2	0	2	42	75%
PRNR7A2	5	1	3	2	0	2	41	73%
PRNR7A3	5	1	4	2	4	2	41	73%
PREL110A1	6	6	3	2	0	2	41	73%
PREL110A1	6	6	3	2	0	2	41	73%
PRER10A4	5	3	2	2	2	2	40	71%
PRER10A5	5	4	2	2	6	2	40	71%
PRNL3A1	6	2	4	2	2	2	39	70%
PRNL3A1	6	2	4	2	2	2	39	70%
PRER33A	3	4	3	0	0	2	39	70%
PRWR77A	3	5	3	2	0	2	39	70%
PRNR7A1	3	3	3	2	0	2	38	68%
PRNR8B	2	1	4	2	2	2	38	68%

Criteria Total Point | Ranking | Final Priority Score | Sheet1

Figure 2: Example of the NPS Priority List

To set the priority order in which the watersheds will be address the following system was established:

High Priority (H): are assessment units that have a ranking between 100 to 70 percentages (adjusted).

Moderate Priority (M): are assessment units that have a ranking between 70 to 32 percentages (adjusted)

Low Priority (L): are assessment units that have a ranking between 32 to 0 percentages (adjusted).

Priority ranking for watersheds affected by NPS of pollution - (Appendix 1) shows the priority ranking for each one of the inland watersheds. Those waters having a high priority (highest priority ranking) will refer to the corresponding PREQB WQA Divisions: ESCD, LEPCD and UICD in order that they can implement their regulatory programs in a strategically effort. Also, the priority will be share with partnerships so they can include it as part of their work plans and thus can direct their efforts (programs, incentives, technical assistance, and outreach activities) to address the highest priority for these waters (please refers to Figure 3).

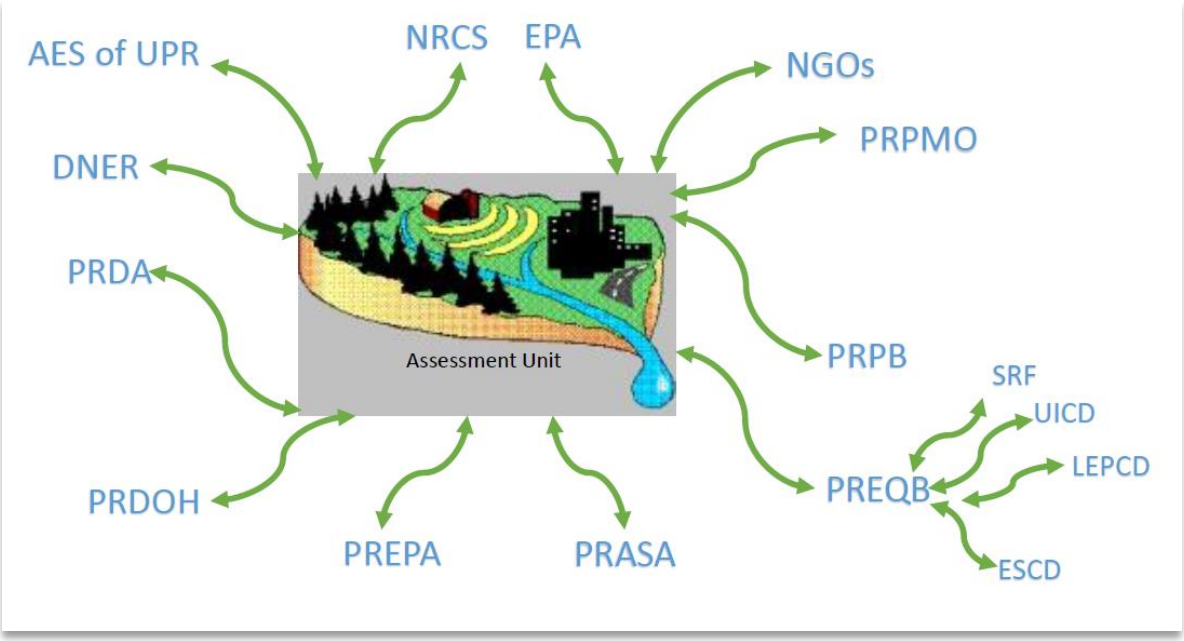

Figure 3: Federal and State Programs, and partners working together

This strategy: (1) will enhance the strategically coordinated integration of the permit systems, (2) will enhance coordination and improve efficiency, (3) will improve communications among federal, state agencies and NGOs involved in non-point source management, (4) will identify cooperative activities, (5) will evaluate and promote guidance, and (6) will coordinate programs of federal and local agencies and NGOs to better utilize existing resources.

F. EPA's Key Component 6:

The state implements all program components required by section 319(b) of the Clean Water Act, and establishes strategic approaches and adaptive management to achieve and maintain water quality standards as expeditiously as practicable. The state reviews and upgrades program components as appropriate. The state program includes a mix of regulatory, non-regulatory, financial and technical assistance, as needed.

In PR, due to the risks to public health and the environment by pollutants coming from NPS, it was necessary to develop regulatory programs that included issuance of permits and enforcement actions to control and reduce the pollutants that reach our water bodies from NPS of pollution.

In accordance to the CWA, funding appropriated under § 319 can be used to implement state NPS programs including, as appropriate**,** non-regulatory or regulatory programs for enforcement, technical assistance, financial assistance, education, training, technology transfer, and demonstration projects to achieve implementation of BMPs and water quality goals. It further states that while § 319 funds are important resources, it remains critical for states to strengthen their own NPS management programs, which we have done by adopting regulatory programs that address these specific problems of erosion and animal waste control; and to continue to strengthen existing partnerships with state and federal agencies that provide services and assistance to farmers engaged in agricultural activities; as well as to develop new partnerships to achieve water quality goals.

For many years, EPA has focused 319 resources on watershed based environmental restoration and protection. Therefore, considering that effective planning is always necessary to successfully guide restoration or protection efforts, PREQB use the watershed approach in the following aspects:

- In order to evaluate the water quality conditions of the rivers and streams a segmentation system was developed in terms of basins or sub-basins (HUC-12 or larger).

- Monitoring strategy establish for river and streams.

- TMDL development.

In the past, there have been notable program accomplishments, successes and challenges. Progress was made in implementing BMPs in all NPS areas through the provision of technical assistance, project funding or both.

1. BMPs and Control Measure

On December 8, 2004 the Governing Board of the PREQB adopted the *Puerto Rico Erosion and Sediment Control Handbook for Developing Areas* (Appendix 3). The handbook shall be used as a technical reference by developers, planners, engineers, government officials, and others involved in land use planning, building site development, and natural resource conservation in rural and urban communities and developing areas.

The standards and associated materials included in the handbook describe BMPs for controlling non-point source pollution that may affect ecosystems in existing communities and developing areas. It includes an array of BMPs to accomplish three basic elements to prevent the sedimentation. These are: soil stabilization, runoff control, and erosion control.

This handbook was prepared by the USDA-NRCS, Caribbean Area. Initially released in 2004, the handbook is being revised by a committee composed of the following state, federal and private entities: NRCS, PREQB, EPA CEPD, PRPB, the PR Contractors Association and PR College of Engineers and Surveyors.

This Handbook has benefits as an overview of BMPs and NPS control measures. Updates to the Handbook will continue to be made, when appropriate, for NPS categories where program needs exist. Moreover, PREQB to encourage adoption of BMP practices throughout PR, has this Handbook available in the agency website for general public and is shared with the partner agencies.

2. Education and Training

Training, workshops and seminars to communicate information on BMPs, NPS management topics, and laws and regulations amendments, are conducted through partnerships between federal and local agencies described on Key Component 2. Also, participation in seminars and workshops to provide technical assistance and

training personnel on program implementation are provided.

G. *EPA's Key Component 7:*

The state manages and implements its NPS management program efficiently and effectively, including necessary financial management.

According to the State Law No. 416 of September 22, 2004, as amended, PREQB may adopt regulations, issue permits and issue orders restricting the content of any waste(s) or discharged polluting substance (s) in the waters of PR and establish and implement regulations for pretreatment of wastewater and NPS controls.

In PR, the NPS Program has been focusing on the development and implementation of regulatory programs to control the NPS of pollution. Regulations have been developed and implemented to control and strengthen the NPS of pollution, such as, livestock enterprises (animal fecal waste handling, use and disposal, nutrient load, pathogens and fecal coliforms), agriculture and construction activities (erosion, sedimentation, nutrient load). Also, continue to strengthen existing partnerships with state and federal agencies that provide services and assistance to farmers engaged in agricultural activities; as well as to develop new partnerships to achieve water quality goals.

The NPS Program activities describe above will be funded from the sources identified in the PPG. PPG is a multi-program grant made to a State or Tribal agency by the EPA from funds allocated and otherwise available for categorical grant programs. PPG provide States and Tribes with the option to combine funds from two or more categorical grants into one or more PPG. The 319 funds that PREQB receives from EPA are included in a PPG tasks and activities for implementation, such as compliance and enforcement activities of non-point sources. More than 50% of its funds are spent by the personnel assigned to perform these non-point source related tasks and activities. Funding will also utilized to support elements such as administration, enforcement, monitoring, assessment and evaluation of program implementation, educational programs and trainings non-point source related, as established in PPG workplans.

Under CWA Section 319(h), EPA awards grants for implementation of state NPS Management Programs. As the grant recipient the State is required to submit annual NPS progress reports to EPA, which address milestone progress, resulting decreases in pollutant loadings, and other water quality improvements contained in the grant workplan and also the state's NPS Management Program.

This progress report will include the distribution of funds highlighting the amount used for implementation vs planning; in order to provide an appropriate balance between implementation, planning, assessments, and management.

In PR, the eligible Grant programs to be combined into a PPG are:

- NPS Management (319(h) Incremental Funds)
- Water Quality Management (Planning Funds under Section 604(b))
- Water Pollution Control (Section 106, Supplemental Fund)
- Underground Injection Control

H. EPA's Key Component 8:

The state reviews and evaluates its NPS management program using environmental and functional measures of success, and revises its NPS management program at least every five years.

PRNPSMP will review and evaluated both functional measures, which address program management and compliance with the requirements of Section 319 and the *PPG and 604(b) Consolidated Water Workplan* with EPA and environmental measures which assist us in assessing water quality.

PREQB will continue to meet the requirements of submitting project data into GRTS, as noted in the PPG work plan, for all projects funded by Section 319(h). Data entered in GRTS include: watershed project description and BMPs, fiscal information, pollutant load reduction estimates, geographical information, and other required elements. Section 319 grant recipients are required to submit their semi-annual and annual reports in the Grant Reporting and Tracking System (GRTS). GRTS is the primary tool for management and oversight of the grants portion of EPA NPS Pollution Control Program. Furthermore, GRTS pulls grant information from EPA centralized grants and financial databases and allows grant recipients to enter detailed information on the individual projects or activities funded under each grant. In addition, GRTS enables EPA and States to document the accomplishments achieved with the use of Section 319(h) grant funds. The data entered into GRTS is used by the EPA to respond to inquiries received from Congressional committees, the White House, and various constituent groups.

Many key components of PRNPS Management Program are continuously updated. Milestones and measures of progress associated with each of the PRNPS Management Program are subjected to continuous revision to fulfill NPS objectives and goals and to verify the effectiveness and efficiency of them. Continuous and annual program review and evaluation activities will be complemented by an overall NPS Program update every five years, as necessary based upon future revisions to the EPA Section 319 Guidelines and future PPG Agreements with EPA.

An annual report will be submitted on the first quarter of each fiscal year, in accordance with progress on the objectives and reporting measures set on the PRNPS Management Program.

III. Puerto Rico Future Plans: Actions to Enhance the Implementation of the 9 Elements

1. Puerto Rico, throughout PREQB, maintains and updates the partnership agreements, with the state and federal agencies in order to promote the development of restoration projects in watersheds with significant NPS.

2. PREQB has received support and assistance from EPA to develop tools necessary to perform the quantitative analysis of current nutrient and sediment loads and expected load reductions from proposed management practices. PREQB expects to perform the quantitative analysis of current nutrient and sediment loads and expected load reductions to determine the effectiveness of non-point source management measures that have been implemented to improve the water quality in the watersheds. The monitoring results are one of the mechanisms that will be used to determine the effectiveness of the measures implemented and the need to evaluate other measures to improve the water quality on a watershed.

3. PREQB amended the PRWQSR to incorporate the new standards for TP and TN applicable to the rivers and streams of Puerto Rico. Currently, PREQB is in the process of completing the development and adoption of the numeric nutrient criteria (TP and TN) for lakes/reservoirs. Once this process is completed, PREQB will use the endpoints of the nutrient criteria in the development of new TMDLs. PREQB expects implementation plans with TMDLs to include some or all nine elements.

APPENDIX 1

PREQB is still working in the *Priority ranking for watersheds affected by NPS of pollution strategy* in order to prioritize those watersheds affected by NPS of pollution.

APPENDIX 2

Please refers to the document Puerto Rico Erosion and Sediment Control Handbook for Developing Areas

APPENDIX 3

Please refers to the document *Partnership Agencies*