Best Management Practices and Discharge Monitoring

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Jane Wilson, Scientist 2
Bureau of Everglades Regulation
South Florida Water Management District
IFAS BMP Training April 11, 2013
Goal
Outline Topics

- Everglades Works of the District Permit
- Best Management Practices (BMP) and Discharge Monitoring Plans Documentation
- Water Quality Data
- Summary
- E-permitting
- Questions
Everglades Works of the District Permit

- Administrative Information
- BMP Plan
- Discharge Monitoring Plan
- Permit Conditions
On-site Field Visit

• Prior
  – Review BMP Annual Report
  – Contact and send Site Verification Checklist

• During
  – Review documentation
  – Make field observations

• After
  – Follow up information
  – Report with recommendations as applicable
Submit prior to the site verification:

Water Management BMPs and Flow Verification:
- Pump logs for the following structures and periods:
  - NRXX.XTE; May - July 2010
  - June, July, & October, 2011

Submit prior to or at the time of the site verification for the period August 2009 through December 2011:

Nutrient Management BMPs:
- A map with a description of each crop produced in the permitted basins
- Formal spill prevention plan
- Spill prevention training documentation and sign-up sheets
- Spill records and cleanup actions taken, if any
- Soil test results for each crop
- Phosphorus fertilizer recommendations for each crop
- Nutrient application records (e.g., fertilizer receipts, equipment applicator invoices) indicating, at a minimum, nutrient application methods, fertilizer composition, dosage, total phosphorus applied, parcel description, the application area, and the date. The District will review representative records to verify that the phosphorus recommendations were not exceeded.

Particulate Matter and Sediment Control BMPs – examples of documentation, as applicable, include:
- Field laser leveling – receipts for the service, work logs, dated photos
- Canal cleaning – maps indicating canal location and dates, contractor receipts
- Cover crops – maps indicating the locations and dates
BMP Plan and Documentation

• Compliance with Permitted 25-point BMP Plan
  – Nutrient management
  – Particulate matter and sediment controls
  – Water management

• Documentation
  – Maps with locations and dates
  – Receipts or invoices
  – Photographs
  – Maintenance records
  – Training
Nutrient Management

• Soil Test Results

• P Fertilizer Recommendations and Applications
  – Application rate same as recommended rate
  – Application rate different from recommended rate
    ✓ Provide the basis for the actual rates used
  – Operator is responsible for providing information for lessee
Nutrient Management continued

• Documentation and Observations
  – Spill prevention documentation: plan and spill record
  – Operator is responsible for providing documentation for all crops, BMPs, and Lessees.
  – Review and observe fertilizer application methods
Nutrient Management
Field Observations
# Particulate Matter and Sediment Controls – Observed and Documented

<table>
<thead>
<tr>
<th>BMP</th>
<th>How it is Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetation on ditch and canal banks</td>
<td>Observing that banks are consistently vegetated. No dead vegetation because of overuse of herbicides.</td>
</tr>
<tr>
<td>Ditch bank berms</td>
<td>Observing berms along canals and ditches, including high traffic areas.</td>
</tr>
<tr>
<td>Slow field ditch drainage</td>
<td>Observing risers are in place at the wiered culverts near the discharge pump.</td>
</tr>
<tr>
<td>Canal cleaning</td>
<td>Reviewing receipts for canal cleaning or maps indicating segments cleaned and dates. Established criteria and appropriate methods (no pumping and cleaning).</td>
</tr>
<tr>
<td>Laser leveling</td>
<td>Reviewing receipts for laser leveling or observing the activity in the field</td>
</tr>
<tr>
<td>Aquatic vegetation</td>
<td>Reviewing receipts for canal cleaning or maps indicating segments cleaned and dates. Mechanical removal of infestation and spot spraying for maintenance. Barriers are used at discharge locations. There are no infestations at the time of visit.</td>
</tr>
</tbody>
</table>
Observed Sediment Controls
Documented Sediment Controls
Water Management

• **Based on Criteria in Permit**
  – Compare start/stop and deviations
  – Rainfall

• **Water Detention** (0.5, 1, and 1.5 inches)
  – Identify periods to request
  – Follow up pump logs
  – Flow verification

• **Pump Logs Complete**
Water Management File Documentation

- **Pump Logs**
  - Staff gauge readings indicating start and stop elevation
  - Rain gauge readings
  - Pumping events and continuous pumping over multiple days (rpm, date, time; twice/day readings)
  - Notes explaining special pumping events, maintenance activities, etc.
  - Identify operator
Sample Field Log Comments

• Critical Start/Stop Pump Elevations Not Met
  – Planting or harvesting
  – Weed cultivation or ground spraying operations
  – Land prep or laser plane operations
  – Other reasons on/off criteria not followed
## Pump Log Example

**FARM NAME:** Sucrose  **STRUCTURE:** WPXX XTS  **PUMP#:** 2  **DETENTION:** 0.5”  **MONTH/YEAR:** November, 2009

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<th>1st READING</th>
<th>2nd READING</th>
<th>DAILY RAINFALL</th>
<th>COMMENTS</th>
<th>MGD</th>
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<td>START</td>
<td>STOP</td>
<td>TIME</td>
<td>RPM</td>
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**Codes:**

(1) Harvesting  
(2) Planting  
(3) Land Preparation  
(4) Flood Warning  
(5) Seepage  
(6) Rain

**Note:** Follow start and stop pumping criteria of 8.6 ft. and 7.0 ft, respectively. Pumping stops at 5.9 ft for crop harvesting or planting.
Water Management – Structure Field Observations

- Staff Gauge
- Rain Gauge
Discharge Monitoring Plan and Data

• Verify flow events and data accuracy

• Evaluate Farm Level Monitoring
  – Total P concentration
  – RAUAL

• Make relative comparisons

• Discuss how water quality relates to on-site activities
## Flow Verification Example

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<th>Date</th>
<th>63800</th>
<th>h (Electric Pump)</th>
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Water Quality Data Graphs

P Concentration Summary Graph

Rainfall Adjusted Unit Area P Load Summary Graph
Summary

• During the Visit
  – Review implementation of best management practices
  – Discuss ways to improve
  – Discuss current or proposed land use changes

• After the Visit
  – Provide a Site Verification Report
Who to Contact

• Dr. William C. Donovan, Senior Scientist
  Bureau of Everglades Regulation
  E-mail: bdonovan@sfwmd.gov
  Phone: (561) 682-6761

• Jane Wilson, Scientist 2
  Bureau of Everglades Regulation
  E-mail: sjwilson@sfwmd.gov
  Phone: (561) 682-2718
ePermitting
Available whenever you are!
ePermitting

- Online permitting system allows customers to:
  - Search for applications/permits
  - Submit applications, additional information, compliance data and permit transfer requests
  - Submit payment for application fees
  - Subscribe to receive electronic noticing of permit-related information
Permitting Home Page

Related Links:
- ePermitting (apply for new or renew existing permits)
- ePermitting Help
- Consumptive Water Use Permits
- Environmental Resource Permits
- Everglades Works of the District
- Lake Okeechobee Works of the District
- Key Permit Access
- Regulatory Guidance
- Rules, Statutes and Citations
- Regulatory Meetings
- Right of Way
- Well Construction
- Archives - Historical Permit Manuals/Chapters
- Inter-District Permitting Portal

Permits

Regulatory programs help us to better manage and protect regional water resources. The resources include wetlands, rivers, lakes, and estuaries as well as groundwater supplies. The South Florida Water Management District's regulatory responsibilities are shared with the Florida Department of Environmental Protection and other state and local governments.

To enhance the efficiency of the business process for permit applicants, our ePermitting database offers a quick, simple way to apply for, transfer or submit payment for Environmental Resource Permits, Consumptive Water Use Allowances, and other District permits. The online system also enables anyone to research the status of permit applications. This convenient access reduces applicant paperwork requirements and postage while streamlining permit processing time to enable faster routing to permit review staff.

Users who register with the service can also sign up to be notified of timely permitting information and access helpful guidelines and assistance.

Click here to apply, search or subscribe

The types of permits issued by this agency are briefly described below. Click on the permit type in the blue bar below for more detailed information, including how to submit an application for each type of permit.

Water Shortage Watch

Information on water restrictions and water conditions

Learn More

Upcoming Events

- Workshops: Water Reservoir for the Caloosahatchee River - C-43, Tri-level Reservoir, Cape Coral - Feb. 21 and March 24
- Workshops: Water Reservoir for the Lake Okeechobee Basin - March 21, 22 and April 4
- Governor's Council Meetings 2012 Meeting Schedule [PDF]
- ePermitting - 2012 Training Dates
- Regulatory Peer Review Forum
- Upcoming WRAC and Related Meetings [PDF]
- Governing Board Meetings, Agendas and minutes
- WRAC Meetings, Agendas and minutes

News and Notes

New ERP General Permit for Small Projects – Effective July 1, 2012:

The "electronic self-certification" requirement can be satisfied through use of the Florida Department of Environmental Protection's (DEP) self-certification portal at www.flsedportal.com/go.

For more information click here

Did you know?

- NEW – ePermitting users may now view application/permit coverage and information via Google Earth. To begin searching, click on Application/Permit in the Records Search menu. Click here for detailed instructions.
- Training sessions are now available. Click here for a list of training dates.
- Regulatory guidance documents are available online (including ePermitting "How to" instruction guides, Water Use Basis of Review and ERP Volume IV). Click here to search.
ePermitting Features
Existing Reports/Applications

- Review Reports or Works of the District Permits/Applications
  - Applications
  - Compliance
    - Post Permit Compliance
  - Permit and staff report information
  - Permit file history
Who to Contact

• E-mail: epermits@sfwmd.gov

• Carlos Adorisio, Engineer Supervisor
  Bureau of Everglades Regulations
  E-mail: cadoris@sfwmd.gov
  Phone: (561) 682-2255

• Cathy Widness
  ePermitting Administrator
  E-mail: cwidness@sfwmd.gov
  Phone: (561) 682-6317