

## **Wetlands Mitigation Guidelines**

The avoidance of wetlands is preferable to compensation. Mitigation of wetlands impacts is considered only after all policies of the Coastal Zone Management Program (CZMP) and the Coastal Tidelands and Wetlands Act (CTWA) have been addressed through the Coastal Zone Consistency (CZC) certification process and the policies are found to allow an alteration to wetlands. A mitigation plan must be submitted by the applicant and approved by DHEC OCRM for all projects which:

- (1) require a State CZC, and
- (2) impact federally defined jurisdictional freshwater wetlands in the coastal zone, unless DHEC OCRM determines that the impacts are so minimal as not to warrant mitigation.

### **A. Project types that might require mitigation are the following:**

- Residential Development (Subdivisions)
- Transportation Facilities (Airports, Ports, Railways, Roads and Highways, and Parking Facilities)
- Coastal Industries (Agriculture, Forestry, Mining, Manufacturing, Fish and Seafood Processing, Aquaculture)
- Commercial Development
- Recreation and Tourism (Parks and Commercial Recreation)
- Marine Related Facilities (Marinas, Boat Ramps, and Docks/Piers)
- Wildlife and Fisheries Management (same, Artificial Reefs and Impoundments)
- Dredging (same, Disposal and Underwater Salvage)
- Public Services and Facilities (Sewage Treatment, Solid Waste Disposal, Public Buildings, Dams and Reservoirs, and Water Supply)
- Erosion Control
- Shoreline Access
- Energy and Energy Related Facilities
- Activities in Areas of Special Resource Significance (Barrier Islands, Dune Areas, Navigation Channels, Public Open Spaces and Wetlands)
- Stormwater Management (Stormwater Runoff, Golf Courses, Mines and Landfills).

Mitigation requirements should be consistent with requirements of other regulatory agencies. State CZCs are required for all development projects in the eight county coastal zone of South Carolina which require state or federal permits or are direct federal activities. Activities which are exempted from both state and/or federal permits are not subject to a State CZC.

### **B. Types of Wetland Impacts which may require Mitigation (based on project types listed above)**

- 1) **Disposal of fill material:** The direct placement of fill material into wetlands thereby changing elevations, flow pattern, and/or vegetative species composition.

- 2) **Dredging or excavation of wetlands:** The removal of vegetation and soils to create open water, for mining of resources, or for other purposes.
- 3) **Clearing of wetlands:** The removal of vegetation for the construction and maintenance of road rights-of-way (which do not require filling), utility easements, golf course play-throughs, or other purposes. The mitigation is one-time front-end mitigation in accordance with an approved mitigation plan and is not required for, and will not prevent, the continued maintenance of cleared areas. Mitigation is not required for hand clearing (non-mechanized clearing) of wetlands.
- 4) **Ditching of wetlands:** The excavation of ditches within federally defined jurisdictional wetlands with the purpose of lowering the water table and eventually causing a permanent alteration to the wetland system's hydrologic regime.

### C. **Types and Requirements of Mitigation:**

Applicants can choose the form of mitigation that best meets their site specific needs and opportunities. Options include (1) protection and enhancement (buffering), (2) restoration, or (3) creation, or a combination thereof. Any other form of mitigation will be evaluated on a case-by-case basis.

1) **Protection and enhancement of wetland systems (buffering).** The buffering of a wetland system is to provide additional protection to the values and functions of the natural system.

a) **Upland buffers:** "Upland" buffers are non-jurisdiction areas adjacent to wetland systems which will be left undisturbed. Limited clearing or under brushing and pathways may be allowable in accordance with an approved mitigation plan. The clearing must be limited to small trees and shrubs less than 4 inches diameter at breast height (DBH). Larger trees must remain undisturbed unless they constitute a safety hazard. The soils must not be disturbed other than the planting of shrubs or trees for landscaping. Pathways must be no greater than four (4) feet in width and must not be paved or boarded. Sod, grassed lawns, gardens, fences or structures will not be allowed within the buffer. Completely undisturbed buffers with adequate assurances of protection can be reduced ten (10) feet in width referenced in the 3<sup>rd</sup> bulleted paragraph below.

b) **Open water buffers:** Open water systems constructed adjacent to wetlands can be used as buffers provided that the hydrologic regime of the wetland is not altered.

#### **\* Submittal Requirements for Proposed Buffers:**

- **Assurances of protection:** Assurances for the protection of preserved wetlands, created wetlands, and buffers will be provided by the applicant as part of the application/certification process. This may take the form of deed restrictions, conservation easements, or other assurances of protection.
- **Drawings:** A site plan must be submitted showing all wetlands and their associated buffers. Open water buffers must include a cross-section of the system

with the seasonal high groundwater elevation and supporting documentation. Buffer areas and their protected wetlands must be platted and recorded, along with a description of the restrictions. This information must be made available to the property owners or potential buyers.

- Sizes of buffers: Buffers in single family residential developments should average 35 feet in width; high density residential and light commercial (total commercial site development less than two acres) must average 50 feet; and heavy commercial and industrial developments must maintain an average 75 feet buffer area. The widths are averages; consideration will be given to physical and design constraints. Buffer areas must be plainly marked before, during, and after any construction activities to ensure that no encroachment occurs. Permanent signs saying "Protected Natural Area" are preferred. Buffer widths may be reduced by 10 feet in accordance in the 1st bulleted paragraph above if set aside as completely undisturbed natural areas.
- Ratio of buffers to impacts: No ratio of the area of buffers compared to the area of impacts will be used. The buffer must be adequate to protect the remaining wetlands in their entirety, generally requiring the buffer to completely circumvent the wetland system. However, consideration will be given to the total area of impacts versus buffer in evaluating the mitigation plan.

2) Creation of wetland systems: The creation of wetland systems involves the conversion of uplands (or non-jurisdictional wetlands) into wetlands. The wetland creation plan must be designed by a qualified professional wetland scientist to ensure a reasonable chance of success.

a) Site selection: Sites suitable for creation are prior converted wetlands, cut-overs, agricultural lands, or very young forest stands.

\* Submittal Requirements for proposed created wetlands:

- Drawing submittals: Drawings of the creation site should include a general location map; a specific site map plan view of the proposed creation area; cross-sectional drawings showing ground elevations and seasonal high groundwater elevation; and a conceptual vegetation cross-section before and after restoration.
- Hydrological engineering: Plans must be submitted demonstrating that a long term wetland hydrological regime will be achieved. Creation adjacent to existing wetlands may be beneficial to obtain hydrology.
- Soils: If at all possible, hydric soils from a wetland area to be filled or excavated should be used for the base soils of the created wetland. The creation site should be excavated below grade and backfilled with the hydric topsoil to a depth of 6 to 16 inches. This will provide a stock of seed and rhizomes to assist in vegetating the creation site. Usable hydric soils should be moved and spread quickly. If hydric soils are not available, non-

hydric topsoils must be used. Under no circumstances should bare sub-soil be used as a planting medium.

- Establishment of vegetation: A planting plan is necessary unless circumstances do not warrant such a plan. A planting schedule and species composition should be included in the plans. Vegetation should match that being altered as to species, density, and diversity.
- Evaluation of success: A monitoring program must be established to assure compliance with success criteria. Both vegetation and hydrology must be addressed. Any problems detected during monitoring must immediately be evaluated as to the cause and measures must be taken to alleviate the problem and/or readjust the mitigation plan. Normal success criteria of 75% survival of plants over a three year period and/or a predominance of hydrophytic plant species from natural regeneration unless otherwise established in the mitigation plan. In addition, the monitoring must demonstrate a long-term wetland hydrologic regime has been achieved.
- Contingency plan: A contingency plan must be developed on how detected problems will be corrected.
- Implementation schedule: An implementation schedule for the mitigation must be submitted.
  - Ratio of created wetlands to impacted wetlands: A normal ratio is 1.5:1 unless the unavoidable loss occurs in extremely high value wetlands, i.e., sensitive habitat or geographical areas of particular concern in which cases mitigation ratios may be higher.

3) Restoration of degraded systems: This includes the restoration of wetland conditions on lands previously altered by man-made changes in vegetation, hydrology, or soils. Areas suitable for restoration include agricultural lands, mining sites, silvicultural lands, industrial sites, and other degraded wetland systems.

- Documentation: The degraded nature of the system must be documented by the applicant before a restoration plan can be considered.
- Drawings: Drawings of the proposed restoration site should include a general location map; a specific site map; plan view; the jurisdictional lines of the degraded wetland; cross sectional drawings showing ground elevations, drainage ditches, the seasonal high groundwater elevation; and a conceptual vegetative cross-section before and after restoration.
- Hydrological modification: Any restoration project of an area that has been hydrologically altered must include a plan to restore the hydrologic regime.
- Establishment of vegetation: Restoration plans must address the re-establishment of hydrophytic vegetation. In some cases natural re-vegetation will be appropriate. In others,

a planting plan may be necessary; the planting plan should include species composition and their sizes, plant spacing and a planting schedule.

- Success evaluations: Plans should include a monitoring plan to ensure the success of the project. A minimum of 75% survival rate and reasonable growth of planted species must be achieved to be considered successful. Natural regeneration of hydrophytic species may be considered in the evaluation. Failure to meet success criteria will require re-evaluation to correct any problems.
- Contingency plan: A contingency plan must be developed for any areas that fail to meet the success criteria.
- Implementation schedule: An implementation schedule for the restoration plan must be submitted.
- Ratio of restored wetlands to impacted wetlands: The ratio of restored wetlands to impacted wetlands will be established on a case-by-case basis, depending upon the severity of the degraded wetland system. Ratios will generally be greater than 1.5:1.

4) Offsite mitigation: Offsite mitigation proposals will be considered if onsite mitigation is not possible. However, this does not preclude the consideration of offsite mitigation in other circumstances if the mitigation will provide a significant ecological benefit to the State of South Carolina. All mitigation must be within the State.

5) Mitigation banking: Mitigation banking will be considered for publicly constructed linear projects such as highway or pipeline construction and projects where no onsite mitigation is possible. The use of banking for other than the projects above will be considered in concert with other regulatory agencies if and when such mitigation banks or proposed or developed.

#### **D. Monitoring and Compliance:**

1. Monitoring Reports: A schedule for the submittal of monitoring reports to be prepared by the applicant will be established at the time of project approval. These reports will be used to determine when a project has achieved an acceptable success status.

2. Compliance: All projects involving mitigation will be placed on OCRM's periodic monitoring schedule for compliance. Periodic site inspections will be made by staff of OCRM, South Carolina Department of Natural Resources (SCDNR), U. S. Army Corps of Engineers (USACOE) or the U. S. Fish and Wildlife Service (FWS). Mitigation projects which are not in compliance with the applicant's approved plan will face enforcement procedures.