Voluntary Restoration of Wetlands: Complex Issues in the Regulation of Restoration Projects

Prepared by the Association of State Wetland Managers
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Background

The voluntary restoration of wetlands is often essential for maintaining or improving the integrity of aquatic systems – to maintain, connect or expand habitat; to protect biodiversity; for the protection of water quality and management of stormwater; to recharge and protect water supplies; to buffer against flooding and storm surges; and increasingly to adapt to climate change. These positive goals are well defined and understood.

However, because wetland restoration (including wetland enhancement and some aspects of ongoing management) frequently involves the alteration of existing aquatic systems, permitting requirements are frequently triggered. The Association of State Wetland Managers (ASWM) initiated a project in 2011[1] to investigate how state and federal agencies are currently addressing permitting for voluntary restoration, and what steps have been identified that might serve to expedite the permitting process for those projects that provide a net resource benefit. Working with a number of stakeholders, ASWM compiled this information into a report entitled *Permits for Voluntary Wetland Restoration: A Handbook*.

[1] This project was funded by a Wetland Program Development Grant from the U.S. Environmental Protection Agency. Please note that the views of multiple organizations and agencies are represented in this paper, and no particular opinion should be attributed to any one entity.

During discussions among the stakeholder workgroup, it became apparent that some positions or concerns advanced by participants could not be readily resolved through the publication of a *Handbook*. This white paper is intended to document those unresolved concerns – including suggested program modifications that would require regulatory and or statutory changes beyond the purview of most wetland program managers. This paper describes the various (and sometimes conflicting) perspectives advanced by workgroup members for additional study by the ASWM, federal and state agencies, or other interest groups.

This paper is directed to those who already have an understanding of the importance of wetland restoration and management and the benefits of such work to the public through provision of ecological services, and it does not discuss those issues. We also recognize that restoration to meet compensatory mitigation requirements associated with federal, state, or tribal regulations is guided by distinct regulatory requirements defined in the permit process, and those permitting actions are not considered in this white paper.

Differing Perspectives and Differing Roles in Wetland Restoration Permitting

Wetland restoration projects are carried out by an enormous range of interest groups, bringing different perspectives – and occasionally competing interests – to the discussion. The flexibility of the regulatory framework in responding to these concerns will to a great extent define our ability to expedite beneficial projects.

- **Wildlife and waterfowl conservation groups** have historically played a major role in restoration and protection of wetlands, and both government partners (USFWS, NRCS, state wildlife agencies) and non-profit organizations (DU) from this sector contribute significant expertise – and funding. Non-governmental organizations may be less familiar with the regulatory process or with the obligations of regulatory agencies.

- **Fisheries interests** often overlap with those of wildlife managers; however, conflict may occur when alteration of aquatic habitat favors one group of species over another.

- **State and federal water agencies** may be involved both with permitting and with restoration activities (e.g. nonpoint source management) – these groups typically understand the needs of both perspectives. Depending upon organizational structure, water managers may or may not be fully engaged with habitat concerns.

- **Local land use or zoning agencies** may be concerned with changes in existing land use and the impact on broader planning processes, protection of aquifers, or similar watershed management issues.

- **Entities responsible for protection from natural hazards**, including floods and severe storms, have a distinct interest in wetland restoration to buffer and protect human communities.

- **A range of agencies with responsibility for interrelated resource management programs** – e.g. floodplain managers, endangered species protection, coastal zone management – are concerned with how wetland restoration intersects with their specific program responsibilities.

Obviously, the concerns of these groups are varied. **This paper demonstrates how differing perspectives can lead to conflicting viewpoints during restoration permitting. There was no consensus among stakeholders about the best way to resolve some of these issues.**

Difficult to resolve issues

Principles and presumptions. In this discussion, "wetland restoration" is meant to encompass related voluntary actions that also include wetland enhancement, management actions that may require permitting, and other modification of wetlands to increase ecological benefits. It is recognized that not all restoration work requires permitting.

For purposes of this paper, it is generally presumed that a voluntary restoration project will have a net benefit (although this benefit may be difficult to define or measure). That is, we are not debating the merits of restoration.

Finally, this paper does not consider wetland restoration undertaken to mitigate for regulated activities; specific federal and state regulations govern compensatory mitigation.

The following issues are presented in no particular order. A range of perspectives regarding each issue are presented, often representing opposing views, without any attempt to attribute opinions or to resolve differences. All of these concerns merit additional study.

#1. Who is responsible for, or has the authority to, define restoration goals for a particular project?

Perspectives:

A. The sponsor/funder of a project has the authority and responsibility to define project goals and desired outcomes. Alteration of private lands depends on the desires of the landowner, while modification of wetlands on public lands will reflect the goals of the responsible land management agency.

B. Because wetlands are a component of commonly held water resources, regulatory decisions must take into account the views of multiple agencies, organizations, and individuals.

C. Restoration (or enhancement) goals that are part of an established watershed or land management plan should be accepted by regulatory agencies.

Suggested considerations: Differing goals regarding wetland type, structure, and function may be difficult to resolve in the context of a single permit decision. Disagreements regarding basic project goals can result in significant added costs, delays, and frustration.

More positive outcomes are likely when restoration objectives are discussed outside of a specific project decision. Joint strategic planning, coordination with interest groups during development of wetland management plans for regions or watersheds, and similar approaches are excellent venues to identify mutually acceptable goals and outcomes. The needs and desires of landowners and land management agencies should be a specific component of such planning processes. For this approach to be effective, regulatory agencies must agree to accept the outcome of joint planning efforts.

#2. How can "net benefit" best be defined in terms of regulatory review? How should enhancement projects be evaluated, where there may be a tradeoff between desired values and outcomes?

Perspectives:

A. The sponsoring agency should be able to define the net wetland resource benefit, and make decisions regarding tradeoffs. The sponsor will take into account the desires of the property owner, or in the instance of public land, the goals of the agency responsible for land management decisions.

B. Because multiple stakeholders have a shared, common interest in water resources, all stakeholders should have an opportunity to participate in decision making. Regulatory agencies are charged with consideration of all perspectives and are responsible for weighing positive and negative impacts.

C. It is the responsibility of restoration project sponsor to resolve the objections of other, potentially competing, stakeholders to ensure a net benefit.

Suggested considerations: Projects are clearly beneficial when there will be an increase in wetland function and services, and little or no adverse impact on any alternative function or service. Defining criteria or "sideboards" for these types of projects, and making them eligible for simple permit approval, will help to facilitate this discussion.

For projects that involve tradeoffs – where a single service or value is maximized over others – it may be helpful to agree upon planning processes or strategies that are acceptable to all parties. This is essentially the approach taken in NWP 27 leading to easy approval of many projects based on agreements with federal agency programs. Specified watershed plans or other state/tribal/local strategic plans may also be generally accepted. Where trade-offs are potentially significant – e.g. use of habitat for stormwater treatment – there should be a mechanism to consider the proposal very early in the project planning process, before significant resources are committed.

Alternatively, a state or region may define impacts that are unacceptable – e.g. loss of wetlands that are rare, difficult to replace, or that otherwise have special value. Once this is done, restoration specialists can be advised of such limits. Case-by-case decisions made during permit review are often counterproductive.

In the past, detailed technical models and assessments have been used to weigh the benefits of compensatory mitigation, and similar approaches could be applied to voluntary restoration. However, the time and cost associated with using such models may well outweigh their benefit.

#3. How can the cost of the permitting process and the time required to obtain a permit be contained?

Perspectives:

A. Overall streamlining of the permit process – including simplified permit application forms, and reduction or elimination of duplicative reviews by multiple agencies – can greatly limit costs. This may include limiting the amount of information

requested by regulatory agencies during review.

B. Simple, routine restoration measures should receive automatic approval.

C. Permit fees should be waived for projects that provide a net benefit in terms of acreage or function.

D. Early coordination among regulatory agencies and restoration practitioners, including formal pre-application meetings and site reviews, will expedite permit processing.

E. Grant funded proposals should provide for the time needed for permit processing. Regulatory agencies should be informed of grant deadlines.

F. Where multiple regulatory agencies are involved, procedures should be developed to carry out simultaneous review of restoration projects.

Suggested considerations: There is general agreement that reduced time spent processing permits for voluntary restoration will free staff for other responsibilities, and there is thus a mutual interest in streamlining these projects. Identification of projects that meet pre-defined criteria or adopt approved best management practices can expedite decision making, as can joint interagency training regarding procedures and practices.

#4. How can regulatory programs best address emergency permitting – such as the need for expedited coastal wetland protection and restoration following Hurricane Sandy, and similar events?

Perspectives:

A. Where wetlands are catastrophically altered by natural events (hurricanes, flooding) or by failure of human infrastructure (e.g. dam failure, pipeline rupture), provisions should be available for the emergency stabilization and restoration of wetland systems. Actions to minimize further loss may require temporary fill or construction (e.g. placement of temporary berms, excavation of contaminated material) prior to completion of a permit process.

B. Federal permit processes provide at least a portion of the needed authority. Federal regulations exempt "emergency reconstruction of recently damaged parts of currently serviceable structures" – an exemption that may apply to repair of dams, pipelines, or levees. However, this exemption may not address all resource damage resulting from a catastrophic event.

The Corps of Engineers has also issued emergency permits on a regional basis that may serve as models for similar actions. Likewise, states that assume administration of §404 are authorized to issue emergency permits.

C. Many local regulations may also be applicable, and coordination between state, federal and local laws may be needed to address this issue through appropriate planning. Environmental planning may be addressed during local "disaster drills."

Suggested considerations. In catastrophic situations, there is often a need to act immediately, without allowing time for engineering studies or permit review. Subsequent long term repair or reconstruction may need to modify emergency measures. Primary attention should be given to authorization of immediate emergency measures. Because the needed response to an emergency is unpredictable, it may be appropriate to give primary regulatory agencies broad authority to approve emergency measures, recognizing that modification may be needed later.

#5. Should the framework of §404 regulations be modified to better accommodate voluntary restoration, in a manner different than projects that result in wetland loss? In what ways?

Perspectives:

A. The §404 framework (and that of many parallel state/tribal regulations) is sufficiently broad and flexible to encompass wetland restoration projects. Current regulations can be adapted to recognize the special nature of restoration. Essentially, all actions that alter wetlands (and other waters) should be held to the same basic standards.

B. §404 was developed to protect wetlands from degradation and loss. It was not designed to support positive actions, and should be modified to better accommodate restoration activities.

C. Use of general permits (general authorizations, etc.) is helpful. However, the requirements for some general permits are too detailed. In some instances, agencies require as much information as is submitted for an individual permit. Additional simplification is possible.

D. Wetland restoration activities that meet defined standards should be exempted from regulation.

E. Mitigation regulations may benefit from clarification to the effect that mitigation for restoration actions is not required where regulated activities provide a net benefit. Clarification is needed regarding mitigation potentially associated with dam removal and impoundments.

F. For beneficial restoration activities, the analysis of alternatives should be limited to consideration of restoration methods that may have a more limited impact, or that eliminate unacceptable outcomes (such as flooding of adjacent lands). Alternative sites for the restoration work are not typically a consideration.

G. Many permit conditions that are regularly applied to compensatory mitigation – such as monitoring to determine achievement of performance standards – are not applicable to voluntary restoration.

Suggested considerations: Given the scope of activities that fall under the category of "wetland restoration", it is unlikely that a basic change to §404 (or parallel state/tribal laws) could address all concerns. For example, while wildlife managers may see benefit in exemption of habitat restoration actions, they may not favor exemption of projects designed to enhance stormwater management functions by directing additional urban runoff to a wetland.

Stakeholders have had greater success with more targeted approaches to jointly identify actions that are highly unlikely to have adverse impacts from any perspective (e.g. breaking drain tiles that affect only an individual property). Regulatory review of such actions can be more easily streamlined, e.g. through an MOA or general permit.

Alternatively, stakeholders may participate in defining "best practices" for restoration activities to minimize impacts in ways that are mutually acceptable, with agreement to limit regulatory review of projects that meet these standards.

#6. To what extent should the current – potentially degraded - condition of a wetland influence regulatory decisions?

Perspectives:

A. Most wetland restoration occurs in areas that are degraded or that have been significantly altered by past land use. Thus, any improvement is a benefit.

B. Degraded or significantly altered wetlands often cannot be returned to historic condition due to changes in soils, hydrology, or other factors.

C. Landowners who are interested in wetland restoration may not want the type of wetland that was historically present – in particular wet meadow, scrub shrub, or other drier wetland types, or wooded areas that will not be established for decades. Restoration from farmed wetland to marsh or another wetland type with significant open water may be more desirable to the landowner, and is overall more beneficial than leaving the area in use for farming.

D. Even degraded wetlands often provide ecological services. Therefore, regulatory agencies need to take into account the sum total of gains and losses resulting from the restoration activity.

E. Historically altered or degraded wetlands may have the potential for restoration to historic condition, replacing lost wetland habitat or functions. They should not be altered in a manner that will preclude potentially more valuable restoration in the future.

Suggested considerations: Generally, restoration of a highly degraded site is of less concern than alteration of an intact wetland. Where concerns arise regarding restoration to produce a type that was not historically present (often with more open water), the potential benefits of restoring currently farmed or an otherwise significantly altered wetland should be discussed outside of the context of a particular project.

In some geographic areas, there will be little concern with restoration of farmed wetland or other areas that were historically drained or altered in a manner that is desirable to landowners. Where restoration to historic condition is a high priority for a state or tribal wetland program, advance planning for such restoration may help to avoid site by site conflicts. In some less common circumstances, there may also be concern with loss of those services that are currently provided by the site – even in a degraded condition. For example, diking of a farmed wetland that currently provides floodplain functions may interfere with normal flood flows; flooding of established woody vegetation on a partially drained site may result in loss of significant habitat.

#7. Should an emphasis on restoration of "natural/historical" wetlands as part of the permit review process be modified? Is climate change a factor?

Perspectives:

A. The historic presence of wetlands on a site is one of the best indicators of the potential for restoration success. Historic wetland types developed in response to hydrogeomorphic conditions for a specific site, which in turn reflect long term interactions among chemical physical site conditions. For these reasons, historic

wetlands are most likely to be successful.

B. Past wetland loss has often resulted in loss of ecosystems functions that are now a priority.

C. Some ecosystem functions can be provided by more than one type of wetland.

D. Given the extent of human land use and modification of hydrologic and other conditions, it may not be feasible or practical to restore historic wetland ecosystems, especially on isolated parcels of land.

E. Historical conditions - including precipitation levels and resulting hydrology, length of growing season, and similar factors – may no longer be applicable in the future based on current climate change forecasts. For this reason, sustainable wetlands will depend upon projected future rather than past conditions.

Suggested considerations: Landscape level planning, and use of GIS mapping and modeling, may support planning for beneficial and sustainable wetland restoration. Where a need is identified for expansion of remnant wetland ecosystem types, or restoration of functions that are priorities for various sectors, interagency planning can help to define appropriate locations and set mutually beneficial goals. Multi-objective planning should be encouraged.

Uncertainty regarding future conditions calls for flexibility in design and optional approaches to future management (e.g. adjustable water control structures; buffers that allow for higher water levels as needed).

#8. How can restoration partners most efficiently address the needs of related resource management programs? What opportunities exist for floodplain managers, coastal zone managers, heritage programs, etc. to sign off on best practices, minimizing project by project review?

Perspectives:

A. The sponsor of a restoration project is responsible for identifying and resolving any concerns of related programs. This may include screening projects through natural heritage/endangered species programs, historical/cultural sign-off as needed, floodplain approval, and so on.

B. Regulatory agencies should assist restoration efforts by coordinating with related resource programs during the permit process.

C. Agencies that have potential concerns related to wetland restoration should engage with restoration partners to identify ways to avoid these concerns, or to expedite review.

Suggested considerations: There is no single best approach to this issue, and it will likely be resolved on a statewide or regional level. Appropriate agency representatives should consider the best way to advance common goals. Each agency is responsible for defining potential concerns, and providing an effective mechanism to screen projects to avoid unintended consequences.

#9. What additional considerations related to climate change mitigation or adaptation need to be addressed in permitting procedures?

Perspectives:

A. Issues related to climate change are likely to impact numerous resource management decisions in coming years. The impacts of climate change should be considered in planning restoration projects, even where the primary purpose is not related to climate change.

B. Modification of the design of a restoration project, or management actions, may have a significant impact on the potential for increased carbon sequestration. For example, reducing the duration of drawdown of managed areas during the growing season may reduce decomposition, and thus increase net sequestration.

C. In determining project goals and design, likely future hydrologic conditions should be considered to increase the sustainability of restored wetland systems.

D. Restoration project design and approval should both support the flexibility needed to adapt to changing conditions. For example, structures that require active management have on occasion been discouraged in past years (due to the need for maintenance) – but such structures may be advisable where future hydrologic conditions are uncertain. In addition, it may be beneficial to include buffer areas in project plans to accommodate changing water levels.

E. Both restoration design and approval should consider the establishment of vegetation that will be sustainable in the long term, even if such vegetation was not present historically. The range of vegetation, and future conditions, may be

modified, with a goal of establishing a beneficial plant community that can successfully compete with invasive plants following disturbance.

F. In general, regulation of wetland restoration should acknowledge the current uncertainty regarding future conditions, and encourage projects that are likely to provide positive benefits even where details of the final outcome are difficult to define.

Suggested considerations: The combination of urgency and uncertainty dictate the need for ongoing cooperation & modification in tandem with advancement of science and international policy. Planning for climate change is very limited in many geographic areas; wetland managers have the opportunity to highlight the potential role of wetland restoration and management both in carbon sequestration and for climate change adaptation early in planning discussions.

Regulatory issues should be a component of these discussions; regulatory barriers should not confront agencies and organizations that adopt wetland restoration as a valid approach to climate change adaptation.

General Recommendations

- **The importance of joint wetland planning**. A recurring theme in this discussion is the need for cooperative planning efforts, whether on a watershed, statewide, regional, or ecoregional basis. It is unfortunate when opposing views are discovered late in a permit process, after one stakeholder has already become heavily invested in a course of action.

  It should not be surprising that alteration of a single component of an ecosystem – even with the best intentions – will have multiple affects. Thus, ecosystem restoration is not as simple as stakeholders often expect.

  As always, the answer is open collaboration and communication, outside of the processing of a single permit, to reach agreement on ways to proceed with projects that involve complex tradeoffs. The result, ideally, is broad support for projects that arrive at the permitting process. This does not mean that program managers need to redefine their specific goals and objectives – or to minimize the importance of their programs - but rather that all parties understand those goals, and provide advice in advance on any potentially unacceptable trade-offs. Collaboration may involve significant time and effort, but with a much improved outcome as restoration

projects move forward. Communication is always the foundation for trust, understanding, cooperation, and true partnership.

- **Recognition of local and regional differences and needs.** The national permitting framework under §404 allows for a regional perspective, e.g. in issuance of regional general permits, or regional conditions placed on nationwide permits. Managers should also expect to accommodate state/tribal or local concerns that may mandate an individualized approach to permitting.

  Processes that work for Midwestern managers may not function well where coastal considerations need to be taken into account. Water law varies significantly from east to west. Environmental stressors that are considered in regulatory review also vary considerably in different geographic areas. Thus, agencies and organizations cannot expect a "one size fits all" approach to regulation. We can learn from each other, and national organizations often have a special perspective, but the best programs will also recognize specific state, tribal, and regional needs.

- **Persistence and the need for adaptive management**. State programs that have built successful wetland partnerships have generally done so over a period of many years. General permits and other means to expedite approval of restoration efforts have typically been improved and modified repeatedly over time.

  At present, our ability to restore or enhance wetlands in a sustainable manner is increasingly uncertain in light of both climate change, and economic/social pressures. Partners should anticipate the need for ongoing coordination, evaluation of joint practices, and adaptive management as applied to program structure, as well as natural resources.

- **Sharing Best Practices for Wetland Restoration.** Over the past 30 years millions of acres of wetlands have been restored. However, information about how to site and restore wetlands successfully is scattered among agencies, wetland restoration experts, a variety of websites, and a variety of publications, books, reports and hard copy technical notes. Furthermore there is little information on which practices are most successful and sustainable and where (and with what wetland types) they can be applied. This means that wetland reviewers and permittees may be relying on much different sources of information and expertise as they either design wetland restoration projects or review them. The fragmented nature of information about how to design successful projects can also lead to project failure. There is a real need to identify the best wetland restoration practices available, identify gaps in knowledge and share this information through a variety of forums so that the overall

level of expertise that permit reviewers and permit applicants bring to the table is improved. This will lead to more successful restoration projects as well as more consistent restoration permit processing.

- **Measuring outcomes.** The ability to improve programs over time depends on evaluation of past success or failure. In addition, both government agencies and non-governmental organizations rely on the reporting of successful outcomes to build public support and to obtain funding for future work. In the past, it has often been difficult to assess wetland restoration success, in part because multiple partners "counted" the same increase in acreage, and also because acreage measures to not always accurately reflect benefits.

  It is suggested that stakeholders jointly consider how to evaluate success, and share in the reporting of wetland restoration gains on a local, state or regional, or watershed basis. Measurement of success through monitoring of a restoration project should not be the sole obligation of the project sponsor.
  Measurements of outcomes may also be based on the success of the regulatory process itself. Some possible measures of a successful wetland restoration program – in addition to gains in wetland acreage and function - include the following.

  - Permit applications for restoration projects are processed in a timely manner (specific timeframe targets may be set by regional partners).

  - Agencies and organizations feel free to undertake wetland restoration projects that require a permit. That is, restoration is not avoided due to permit requirements.

  - Opposition to permit applications for restoration projects is reduced.

  - Wetland restoration projects are generally viewed as positive, joint efforts made possible by cooperation among agencies, individuals, and organizations.

  - The public is informed of positive improvements in habitat and water resources.

ASWM appreciates the input from multiple stakeholders in development of this white paper, and we encourage feedback from restoration partners. The Association will continue to study these concerns as we track advances in wetland restoration science and policy.