

Florida Department of Environmental Protection
Bureau of Mining and Minerals Regulation

Regulation of Mines
In South Florida

Howard J. Hayes, Program Administrator

February 8, 2011



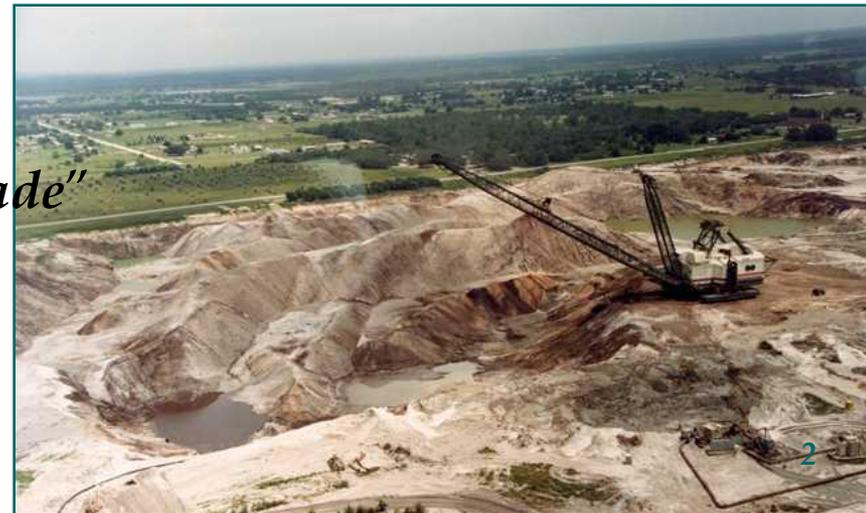
What is a mine?

Nonphosphate mine: Subsections 378.403(5)(10)(12)&(16), F.S.

- *Solid natural deposits* (other than phosphate) on or in the earth are being extracted;
- and this material is *leaving the property*;
- for *commercial, industrial or construction use*.
- Includes site preparation, extraction, waste disposal, storage and reclamation.
- Does not include processing plants, cement plants, concrete plants, asphalt plants.
- Does not include prospecting.

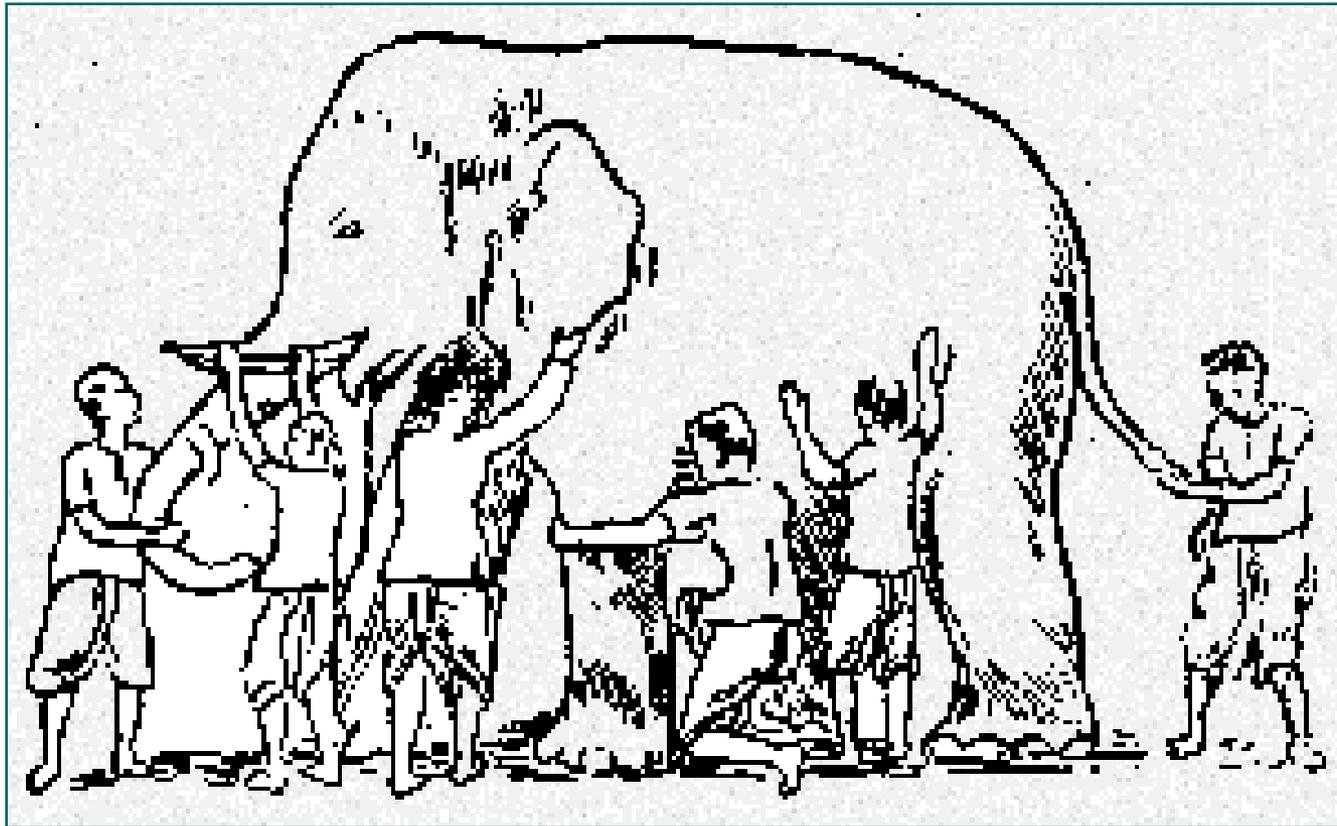
“As the term is commonly used in the trade”

- Excludes other development projects



No State Mining Permit

Each agency can only regulate a portion of the project.



Many Regulatory Programs

Counties - Land Use

67 different regulatory programs which can include wetlands, operating permits, reclamation, set backs from property lines, stormwater management, truck routes, noise, dust, hours of operation, performance bonding, garbage disposal, etc.

Department of Health, County Health Departments - Private drinking water wells
Sewage disposal systems

Water Management Districts - Water Use Permit
Environment Resource Permit (most mines)

Department of Environmental Protection

Bureau of Mine Reclamation - Environmental Resource Permit
Reclamation Program

DEP District Offices - Industrial Wastewater Permit
Petroleum Storage Permit
NPDES Stormwater

Department of Community Affairs – Coast Zone Consistency

Department of State, Division of Historic Resources – Historic and Archeological Sites

Dept of Financial Services, Office of the State Fire Marshal - Handling & Storage of Explosives
Limits on Blast Force

Fish and Wildlife Conservation Commission - Takings Permit for State Listed Species

US Army Corps of Engineers (US EPA & US FWS) - Dredging and filling in Waters of the US

US Fish and Wildlife Service – Federal Listed Species

US Dept of Labor, Mine Safety and Health Administration - Worker Health and Safety



BMMR Regulatory Programs

Environmental Resource Permitting Program

Chapter 373, Florida Statutes

**Water Quality, Water Quantity, Wetlands, and
Other Surface Waters**

**SFWMD - Reviews applications for sand, shell, and
clay mines without processing other than scalping
screens**

Land Reclamation Program

Chapter 378, Florida Statutes

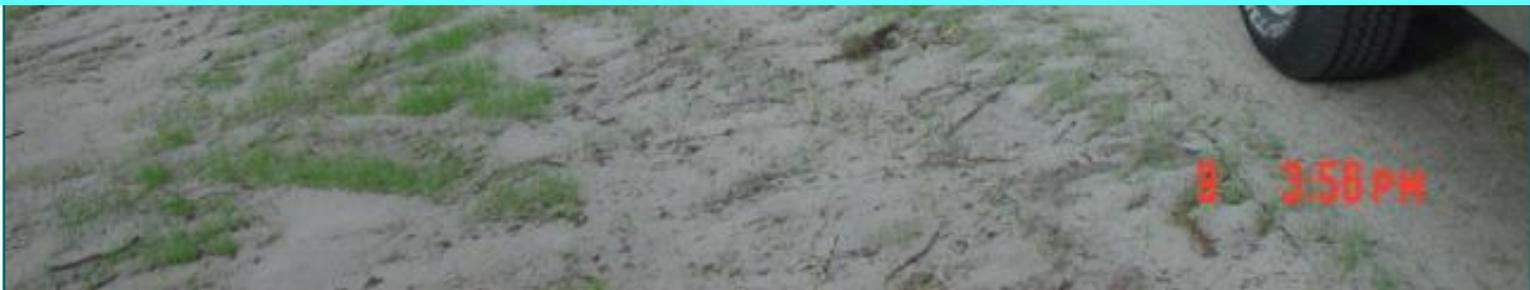
Clean up when mining is complete

An Environmental Resource Permit



...is required prior to construction, alteration, operation, maintenance, abandonment or removal of a **surface water management system**..., including dredging or filling in, on or over wetlands or other surface waters, unless exempt.

“Mining” is not mentioned.



Review and Approval Process

Application:

- **Notify other agencies**
- **Design plans, hydro-geologic studies, wetland assessments, wildlife surveys, ambient water quality**
- **Site conditions determine level of detail**
- **Life of project – system for mining and removal of system during reclamation**



Intent to Issue/Deny:

- **Notify other agencies and parties requesting notice**
- **Notice published in local newspaper**
- **Affected parties may petition for administrative hearing**



Periodic monitoring reports and compliance inspections

Interagency Coordination

Based on site location and conditions:

- US Army Corps of Engineers
- Florida Fish and Wildlife Conservation Commission
- Dept. of State, Div. of Historical Resources
- Dept. of Community Affairs, Div. Community Planning
- Dept. of Community Affairs, Areas of Critical State Concern
- DEP, Div. of Env. Assessment & Restoration **(CERP)**
- DEP, Office of Greenways and Trails
- DEP, Division of Recreation and Parks
- DEP, Office of Environmental Services
- DEP, Springs Coordinator
- DEP, District Office, Submerged Lands & Env. Res. Permitting
- DEP, District Office, Industrial Wastewater
- Water Management District **(CERP et al.)**
- County Environmental Permitting Office
- Managers of nearby public lands



Application Can Contain

Based on site location and conditions:

- Existing land cover, topography and drainage
- Existing drainage structures and water elevations
- Floodplains
- Fish, wildlife and listed species survey
- Wetland delineation and functional assessment
- Wetland mitigation costs
- Analysis of soils for contaminants from previous land uses
- Existing groundwater analysis to proposed depth of mining
- Mine phases and depths
- Proposed processing areas, roads, parking, maintenance areas
- Dewatering plan
- Best Management Practices for erosion control
- Best Management Practices for managing potential contaminants
- Proposed land cover, topography and drainage



Conditions for Issuance

Applicant provides reasonable assurance that the project:

- Will not cause adverse water quantity impacts to receiving waters and adjacent lands.
- Will not adversely impact the maintenance of surface or ground water levels, or surface water flows.
- Will not adversely impact wetland and other surface water functions provided to fish and wildlife, and listed species.
- Will not adversely affect water quality.
- Will be capable of functioning as proposed, based on generally accepted engineering and scientific principles.

And others.

Dredging, Filling, Mitigation

- **No special wetland mitigation rules for sand and limestone mines**
- **Elimination and reduction of impacts required**
- **Current value and relative function**
- **Uniform Mitigation Assessment Method**
- **Creation, restoration, enhancement, preservation**
- **Financial Assurances**

Fish, Wildlife, Listed Species



- State listed animals and federal listed plants.
- Will not adversely impact the value of functions provided to fish and wildlife, and listed species by wetland and other surface waters.
- Will not cause adverse secondary impacts to the water resources including the ecological value of uplands to aquatic or wetland dependent listed animal species for enabling existing nesting and denning.



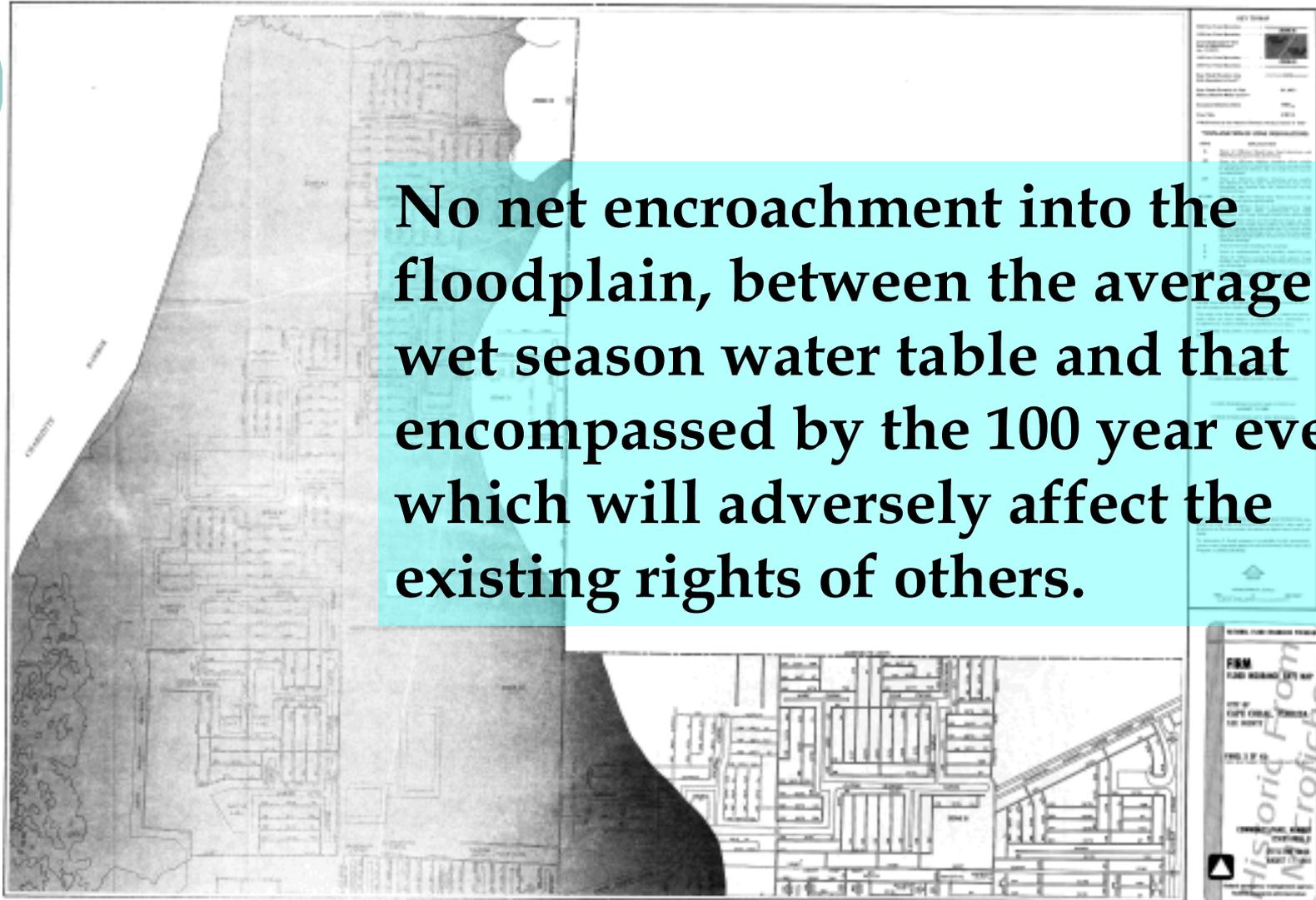
Historical & Archeological Resources

Evaluate whether the regulated activity located in, on, or over wetlands or other surface waters will impact significant historical or archeological resources.



Floodplains

No net encroachment into the floodplain, between the average wet season water table and that encompassed by the 100 year event, which will adversely affect the existing rights of others.



Stormwater Containment



- **Very small percentage of project area impermeable**
- **Large capacity for onsite water storage, increasing daily**
- **A lot of material available for containment berms**
- **Required containment of 25-year, 3-day storm**
- **Allow passage of drainage from offsite areas to downstream areas**
- **Separate containment for maintenance and petroleum storage areas**



Depth of Mining

Address potential long-term water quality impacts of constructed/altered water bodies due to depth – dissolved oxygen in deep lakes.

373.414(6)(a), F.S., provides for a variance from the established dissolved oxygen standard within the lower layers of the reclaimed pit where mining activities otherwise meet the permitting criteria.



Water Quality

Will not adversely affect the quality of receiving waters such that the water quality standards will be violated.

- Contain 25-year, 3-day storm
- Discharges only through permitted industrial wastewater discharge point with water quality monitoring
- Limit depth of mining when necessary
- Groundwater quality monitoring
- Management of contaminated soils from previous land use
- Due to configuration - creation of debris traps or stagnant areas
- Best management practices to control erosion
- Best management practices to prevent or minimize potential release of pollutants
- Petroleum storage permit
- Well setbacks

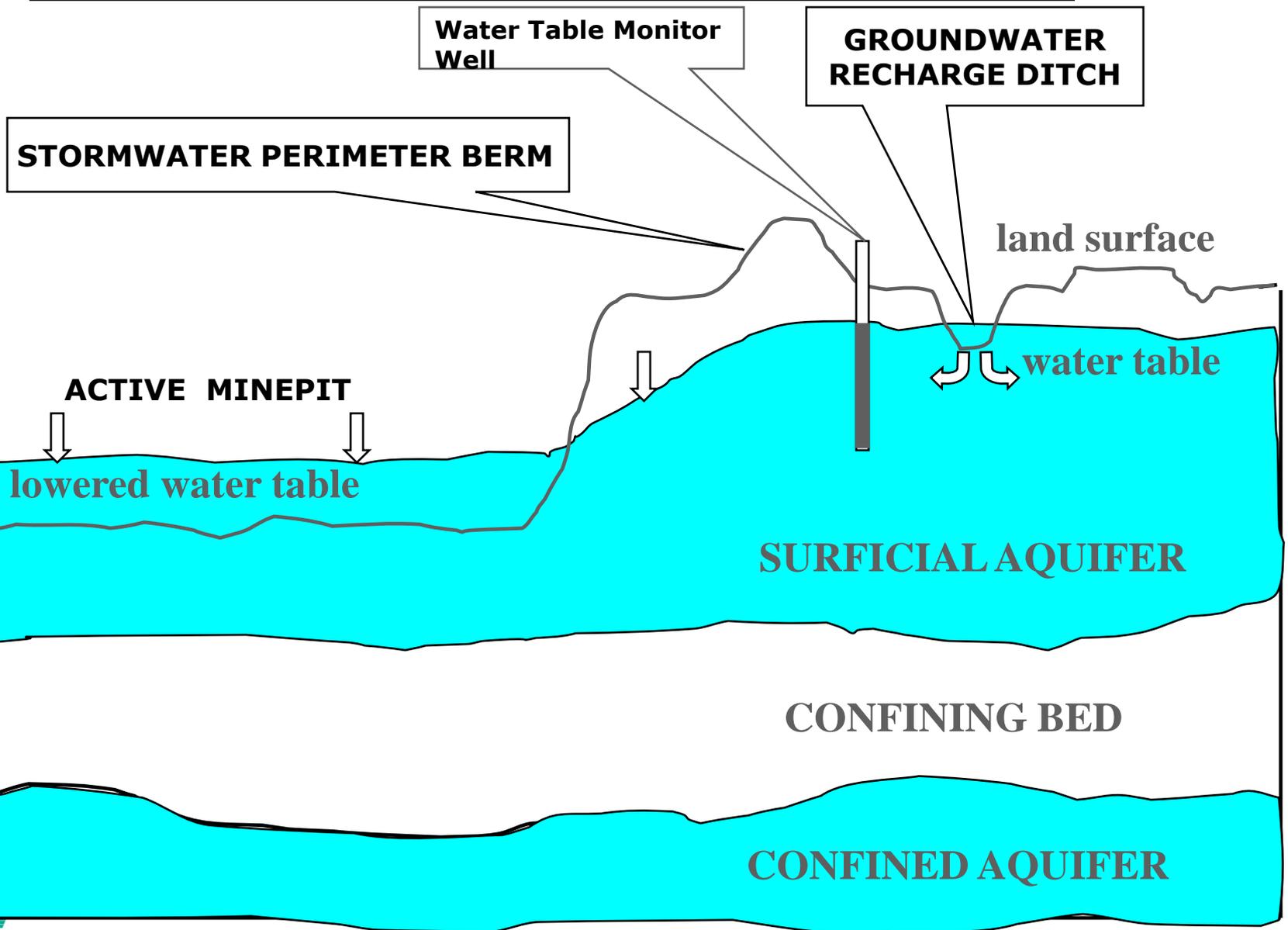
Avoided Wetlands



- Perform analysis of drawdown, water storage, or diversion of water flows to provide reasonable assurance that the project will not adversely impact the functions that wetlands and other surface waters provide to fish and wildlife and listed species.
- Lakes which potentially may adversely affect wetland areas shall be separated from the wetland preservation, creation, or restoration areas by a minimum distance based on modeling.
- Permittees shall be required to monitor the wetland or other surface waters to demonstrate that such alteration has not resulted in adverse impacts.



Monitoring Dewatering



Overdrainage, Water Conservation

Systems shall be designed to:

- **Maintain existing water table elevations in existing wellfield cones of depression**
- **Preserve site environmental values**
- **Not waste freshwater**
- **Not lower water tables which would adversely affect the existing rights of others**
- **Preserve site groundwater recharge characteristics**

Cumulative Impacts

Each project is reviewed in its setting of existing conditions and permitted future construction.

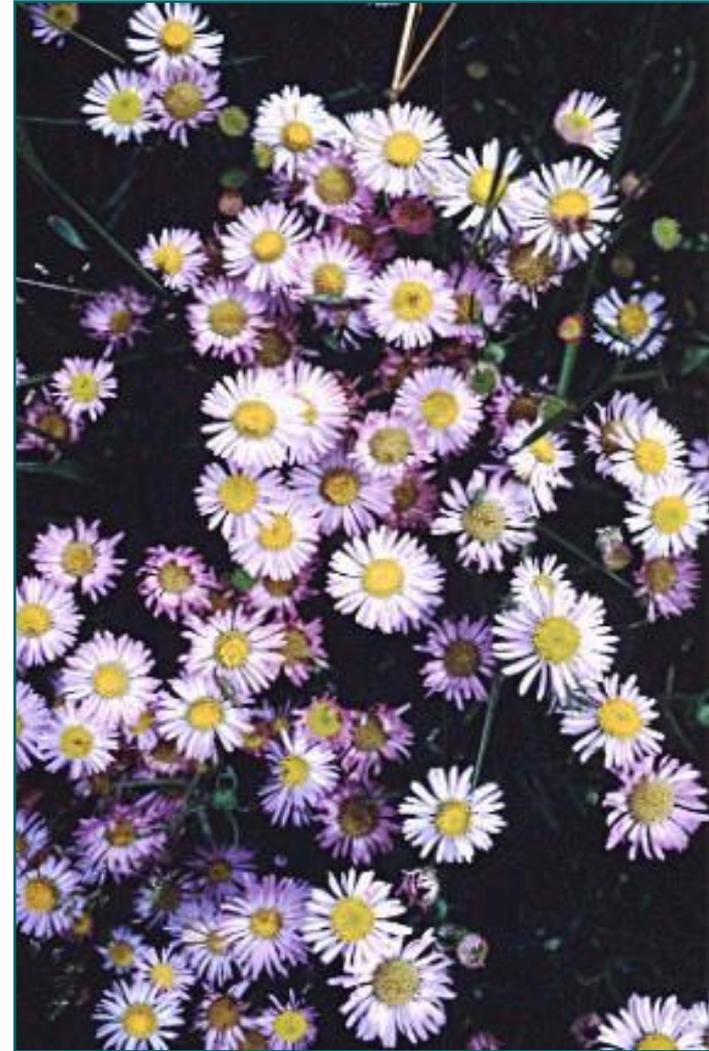
373.414(8)(b), F.S. "If an applicant proposes mitigation within the same drainage basin as the adverse impacts to be mitigated, and if the mitigation offsets these adverse impacts, the governing board and department shall consider the regulated activity to meet the cumulative impact requirements of paragraph (a)."



What is Reclamation?

Reclamation does not mean restoration.

For nonphosphate mines, reclamation means, “*the reasonable rehabilitation of land where resource extraction has occurred.*”



Reclamation Standards

- **Sets deadlines for the start and completion of reclamation**
- **No reclamation performance bond**

At the time of release:

- **Require removal of junk and equipment**
- **Sets standards for upland slopes and shoreline designs**
- **Sets standards for upland and shoreline revegetation**
- **Must meet water quality, water quantity, wetlands and surface waters rules**

Lakes Regional Park



Reclamation Standards and the Environmental Resource Permit



Completed Reclamation



For more information:

<http://www.dep.state.fl.us/water/mines/index.htm>



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Department of Environmental Protection**

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