Charles Nace/R2/USEPA/US
11/29/2005 03:50 PM

To "Beauchemin, Melissa A"
cc
bcc
Subject Re: BERA workshop materials for CSM

Melissa,

Thanks for the information. I incorporated the ppt slide into the presentation. I think the map has to much detail for the presentation, but would be a good addition, as well as the associated text, for the binder. I am almost done with the presentation but will probably look it over tonight and send it out to you, Don, and Rich tomorrow morning.

Chuck
"Beauchemin, Melissa A" <BeaucheminM@BATTELLE.ORG>

"Beauchemin, Melissa A" <BeaucheminM@BATTELLE.ORG>
11/29/2005 11:28 AM

To Charles Nace/R2/USEPA/US@EPA
cc
Subject BERA workshop materials for CSM

Hi Chuck,

With regard to the conceptual site model discussion, we (Don, Norm, and I) were wondering if it would be beneficial to put the CSM from the PAR in the presentation and/or as a handout. It could serve as a "preliminary CSM" and would demonstrate the typical EPA-style CSM that is specified in the risk assessment guidelines. The figure is preliminary and would be up for discussion regarding pathways of exposure, receptors, etc. I have attached both a Word version, potentially as part of the hand-out packet and a potential slide.

Also, with regard to the discussion yesterday about sources/inputs of chemicals to the river, we have a map that shows the NJPDES permitted facilities and sources, along with a description of the NJPDES categories. Could this be beneficial to the CSM discussion and give perspective as to where inputs to the river are located? I have attached the map and a separate file describing the sources as potential hand-outs. Maybe too much detail?

Thanks,
Melissa

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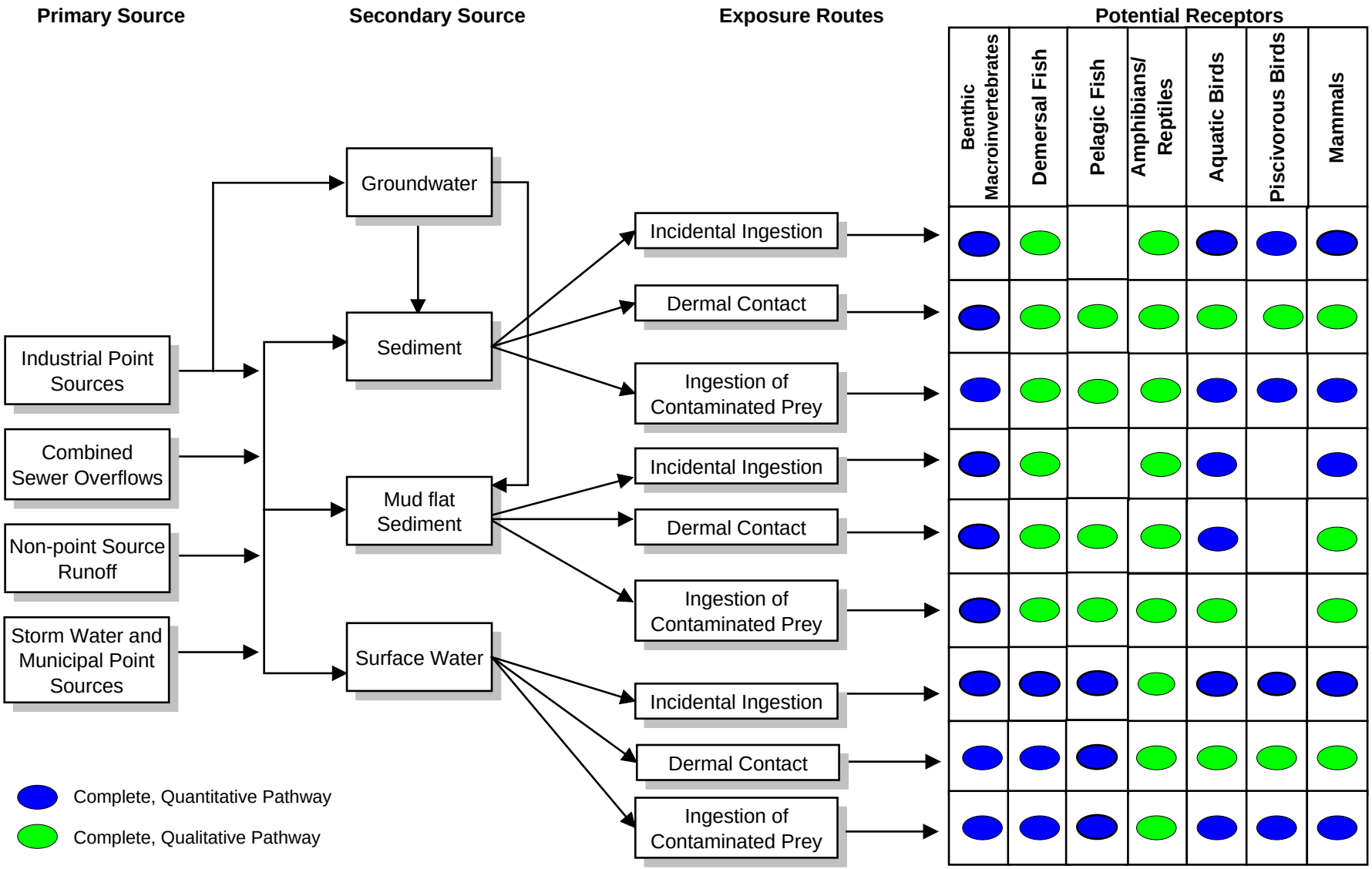
Eco CSM from PAR.doc

CSM from PAR.ppt

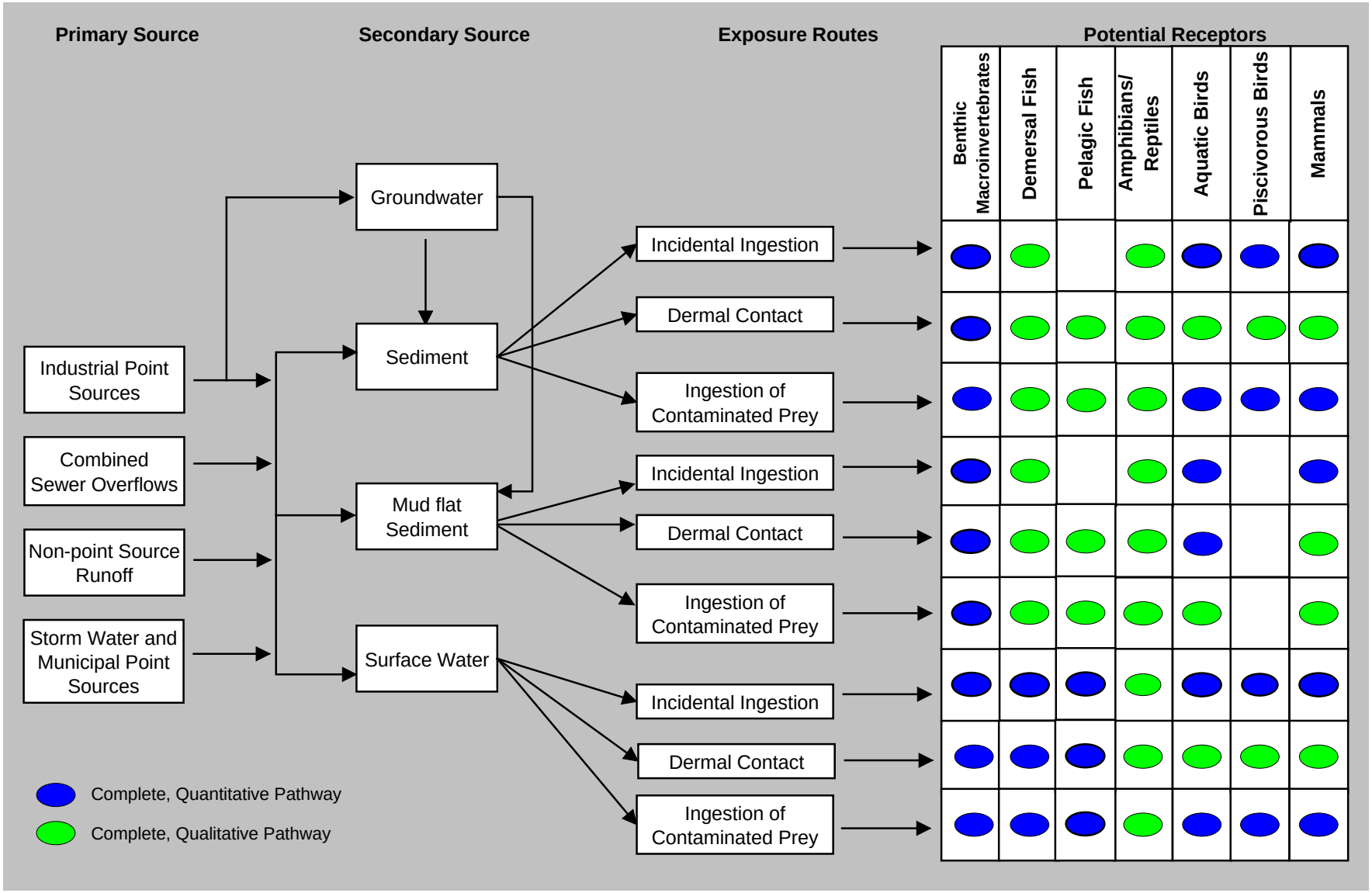
NJPDES Permitted Discharges map.doc

write-up on discharge categories.doc

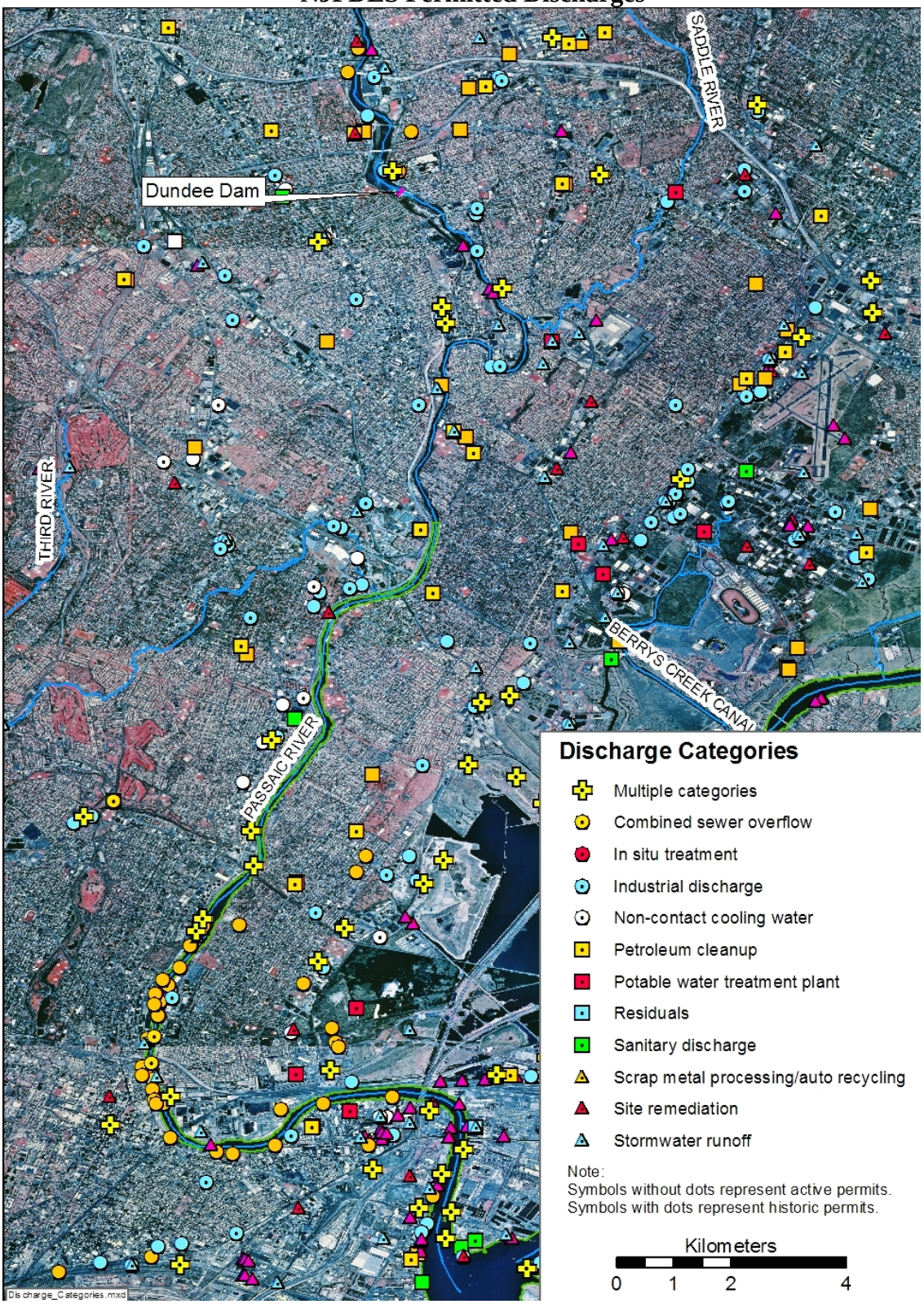


Preliminary Ecological Risk Assessment Conceptual Site Model from USEPA (2005) Pathways Analysis Report

Preliminary Conceptual Site Model from USEPA (2005) Pathways Analysis Report



NJPDES Permitted Discharges



Definitions of Discharge Categories

Data on active New Jersey Pollution Discharge Elimination System (NJPDES) permits were obtained from the NJDEP website as a GIS shapefile entitled NJPDES Surface Water Discharges, updated in March 2005. According to NJDEP, this file consists of both active and historic NJPDES permits; however, an additional data set of historic permits (issued between 1975 and 2001) was obtained from the NJDPES Permittees Database (available at http://www.state.nj.us/dep/dwq/database.htm) and mapped, which added a significant number of discharge points to the map. Points from the historic data file are distinguished on the maps with a black dot within the symbol. Both active and historic permits were classified according to permit category and mapped. The symbol for multiple categories identifies those discharges that are classified under more than one permit type.

Combined Sewer Overflows
Combined sewer overflows (CSOs) are drainage pipes that carry flows from both rainwater and sewers together. During normal conditions the flow is generally delivered to treatment plants. During heavy rains, however, flow amounts sometimes double or even triple, causing the system to become overloaded. CSOs act as relief points by letting excess flows leave the system upstream of sewage treatment plants, into the nearest body of water. This prevents sewage backups into homes and onto area streets. The general CSO permit regulates all portions of CSOs. The permit relies upon the development and implementation of best management practices, technology-based control measures, self-monitoring, and permit compliance certification (NJDEP website).

***In Situ* Treatment**
In situ treatment is a bioremediation technology for the clean-up of contaminated soil and groundwater. It may consist of oxygen additions, anaerobic substrates, nitrogen, phosphorous, and/or nitrate additions.

Industrial Discharge
Industrial discharge is a general category which includes all the permits defined specifically for industrial releases: industrial spray irrigation, industrial overland flow, industrial surface impoundment, industrial underground injection, thermal and commercial discharge, and industrial subsurface disposal.

Non-contact Cooling Water
Non-contact cooling water permits authorize the discharge of non-contact cooling water, which is used to cool down various types of industrial and manufacturing equipment without directly coming into contact with facility processes.

Petroleum Cleanup
Petroleum cleanup is a general permit that authorizes the discharge of treated groundwater from petroleum leaks (*e.g*., fuel oil, diesel fuel, kerosene, aviation fuel, and gasoline) into select surface waterbodies. The permit is flexibly designed, addressing several different discharge scenarios. For example, groundwater contaminated by a gasoline spill, which is pumped from the ground and treated prior to discharge to a stream, would be one type of process requiring this permit.

Potable Water Treatment Plants
Potable water treatment plants discharge filter backwash and clarifier water to outdoor basins. The discharge results from the process of bringing raw water supplies to drinking quality

standards, which often requires the removal of low concentrations of iron, manganese, organic matter, and trace amounts of other metals. When filters are backwashed or when clarifiers are cleaned, the wastewater generated is usually discharged to an outdoor infiltration-percolation basin, which ultimately discharges to groundwater. The general permit requires sampling of accumulated sludge from the infiltration-percolation lagoon, among other requirements.

Residuals
Residuals are generated by both domestic treatment plants (sewage sludge) and industrial treatment plants (industrial residuals). Residuals are managed in variety of ways, including the development of Marketable Residuals Products (often referred to as biosolids) used to fertilize or condition the soil. Examples include pellets, compost, and alkaline materials. Beneficial use of residuals as a fertilizer or soil conditioner is regulated under a permit and may require site specific approvals, depending upon the nature of the residual. Residuals general permits include regulations over the land application of food processing by-products, phragmites reed beds, residuals surface impoundment, and residuals storage and transfer sites.

Sanitary Discharge
Sanitary discharge is a general category that includes those permits which regulate sanitary discharge: domestic surface water discharge, community septic system, sanitary spray irrigation, sanitary overland flow, sanitary surface impoundment, sanitary underground injection, and sanitary subsurface disposal.

Scrap Metal Processing/Recycling
Scrap metal processing/recycling is a general permit regulating the discharge of stormwater from facilities involved in the recycling of materials, including scrap metal yards, battery reclaimers, salvage yards, and automobile junkyards.

Site Remediation
Site remediation permits authorize the discharge of treated groundwater to surface waters of the State. These permits regulate discharges from remediation cleanups that do not typically contain petroleum products.

Stormwater Runoff
Stormwater runoff is a general category for a variety of permits involved in the regulation of stormwater. It includes construction activity stormwater, basic industrial stormwater, and individual stormwater permits. Individual permits are issued to facilities which cannot eliminate exposure of pollutants to stormwater. These facilities are required to develop and implement Stormwater Pollution Prevention Plans to minimize or eliminate contact between pollutants and stormwater.