US Army Corps of Engineers®

Special Public Notice

Public Notice No: MVM-MGMR **Date: DECEMBER 16, 2003**

Memphis District

Please address all comments to:
Memphis District Corps of Engineers, Regulatory Branch
167 N Main ST, RM B202, Memphis, TN 38103-1894

PUBLIC NOTICE FOR PROPOSED MITIGATION GUIDELINES AND MONITORING REQUIREMENTS

The U.S. Army Corps of Engineers (Corps) and U.S. Environmental Protection Agency (EPA) regulations (33 CFR 320-330 and 40 CFR 230) authorize the Corps to require compensatory mitigation for unavoidable impacts to wetlands and other jurisdictional "waters of the U.S." Numerous reports, including the National Research Council's (NRC) report entitled "*Compensating for Wetland Losses Under the Clean Water Act*" have identified problems with the mitigation program as it currently exists. The Corps is aware of these problems and is committed to improving the success of future compensatory mitigation projects.

The Corps and EPA have issued the National Wetlands Mitigation Action Plan to help address these concerns. As part of the Corps approach to implementing better compensatory mitigation, each Corps District has been tasked to publish new or revised Mitigation and Monitoring Guidelines.

The attached proposed Mitigation Guidelines and Monitoring Requirements (MGMRs) are designed to assist the regulated public with all aspects of the mitigation process, improve the quality of design and implementation of compensatory mitigation projects, and ensure that future compensatory mitigation sites successfully replace functions and values of waters of the U.S. that are lost as a result of regulated impacts. Specific topics addressed within the MGMRs include the assessment of impacts to the aquatic environment, development of performance standards and success criteria, and establishing requirements for preparing monitoring reports for compensatory mitigation sites.

The MGMRs are to be applied by the regulated public and by Regulatory Branch project managers for activities within the Memphis District. The rationale is that these MGMRs, developed from previous guidelines, professional experience, field investigations, public input, and recommendations of the NRC, provide the next step in the process of improving the success of compensatory mitigation projects in the Memphis District.

Attached is a draft of the Memphis District's proposed MGMRs, along with a checklist to assist in the preparation and review of the required information. Please be advised that depending on the size, location, and/or complexity of the mitigation proposal, additional information may be required to adequately assess your proposal. Also attached (as Attachment B) is a list of common terms and their definitions used when discussing wetland regulations.

The MGMRs, along with the checklist, may be used in other federal or state programs as well; however, additional information may be needed to satisfy specific program requirements. For

example, Attachment A indicates additional information needed by the Natural Resources Conservation Service (NRCS) to satisfy the Swampbuster provisions of the Food Security Act.

PUBLIC INTEREST REVIEW: The purpose of this public notice is to advise all interested parties of the proposed MGMRs and to solicit comments and information necessary to evaluate their probable impact on the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of the MGMRs. Any comments received will be considered by the Corps of Engineers to determine whether to adopt the MGMRs as proposed and to develop specific design, monitoring, and success criteria for mitigation sites.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice that a public hearing be held to consider this proposal. Requests for a public hearing shall state, with particularity, the reason for holding a public hearing. The District Engineer will determine if the issues raised are substantial and whether a hearing is needed.

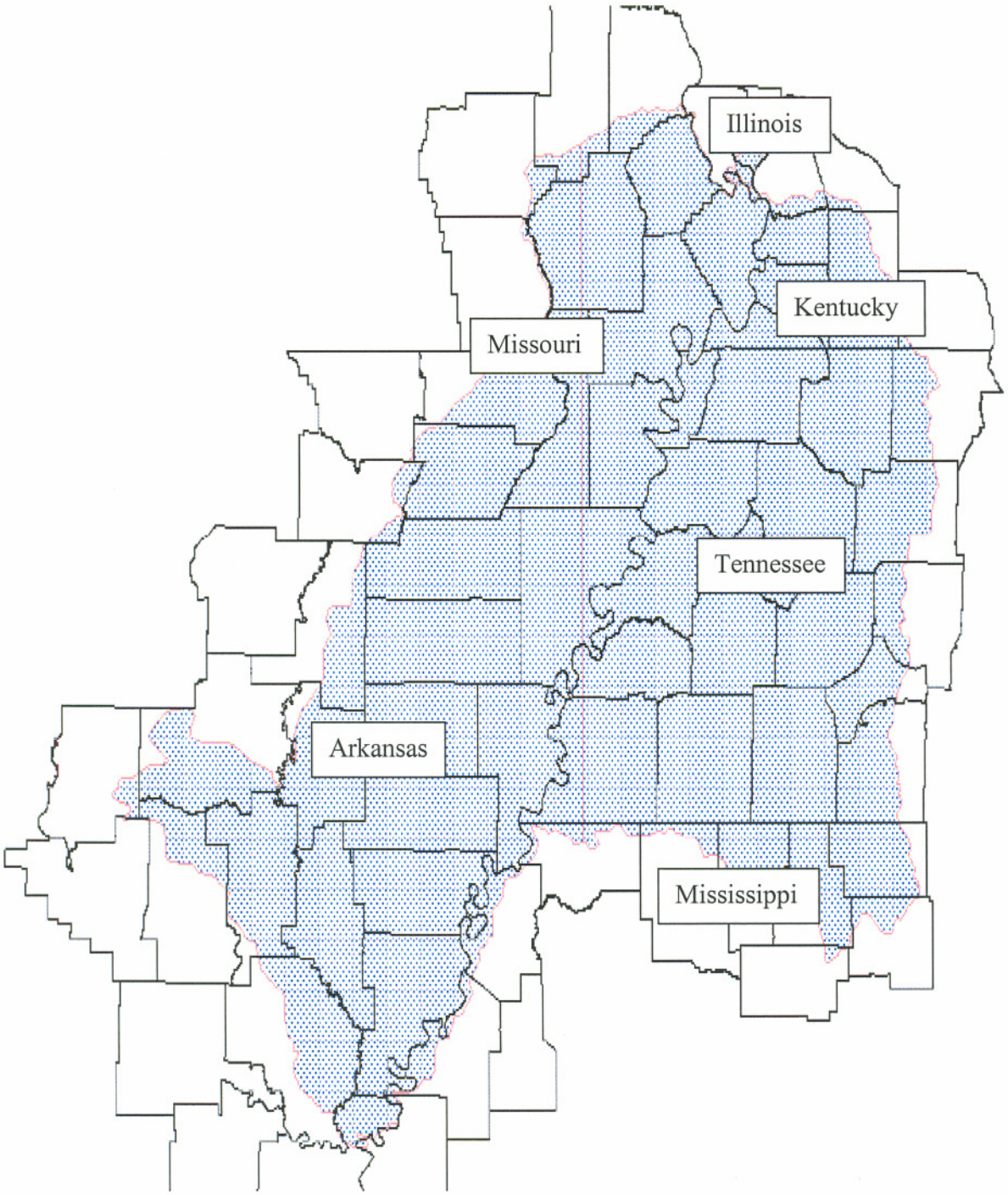
COMMENTS OR REQUEST FOR ADDITIONAL INFORMATION: If you wish to obtain additional information or to submit comments, please contact Timothy Davis at the U.S. Army Corps of Engineers, 167 North Main Street, Room B-202, Memphis, Tennessee 38103-1894, telephone (901) 544-0734.

Comments should be received by January 15, 2004.

Larry D. Watson

Larry D. Watson
Chief
Regulatory Branch

Attachments



MEMPHIS DISTRICT CORPS OF ENGINEERS
DISTRICT BOUNDARY

MEMPHIS DISTRICT
COMPENSATORY MITIGATION PLAN CHECKLIST[1]

1. **Mitigation Goals and Objectives**
   - ☐ Description of avoidance and minimization of impacts
   - ☐ Description of functions lost at impact site
   - ☐ Description of target functions to be gained at mitigation site
   - ☐ Description of overall watershed improvements expected as a result of mitigation

2. **Baseline Information for Impact and Proposed Mitigation Sites**
   - ☐ Appropriate location maps
   - ☐ Description of existing soils, vegetation and hydrology of impact site
   - ☐ Description of existing soils, vegetation and hydrology of proposed mitigation site
   - ☐ Description of surrounding land uses

3. **Mitigation Work Plan**
   - ☐ Proposed work schedule
   - ☐ Construction / grading plans
   - ☐ Description of plans for establishing wetland hydrology, hydrophytic vegetation and hydric soils within the proposed mitigation site

4. **Identify Performance Standard and Success Criteria of Mitigation Site**
   - ☐ Proposed success criteria for establishment of wetland hydrology
   - ☐ Proposed success criteria for establishment of hydrophytic vegetation
   - ☐ Proposed success criteria for establishment of hydric soils
   - ☐ Quantifiable parameters that can be used to assess success

5. **Monitoring Plan**
   - ☐ Identities of party or parties responsible for monitoring
   - ☐ Description of data to be collected
   - ☐ Description of proposed reporting format
   - ☐ Proposed monitoring schedule

6. **Remedial measures if success criteria not met**
   - ☐ Identification of party or parties responsible for adaptive management
   - ☐ Identification of potential challenges to mitigation site

7. **Site Protection**
   - ☐ Identification of party or parties responsible for long-term site protection
   - ☐ Copy of proposed legal protective measures
   - ☐ Plans for long-term physical protection of site

8. **Financial Assurances (if applicable)**
   - ☐ Identification of party or parties responsible for financial assurance of success
   - ☐ Types of assurances
   - ☐ Schedule for reviewing and adjusting financial assurances

[1] Refer to "Supplement: Compensatory Mitigation Plan Checklist" for further explanation of specific checklist items.

SUPPLEMENT: COMPENSATORY MITIGATION PLAN CHECKLIST

This document is intended as a technical guide for applicants[2] preparing compensatory mitigation plans for permits in the Memphis District, U.S. Army Corps of Engineers, under Section 404 of the Clean Water Act (CWA). Compensatory mitigation is required to offset unavoidable impacts. The purpose of this document is to identify the types and extent of information that agency personnel need to assess the likelihood of success of a mitigation proposal. Success is generally defined as: a healthy sustainable wetland/water that – to the extent practicable – compensates for the lost functions of the impacted water in an appropriate landscape/watershed position. This checklist provides a basic framework that will improve predictability and consistency in the development of mitigation plans for permit applicants. Although every mitigation plan may not need to include each specific item, applicants should address as many as possible and indicate, when appropriate, why a particular item was not included (For example, permit applicants who will be using a mitigation bank would not be expected to include detailed information regarding the proposed mitigation bank site since that information is included in the bank's enabling instrument).

The National Research Council (NRC) has identified 10 factors for improving the success of compensatory mitigation projects. These are grouped into two categories: *Basic Requirements for Success* and *Mitigation Site Selection*. The *Basic Requirements for Success* are as follows: (1) whenever possible, choose wetland restoration over creation; (2) avoid over-engineered structures in the wetland's design; (3) restore or develop naturally variable hydrological conditions; (4) consider complications associated with creation or restoration in seriously degraded or disturbed sites; and (5) conduct early monitoring as part of adaptive management. The NRC's recommendations for *Mitigation Site Selection* are as follows: (1) consider the hydrogeomorphic and ecological landscape and climate; (2) adopt a dynamic landscape perspective; (3) pay attention to subsurface conditions, including soil and sediment geochemistry and physics, groundwater quantity and quality, and infaunal communities; (4) pay particular attention to appropriate planting elevation, depth, soil type, and seasonal timing; and (5) provide appropriately heterogeneous topography. These recommendations have been incorporated into the attached mitigation plan checklist and supplement.

1. Mitigation Goals and Objectives

Impact Site

a. Describe attempts to avoid and minimize impacts to aquatic resources on the project site. Include a description of impacts to local hydrology, upstream and downstream aquatic resources, and wildlife habitat.
b. Describe and quantify by acreage the aquatic resource type and functions that will be impacted at the proposed project site. Include a description of temporary and permanent impacts to the aquatic environment.

[2] The checklist may be used in other federal or state programs as well; however, additional information may be needed to satisfy specific program requirements. For example, Attachment A indicates additional information needed by the Natural Resources Conservation Service (NRCS) to satisfy the Swampbuster provisions of the Food Security Act.

Mitigation Site

c. Describe and quantify by acreage the aquatic resource type and functions to be gained at the mitigation site.
d. Describe the contribution to overall watershed/regional functions that the mitigation site is intended to provide. Describe how the mitigation project will contribute to aquatic resource functions within the watershed or region (or sustain/protect existing watershed functions). Address whether the planned mitigation project will connect to other existing aquatic resources or wildlife habitats.

2. <u>Baseline Information - for proposed impact site, proposed mitigation site and, if applicable, proposed reference site(s).</u>

a. Describe the exact location of the project.
    1. Provide coordinates (preferably using hand held GPS) and a written description of the project location for impact and mitigation sites. Include township, range and section (if applicable); block, lot, and other real estate description; county, state, nearest town, water basin, etc.
    2. Provide location maps, including 7.5 Minute Series U.S.G.S quadrangles, aerial/satellite photos and NRCS soils maps, that clearly mark the boundaries of impact and mitigation sites.
    3. Provide a vicinity map that shows the location of the impact and mitigation sites in relation to the nearest town or city. These maps should be made from state highway, county road and/or city maps.
b. Describe any assessment method(s) used to quantify impacts to aquatic resource functions (e.g., Hydrogeomorphic Method (HGM), Wetlands Rapid Assessment (WRAP), etc.) and provide an explanation of findings. The same method should be used at both impact and mitigation sites.
c. Describe the existing hydrology of the impact site and mitigation site.
    1. Describe water source(s) (e.g. precipitation, surface runoff, groundwater, over flow from stream) and losses (e.g., evapotranspiration, infiltration, drainage pathways, etc.).
    2. Describe the hydroperiod (seasonal depth, duration, and timing of inundation and/or saturation).
    3. Clearly mark the contributing drainage area on a 7.5 Minute Series U.S.G.S. Quad Map.
    4. Discuss historical hydrology parameters if they differ from present conditions.
d. Describe the existing vegetation on both the impact and mitigation sites.
    1. List the dominant species in under, mid and upper stories. Include the wetland indicator status of each species.
    2. Provide a qualitative analysis of the existing vegetation; include characteristics such as density, general age and health, and presence of native/non-native/invasive species.
    3. Provide an estimate of the percent vegetative cover and a description of community structure (canopy stratification).
    4. Provide a vegetation cover map that shows the location of plant communities.
e. Describe the existing soils.
    1. Identify the soil survey classification and series and/or stream substrate. Indicate whether the mapped soil type is listed on the local or national lists of hydric soils.
    2. Provide a soil profile description (e.g., depth of horizons, matrix and redoximorphic feature colors using Munsell Color Chart, redoximorphic feature abundance/contrast, hydric soil indicators, etc.).

f. Discuss the existing wildlife usage of the site. Include a statement disclosing whether any species listed as threatened or endangered under the Endangered Species Act might be affected by, or found in the vicinity of, the proposed mitigation project.
g. Describe both the historic and current land use of the propose mitigation site and surrounding area. If applicable, include a copy of a certified wetland determination from the Natural Resources Conservation Service.
h. Identify the current owner(s) and renter(s) (if applicable) of the mitigation site.

3. Mitigation Work Plan

a. Indicate the proposed timing of work on the mitigation site (before, concurrent with or after authorized impacts); if mitigation is not in advance or concurrent with impacts, explain why it is not practicable and describe other measures to compensate for the consequences of temporal losses.
b. If applicable, provide a copy of the proposed grading plan.
   1. Indicate existing and proposed elevations and slopes.
   2. Describe plans for establishing appropriate microtopography. Reference wetland(s) can provide design templates.
c. Describe the proposed construction methods (e.g., equipment to be used).
d. Indicate the proposed construction schedule; include the expected beginning and ending dates of each construction phase as well as the expected date for an as-built plan.
e. Describe the plans for establishing hydrology within the mitigation site.
   1. Indicate the source of water.
   2. Indicate any connection(s) to existing waters.
   3. Describe the proposed hydroperiod (seasonal depth, duration, and timing of inundation and saturation), percent open water, and, if applicable, water velocity.
   4. Discuss any potential interaction with groundwater.
   5. Provide existing monitoring data, if applicable; indicate the locations of monitoring wells and stream gauges on a site map.
   6. Describe any proposed stream or other open water geomorphic features (e.g., riffles, pools, bends, deflectors).
f. Describe the plans for establishing hydrophytic vegetation within the mitigation site.
   1. Indicate the proposed native plant species composition (e.g., list of acceptable native hydrophytic vegetation).
   2. Indicate the proposed source of native plant species (e.g. salvaged from impact site, local source, seed bank), stock type (bare root, potted, seed), and plant age(s)/size(s).
   3. Provide a proposed plant zonation/location map (refer to the grading plan to ensure plants will have an acceptable hydrological environment).
   4. Describe the proposed plant spatial structure; include the proposed quantities/densities, % cover, community structure (e.g., canopy stratification).
   5. Discuss expected natural regeneration from existing seed bank, plantings, and natural recruitment.

g. Describe the plans for establishing hydric soils within the mitigation site.
   1. Indicate the source of soils (e.g., existing top soil, imported top soil from impact site) and any proposed soil amendments (e.g., organic material or topsoil).
   2. Provide details of proposed erosion- and soil compaction-control measures.

h. Describe any planned habitat features (large woody debris, nest islands, etc. on map).
i. Identify any planned buffer areas. Include physical characteristics such as location, dimensions, native plant composition, spatial and vertical structure.
j. Describe any other planned features, such as interpretive signs, trails, fence(s), etc.
k. Describe any proposed maintenance plans. These plans could include, but not be limited to, measures to control herbivory, man-induced destruction (e.g., all-terrain vehicles, farm equipment, etc.) of mitigation plantings.
l. Describe any plans to control invasive species (plant and animal).

4. Identify Performance Standards and Identify Success Criteria of Mitigation Site

a. Identify clear, precise, quantifiable parameters that can be used to evaluate the status of desired functions. These shall include hydrological, vegetative and soil measures (e.g., plant species richness, percent exotic/invasive species, and water inundation/saturation levels) but may also include other criteria. Propose realistic success criteria based on the purpose of the compensatory mitigation, design of the site, and functional assessment criteria. Develop measurable success criteria, consistent with the purpose and goals of the compensatory mitigation project, that are achievable by the end of the maintenance and monitoring period (see below).
b. Set target values or ranges for the parameters identified. Ideally, these targets should be set to mimic the trends and eventually approximate the values of a reference wetland(s).

5. Monitoring Plan

a. Identify the party (-ies) responsible for monitoring. If more than one party will be involved, identify the primary party.
b. Describe the data to be collected and reported; identify proposed monitoring stations, including transect locations, on site maps. Also, indicate the proposed frequency of monitoring events and the proposed duration of the monitoring period.
c. Describe any assessment tools and/or methods to be used for data collection and monitoring the progress towards attainment of performance standard targets.
d. Described the proposed format for reporting monitoring data and assessing the status of the mitigation site.
e. Describe the proposed monitoring schedule; indicate the proposed frequency of monitoring events as well as the proposed duration of the monitoring period.

6. Remedial Measures if Success Criteria Not Met

a. Identify the party (-ies) responsible for adaptive management.
b. Identify potential challenges (e.g., flooding, drought, invasive species, working on a seriously degraded site, working within an extensively developed landscape) that pose a risk to project success. Discuss how the design accommodates these challenges.
c. Discuss potential remedial measures in the event mitigation does not meet performance standards in a timely manner.

7. Site Protection

a. Identify the parties responsible and their role (e.g., site owner, easement owner, maintenance implementation). If more than one party will be responsible, identify the primary party.
b. Provide a draft copy of any proposed long-term legal protection instrument (e.g., conservation easement, deed restriction, transfer of title).
c. Provide details of any proposed plans for long-term physical protection (e.g., interpretive signs, fencing, tree guards, etc.).

7. Financial Assurances

This requirement may be necessary depending on size, location, and/or complexity of the mitigation site.

a. For each of the following, identify the party (-ies) responsible to establish and manage the financial assurance, the specific type of financial instrument, the method used to estimate assurance amount, the date of establishment, and the release and forfeiture conditions:
    1. Construction phase
    2. Maintenance
    3. Monitoring
    4. Remedial measures
    5. Project success
b. Indicate what potential types of assurances (e.g., performance bonds, irrevocable trusts, escrow accounts, casualty insurance, letters of credit, etc.) will be used.
c. Indicate the schedule by which financial assurance will be reviewed and adjusted to reflect current economic factors.

ATTACHMENT A
NATURAL RESOURCES CONSERVATION SERVICE (NRCS) PROGRAM REQUIREMENTS[3]

- ☐ NRCS conservation practice standards and specifications
- ☐ NRCS Environmental Evaluation
- ☐ Mitigation agreement
- ☐ Federal/State/Local required permits
- ☐ Compatible use statement:
  - o Allowable uses (e.g. hunting, fishing)
  - o Prohibited uses (e.g. grazing, silviculture)
  - o Uses approved by compatible use permit
- ☐ Copy of recorded easement
- ☐ Subordination waiver on any existing liens on mitigation site
- ☐ Statement of landowner's tax liability
- ☐ Copy of Warrantee Deed from landowner's attorney (no encumbrances, if so list)
- ☐ Copy of certified wetland determination:
  - o NRCS-CPA-026 Highly Erodible Land and Wetland Conservation Certification
  - o Wetland label map
- ☐ Copy of FSA Good Faith Waiver
- ☐ Copy of easement(s) ingress/egress granted to USDA employees for gaining legal access to mitigation site
- ☐ Copy of NRCS-CPA-38 Request for Certified Wetland Determination/Delineation

[3] For a complete list of the program requirements needed by NRCS to satisfy the Swampbuster provisions of the Food Security Act see the National Food Security Act Manual.

Attachment B

Definitions

Compensatory Mitigation: For purposes of Section 10/404, compensatory mitigation is the restoration, creation, enhancement, or in exceptional circumstances, preservation of wetlands and/or other aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.
Creation: The establishment of a wetland or other aquatic resource where one did not formerly exist.
Enhancement: Activities conducted in existing wetlands or other aquatic resources that increase one or more aquatic functions.
Farm Tract: A unit of contiguous land under one ownership that is operated as a farm or part of a farm.
Loss of Waters of the US: Waters of the US that include the filled area and other waters that are permanently adversely affected by flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent above-grade, at-grade, or below-grade fills that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The loss of streambed includes the linear feet of streambed that is filled or excavated.
Performance Standards: Observable or measurable attributes that can be used to determine if a compensatory mitigation project meets its objectives.
Permanent Above-grade Fill: A discharge of dredged or fill material into waters of the US, including wetlands, that results in a substantial increase in ground elevation and permanently converts part or all of the waterbody to dry land.
Preservation: The protection of ecologically important wetlands or other aquatic resources in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation may include protection of upland areas adjacent to wetlands as necessary to ensure protection and/or enhancement of the overall aquatic ecosystem.
Restoration: Re-establishment of wetland and/or other aquatic resource characteristics and function(s) at a site where they have ceased to exist, or exist in a substantially degraded state.
Vegetated Buffer: A vegetated upland or wetland area next to rivers, streams, lakes, or other open waters which separates the open water from developed areas, including agricultural land. Vegetated buffers provide a variety of aquatic habitat functions and values (e.g., aquatic habitat for fish and other aquatic organisms, moderation of water temperature changes, and detritus for aquatic food webs) and help improve or maintain local water quality. A vegetated buffer can be established by maintaining an existing vegetated area or planting native trees, shrubs, and herbaceous plants on land next to open-waters. Mowed lawns are not considered vegetated buffers because they provide little or no aquatic habitat functions and values. The establishment and maintenance of vegetated buffers is a method of compensatory mitigation that can be used in conjunction with the restoration, creation, enhancement, or preservation of aquatic habitats to ensure that activities authorized result in minimal adverse effects to the aquatic environment.
Vegetated Shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.
Waterbody: A waterbody is any area that in a normal year has water flowing or standing above ground to the extent that evidence of an ordinary high water mark is established. Wetlands contiguous to the waterbody are considered part of the waterbody.