



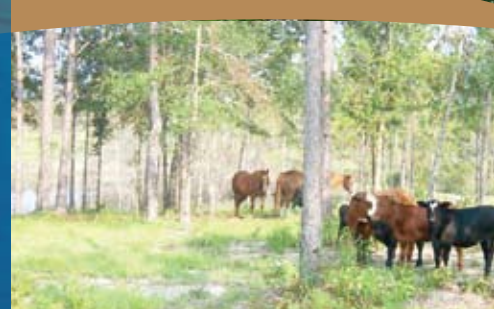
## NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

# Planning to **Build** a **Pond?**

## Save Time and Money and Streamline or Eliminate the Regulatory Approval Process

The Northwest Florida Water Management District can assist selecting a pond that:

- ✓ Meets your farm's water needs
- ✓ Minimizes time, cost and environmental impacts
- ✓ Expedites or eliminates the permitting process



## What is an Agricultural (Farm) Pond?

An agricultural pond is located on a farm and used for farm purposes. It may provide water for livestock as well as wildlife, serve as a source of irrigation for crops and serve as a management tool to maintain or improve water quality on the farm (Farm Pond Best Management Practices “BMPs”, Florida Department of Agriculture and Consumer Services).

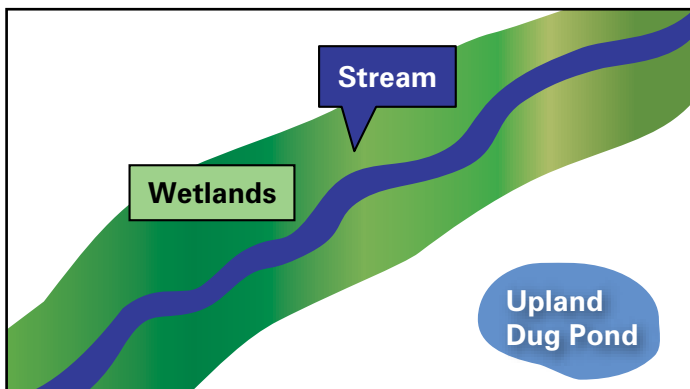
Agricultural ponds are of three types: upland dug pond (not located in wetlands), wetland dug pond (partially located in wetlands) or embankment pond (located directly in streams or drainage ways). Agricultural ponds must be sited, sized and designed to avoid, minimize and compensate for impacts to the natural resources.

## Upland Dug Pond

An upland dug pond is an excavated area outside of wetlands, which catches direct rainfall and/or intersects the water table.

### Benefits of the Upland Dug Pond:

- No permit is required from the District, nor most likely from any other federal, state or local agency

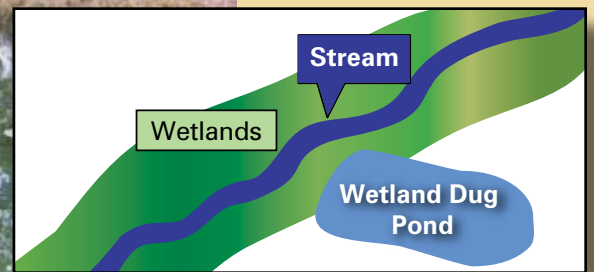


- Lowest cost to design, construct, maintain and operate of the pond types
- Least amount of time to construct
- Does not have to be designed by a licensed Professional Engineer
- Minimal, if any, adverse environmental impacts
- No potential for catastrophic pond failure or danger to downstream life, property or infrastructure
- No potential for upstream introduction of poor quality water
- Complies with Florida Department of Agriculture and Consumer Services BMPs

### Limitations of the Upland Dug Pond:

- Suitable construction sites may limit pond location and size
- May require supplemental water to keep pond full





## Wetland Dug Pond

The wetland dug pond is excavated partially within a wetland area, often adjacent to a stream or water body. This pond catches direct rainfall and often intersects the water table.

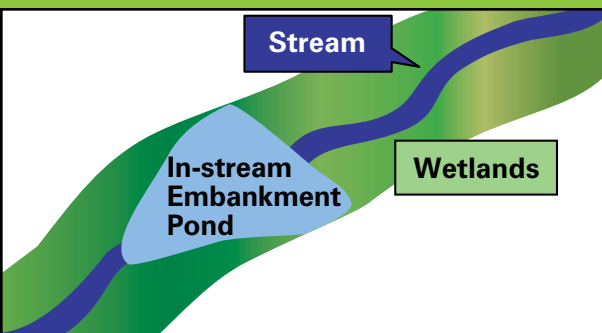
### Benefits of the Wetland Dug Pond:

- Less regulatory burden than an embankment (in-stream) pond
- Less time and cost to design, construct, maintain and operate than an embankment pond
- Fewer environmental impacts than an embankment pond
- No potential for catastrophic pond failure or danger to downstream life, property or infrastructure

- Minimal potential for upstream introduction of poor quality water

### Limitations of the Wetland Dug Pond:

- Requires a permit from the District and, possibly from other federal, state or local agencies
- Cost typically greater than an upland dug pond
- Requires a more in-depth regulatory evaluation than an upland pond
- Pond size may be limited by environmental impact, cost and need for upland spoil disposal
- Wetland dredging more difficult to perform than upland excavation



## Embankment Pond

An embankment pond is constructed by erecting an earthen dam across a stream or upland drainage way. The in-stream embankment pond obstructs and impounds stream flow causing environmental and hydrologic impacts and may create a long-term hazard to downstream properties and infrastructure. Construction of the pond often requires permits from multiple regulatory agencies.

### Benefits of the Embankment Pond:

- Potential increase in water availability
- Can be used to control upland erosion

### Limitations of the In-Stream Embankment Pond:

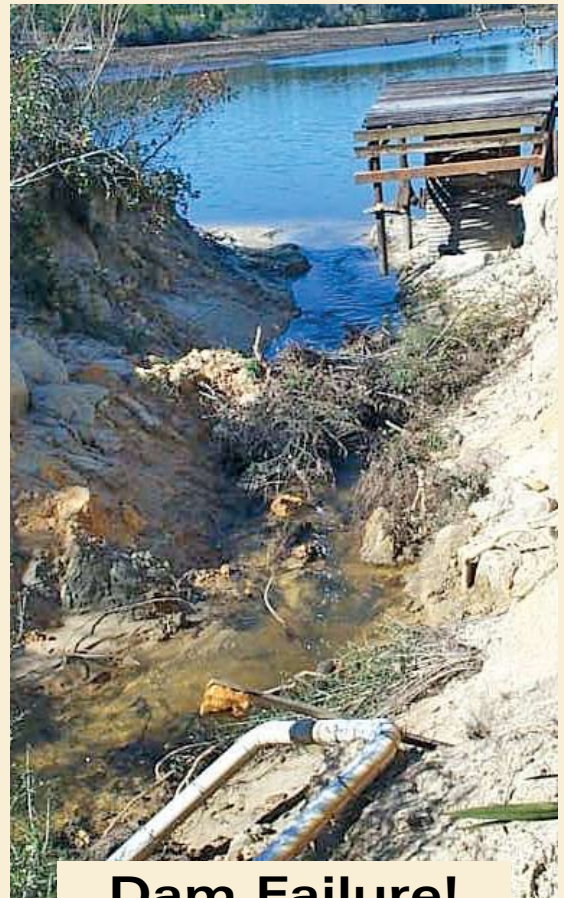
- Permit required from the District, and possibly other federal, state or local agencies

- Most expensive pond type to design, permit, construct, maintain and operate
- Must be designed by a licensed Professional Engineer registered in the State of Florida
- Greatest potential to have extensive hydrological and environmental impacts, including wetland destruction and downstream water quality degradation
- No control over upstream introduction of poor quality water
- Performance of routine maintenance is required for the life of the pond
- Land use restrictions must be placed on remaining wetlands and upland buffers to compensate for environmental impacts and ensure water quality and hydrologic assurances are met
- Potential for catastrophic pond failure and danger to downstream life, property and infrastructure
- Pond can be adversely affected by upstream and downstream land use changes, often beyond the control of pond owner

## Selecting a Prospective Engineer:

If the use of an embankment pond is necessary to meet the water use requirements of your farm, the services of a licensed engineer, competent in dam design and construction, will be required. The following questions may assist in selecting an engineer.

- What is the estimated cost to construct the proposed pond (e.g. \$30,000, \$40,000, etc.)?
- How many and what size dams have you engineered? What problems, if any, have those dams experienced during or after construction (e.g., excessive seepage, poor compaction, sloughing of material, etc.)? How were the problems corrected? How long did it take to correct the problems? What additional cost was incurred by the property owner?
- How will the pond you propose be sited, sized and designed to avoid, minimize and compensate for impacts to the natural resources? Will a toe drain be proposed? If not, why not? What are the operation and maintenance requirements for the proposed dam (e.g., routine mowing/tree removal)?
- Who will supervise the construction of the dam? How often will they/you visit the site during construction?
- If a “cored” dam is proposed, are suitable materials available locally to minimize cost? What materials will be used in the rest of the dam? Where will they be obtained?
- What engineering method(s) will be used to field-verify that the correct compaction of the material is achieved? How often will compaction be verified during construction? Will there be independent testing (e.g., a geotechnical firm)? If so, who will contract with that firm? Will I be provided a copy of all the test results?



**Dam Failure!**

## Summary of the Three Types of Agricultural (Farm) Ponds

### Upland Dug Pond

- No permit required
- Least cost in time and money
- None to few environmental impacts
- No hazard to downstream life and property

### Wetland Dug Pond

- Permit(s) are required
- Less cost than an embankment pond
- Minimal environmental impacts
- No hazard to downstream life and property

### Embankment Pond

- Permit(s) and engineer are required
- Most expensive pond to design, permit, construct, maintain and operate
- Can result in substantial environmental impacts
- Can create a long-term hazard to downstream life and property

## Regulation of Agricultural (Farm) Pond Construction

Chapter 40A-44, Florida Administrative Code, regulates the construction, alteration, repair or abandonment of impoundments, dams or works that impound, drain or divert water for agricultural purposes. A copy of this rule, permit application and brochure can be obtained by contacting the District at the address or phone number given, or by visiting the District's web site: [www.nwfwmd.state.fl.us](http://www.nwfwmd.state.fl.us)

**Northwest Florida Water Management District**  
152 Water Management Drive  
Havana, FL 32333  
(850) 539-5999

Additional information can be obtained by contacting:

**U.S. Army Corps of Engineers**  
(850) 763-0717

**Florida Department of Environmental Protection**  
(850) 595-8300

Contact the District to schedule a visit to your farm and we can help you obtain the water you need with less time, money, environmental impact and regulation!