



Wetlands Outreach: Getting the Message Out

New Techniques and New Partners for the Millennium

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Preface

In September of 1999, the Association of State Wetland Managers in cooperation with the U.S. Environmental Protection Agency invited 45 wetland outreach professionals from around the country to participate in a two-day wetland public outreach and education forum: "Getting the Message Out: New Techniques and New Partners for the Millennium." Participants included representatives from state, federal and local governments as well as not-for-profit organizations. The following report is a synthesis of the two days of discussion on wetland outreach.

Acknowledgements

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About the Association of State Wetland Managers, Inc

The Association of State Wetland Managers (ASWM) is a membership based, nonprofit organization established in 1983. The Association was created to help build the nation's capability to protect and manage wetlands and other waters in both the public and private sector; to promote the exchange and dissemination of information about wetlands and other waters, and to educate the public concerning the varied aspects of wetlands protection and management. The Association carries out various activities to achieve this goal such as conferences, workshops, paper and electronic publications, field trips and other activities.

Executive Summary

The abundance of wetland outreach products and the quality of many of these products are impressive. However, the demands of wetland outreach are much broader and sophisticated than even 10 years ago. The new century provides an important opportunity to take stock of how far wetland outreach has come as well as critical future areas for improvement. This report identifies generic problems, solutions and areas for future strategic wetland outreach development and cooperation.

Even with the enormous increase in the quantity and quality of information available, there are particular topic areas where information is still needed. These information gaps occur in the areas of wetland regulation, wetland science, community empowerment, and integrating wetlands into broader initiatives such as watershed management and flood loss reduction. For integration of wetlands into grade school and high school curriculums there is a somewhat different challenge. Good curriculum exists and efforts need to highlight how to fully integrate wetland curriculum into primary and secondary education. Finally, developing and fostering partnerships that work to develop and distribute outreach material is an area that needs continuing attention.

The following next steps are recommended:

- ◆ Develop an inventory of existing outreach products indexed by category, audience, and source. Cost and a short write-up about the materials would be useful. The inventory should include all types of products including videos, publications, internet sites, etc.
 - ◆ Based in part on the inventory, develop a web clearinghouse of wetland outreach materials. This could include links to the appropriate sources, a list serve for wetland outreach questions, and a list of organizations that undertake or fund wetland outreach.
 - ◆ The U.S. Environmental Protection Agency (EPA) has outreach staff associated with the wetlands staff in each Region as well as Washington, DC. A starting point for developing coordination of outreach activities on a national basis is for the EPA offices to develop an integrated plan for developing and distributing wetland outreach products.
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- ◆ Coordination has the potential to expand far beyond EPA offices. There are outreach professionals dealing with wetlands at state, tribal, and local government levels, within not-for-profit organizations, and within business organizations as well. This broader coordination effort is needed. Establishing a central website or wetland outreach list-serve could be a starting point.
 - ◆ In this report four areas are identified—wetland regulation, wetland science, community empowerment, integration into broader initiatives--where additional wetland related outreach products are needed. Part of the emphasis of a wetland outreach strategy is to make a systematic search to determine whether or not there are existing products and publications that have been overlooked and to work collectively to identify, develop, and distribute information to fill these gaps.
 - ◆ Currently each wetland outreach professional starting a new product must generally also develop expertise about the audience, how to communicate a message to that audience effectively, and select the most appropriate tool for delivering the information. Consolidating, distributing, and/or somehow sharing expertise on how to reach various target audiences effectively will help reduce the cost of developing individual products.
 - ◆ In pictures, videos, and other visual presentations of wetlands, all wetlands need to be represented, not just wetlands with standing water in them year round. “Drier end” wetlands during their dry and wet phases need to be included consistently.
 - ◆ Effective outreach should be an equal partner in the development of programs, policy, etc. Consideration of how to communicate information about wetlands should occur much earlier in the program and policy development process.
 - ◆ While computers and telecommunications enhance the potential for the broad scale availability of information, many of these mechanisms-web pages, e-mails, etc.-lack the rich complexity of human interactions and communications. Outreach strategies should emphasize opportunities for people to interact. The opportunity to meet face to face, to talk informally, and to ask questions and share experiences will remain one of the most effective ways to “get the message out.” It should continue to be an important part of overall wetland outreach strategies.
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Wetlands and Wetland Outreach: Setting the Stage

Now a days most of the public would at least recognize the word 'wetlands' and according to polls the majority of Americans believe natural resources such as wetlands are important. They may not be sure why they should be concerned or even have a very accurate understanding of what a wetland is, but they do believe that wetlands have a role to play in maintaining a healthy environment.

This was not always the case. Throughout the first 75 years of the 20th Century the primary focus of wetlands policy in the United States can be summarized with one concept: wetlands should be modified i.e. destroyed and turned into something more useful such as arable farmland or sites for various types of development. As a result an estimated half of the wetlands in the contiguous U.S. no longer exist. For the bulk of the 20th Century draining wetlands was the focus of federal and state wetlands policy.

However, in the last 25 years and mostly in the past ten a new idea emerged.

Natural wetlands are important.

So what changed? And how has wetland outreach been part of that change?

There is probably not one single factor that led to, what appears in retrospect to be a dramatic adjustment in public opinion. Certainly it is part and parcel of the environmental movement that emerged in the 60's and early 70's with such landmark legislation as the National Environmental Policy Act and Federal Water Pollution Control Act (now the Clean Water Act). There were many contributions in an effort to bring the importance of wetlands into the public consciousness and the beginning dates back at the very least to the earlier parts of the 20th century. Important events came in many shapes and sizes. They include: "The Everglades: River of Grass" by Marjorie Stevenson Douglas which was published 50 years ago; the earlier establishment and growth of the national refuge system; the development of state wetland programs; the U.S. Fish and Wildlife Service's Status and Trends report documenting wetland losses; the public policy debates over no net loss and wetland policy; the floods in the upper Midwest in 1992; and the wholesale erosion of Louisiana's coastal wetlands over the past 25 years. What all the



events above have in common is the “public outreach” that accompanied them raised the public consciousness of the importance of protecting and restoring wetlands as well as the problems and issues surrounding wetland protection. They all had by intent (and unfortunately sometimes by default) a public outreach component, i.e., the message or messages that were communicated.

The general public’s increasingly familiarity with the importance of the Nation’s wetlands resources is due in no small measure to the proliferation of information available about wetlands. The variety and quality of these materials is impressive including: books, pamphlets, brochures and other written materials, web pages, conferences and workshops, teaching materials, videos, and interactive games. With the great profusion of information available, there is also a great deal of knowledge concerning how to do effective wetland outreach. However, despite these significant successes “wetlands” is a complex topic with many aspects including regulation, science, community planning, and student education. In addition there are new areas of attention such as exotic species control, changing wetland delineation and assessment methodologies, and new wetland restoration techniques that require the development of new products. There is tremendous potential for more effective development of wetland-related outreach materials. Preventing duplication of effort, effectively marketing existing materials, tailoring information to reach specific interest groups, and developing materials to fill existing gaps are a few of the areas that need to be addressed. The purpose of this report is to summarize accomplishments, identify gaps and problems, and make recommendations for improving wetland outreach nationally.

“Virtually everyone dealing with wetland issues has a “public outreach” component to their work whether it is recognized explicitly as such or not”.

In this report wetland outreach products are defined as a wide variety of products and materials that have the potential to influence and impact the attitudes of the public, individuals, and special interest groups towards wetlands. Under this definition, virtually everyone dealing with wetland issues has a “public outreach” component to their work whether it is recognized explicitly as such or not.

Ultimately professionals with explicit “public outreach” incorporated into their other job responsibilities develop and distribute wetlands outreach products to inform, to educate, and ultimately to encourage individual and collective actions that will protect and improve wetland resources. However, as implied in the box on the next page listing outreach products, outreach is only one link in a complex web of actions and interactions directed toward wetlands. Developing strategic, successful, cost-effective wetland outreach is a formidable challenge.

So what are wetland outreach products?

They include:

- ▶ Press releases announcing new wetland-related initiatives
- ▶ Fact sheets about wetlands
- ▶ Testimony before Congress
- ▶ Booklets, manuals, brochures
- ▶ Web sites and related pages
- ▶ Books
- ▶ Public Service Announcements on TV and Radio
- ▶ Notices in the Federal Register
- ▶ Regulations
- ▶ Speeches at conferences
- ▶ Interpretive displays
- ▶ Training manuals
- ▶ Slide shows
- ▶ School curricula (grade school through college)
- ▶ Etc.

The topic of wetlands is very complicated and has many aspects. While the general public may believe that wetlands are important in a generic sense, it becomes a much more contentious matter when individuals, communities, interest groups, and elected officials must make decisions singly and collectively on how to address management of wetlands on a local level. Substantial misunderstandings and disagreements exist over the importance of individual wetlands as a natural resource. Sometimes the question of filling or draining or leaving a wetland in place has a very dramatic impact on individual pocketbooks. In a sense, if an individual has decided that destroying wetland resources and converting them to upland or deep water habitat is the preferred alternative, the battle to protect an individual wetland from destruction is already well on the way to being lost. However, continued destruction of wetlands can have enormous public costs in terms of increased flood losses, deteriorating water quality, declining species diversity, and other human health and safety/quality of life issues. It is very important for the public, interest groups, individuals, elected officials and others to have good information about what wetlands are, why they are important, the laws governing wetlands, and other related issues. Decisions about wetlands as well as other natural resources have the potential to impact our current and future physical and fiscal health. Good information is essential. This is the central role of wetland outreach-- empowering individuals with the information to make good decisions.



Common Problems/Impediments to Effective Wetland Outreach (Why Outreach Fails)

Below are some of the common problems associated with developing good, effective outreach products:

➤ **One size fits all—audience, message, tools get scrambled**

Frequently wetland outreach products get broadened to address too many audiences and too many messages. The end result is that it doesn't achieve its intended purpose. Often without special tailoring, the audience that it was intended for doesn't realize that it was intended for them. The information becomes too generic or too technical to be useful for a particular audience or to communicate a specific message. There are many reasons that this happens and it varies from one organization and even one product to the other. Perhaps funding is limited and in an effort to do more with less, broader audiences and messages are incorporated; or perhaps legal concerns are raised with wording and the language becomes "bureaucratic" and inaccessible to the general reader. In other cases a lack of understanding of the intended audience, their concerns, and the language may be absent. Sometimes the person assigned the "outreach product" does not fully understand the issue(s) being addressed.

➤ **Double 'D's: Distribution and Duplication Delay Progress**

Everyone is limited by resources and "outreach" is generally considered an area where resources can be reduced when budgets get tightened. As a result, products may be developed, but lack the funding for broad distribution, i.e., printing, publicity and other duplication costs. This means that other groups developing the same or similar types of materials and messages start from scratch leading to duplication of the same effort over and over.

➤ **Lack of useful, understandable information**

There are areas where good information about wetlands is lacking: specifically understandable, accessible information about wetland regulatory programs, wetland science, community empowerment, and integrating wetlands into broader initiatives.



Addressing Wetland Outreach Coordination: The Wetland Alliance and Why It Stalled

In 1993 the National Wetland Alliance was formed to develop and broadly distribute information about wetlands. It was an outgrowth of a smaller targeted project in Maryland. In Maryland, the U.S. Environmental Protection Agency, Wetlands Division had worked closely with state agencies and nonprofit groups to develop a booklet "Private Landowner's Wetlands Assistance Guide." The document summarized the various voluntary wetland assistance programs available throughout the state that was supported by federal, state, and nonprofit organizations. Two one-day workshops were held with professionals working in the field and landowners to provide the opportunity for discussion on the programs as well as issues important to landowners related to wetlands. The National Wetland Alliance was formed to build on this and similar projects across the country. One of the goals initially was to encourage each state to take the Maryland booklet and adapt it to their state. This was done in Oregon, Texas, Arkansas, Michigan, Ohio, Kansas and Tennessee. A series of meetings of the "Wetland Alliance" was held in Washington, but eventually attendance at meetings and funding dropped off and the initiative floundered. In retrospect there were a couple of reasons. First, much of the interest within Washington was due to the high level of ongoing regulatory and legislative proposals addressing wetlands. When the pace of national wetland policy formulation slowed, interest and funding inside Washington dropped off as well. Secondly, Soil Conservation Service Chief, Paul Johnson, hosted a series of meetings on the same subject that for a time replaced the role of that alliance until that too came to an end.

➤ **It's not part of the project**

Too often wetland outreach may be an afterthought rather than a conscious component of a new policy or program initiative. Frequently "wetland outreach" may not be more than a press release, and perhaps a press conference conducted in conjunction with briefings before key officials and a handful of special interest groups. While this is commendable, it does not address the need to get information out to all of the effected and interested members of the public. Frequently, "outreach" may only be undertaken only after a problem communicating the intended message is identified. At this point, it is too little, too late.

➤ **Too little, too late, Someone else starts the story**

When working with the press, whoever gets their side into the media first, frequently wins.

In the early 1990's a handful of stories about wetland "folk heroes" emerged. These were individuals who had willfully and unlawfully destroyed wetlands and were prosecuted, found guilty, fined, and even jailed. Wetland professionals were amazed when the media characterized these individuals as underdogs hounded by an overzealous and uncaring bureaucracy.

In the same time frame EPA, Region 4 developed an outreach component as part of a case against a developer who had illegally altered wetlands and built homes on the location. The first stories in the press provided descriptions of unknowing homeowners whose newly purchased homes were flooded on a regular basis. The message relayed in this particular instance was that wetland regulations provided an important service to protect landowners.

Whoever gets their side of the story to the press first, is generally in a much better position to pitch an angle that will be taken up by the press and it is often difficult if not impossible to change the message later.

➤ **A picture is worth a thousand words**

There has been a consistent problem with the pictures used to illustrate wetlands. Look through any publication on wetlands and there are generally pictures of open freshwater and estuarine marshes, mangrove swamps, and cypress trees surrounded by water. There is lots of water, and rarely are the wetlands pictured that create the majority of the controversy—the drier end wetlands, those that are wet or saturated only for a few weeks of the year. The remainder of the year, these areas look very similar to upland. It is no wonder that the public is confused and dismayed by the areas that are regulated as wetlands.



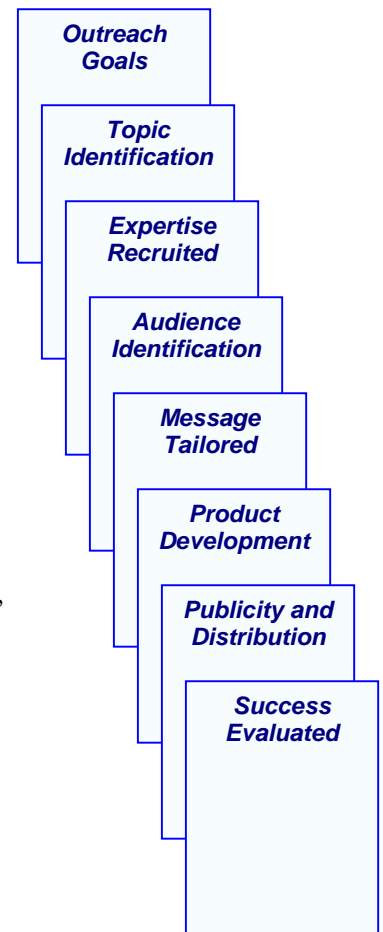
Developing a Good Project: Getting It Right From the Beginning

Good outreach products are not easy to develop. Wetland outreach is roughly analogous to advertising done by the private sector. Businesses spend enormous amounts of money to identify and understand their audience, tailor their messages, identify appropriate media for reaching their audience, and then tries to encourage them to purchase specific products. Even when a great deal of expertise is directed to the project, it does not always elicit the desired behavior. Outreach activities are different but similar.

Informing the public about wetland issues, particularly for government agencies, is undertaken as part of the government's public service responsibilities to sell a product for profit. However, the process used to identify, develop, and distribute a message that will reach its intended audience has many similarities and, in fact, government agencies, not-for-profits and other organizations use much of the same media—flyers, mailings, radio, and television—to share these messages. It is important to recognize the government is in fact competing with the advertising community, not to sell a product, but to get the public's attention and interest in order to inform them about issues, information, opportunities, and actions that may affect them and their community. Therefore, effective outreach requires quality products that are attractive, informative, and useful for their intended audience.

- **Identify and clarify the reason for undertaking an outreach product.**

What is the purpose and goal of an outreach initiative? Is it to communicate information about a new program or policy? provide guidance about available sources of funding for wetlands restoration? inform community leaders about the economic benefits of maintaining wetlands and water resources in the community? Be specific. Some projects may start out with a very broad objective at the beginning—for example, an outreach project may begin with the goal of protecting water quality through wetlands restoration. In this case it may be necessary to identify an important audience that has the ability to effect local land use decisions. The project needs to be focused. It is also important for everyone who will be involved in developing and approving the outreach product to have a similar understanding of the purpose and goals of the product, and to support the effort.



➤ **Look for, existing materials on the topic.**

The issue of duplication can be addressed at the beginning. Check around to determine if there is existing outreach materials dealing with this topic. Existing materials can be useful for a number of reasons:

- ◆ It may be possible to distribute the existing product
- ◆ It may be possible to update and redirect an existing product (with appropriate approvals) for a somewhat different audience or message
- ◆ The organization that undertook the initial product may have information and expertise on audience, message, tools, etc. They may have insights on ways that the original product could be improved to be more effective.

For example, there has been a proliferation of educational materials for grade school children about wetlands. It is worth identifying existing materials, learning which ones are used by teachers, etc. It is also important to recognize impediments to getting curriculum into the classroom. For example, many states have gone to standardized competency testing and it may be hard to get topics that aren't part of the standardized tests included in the curriculum. Be sure as well that the product is actually what is needed. For example excellent grade school education materials may already be developed, but what is really needed is training with teachers so that they can learn how to incorporate materials into their existing school curriculum.

➤ **Gather the appropriate expertise.**

Increasingly interdisciplinary teams are recommended for all types of wetlands and other natural resource activities. For example, one wetland professional who does wetland restoration work in the Nebraska Rainwater Basin will not conduct a site visit to begin planning a wetland restoration unless he has the landowner, a biologist and an engineer included in the meeting. It will require the cooperation and understanding of these three areas of expertise to develop a successful project. The same interdisciplinary approach is needed for wetland outreach. If an outreach strategy for a new regulation is underway, individuals with expertise on the regulation, intended audience, and the development of outreach products are needed. The specific combination of expertise will vary from project to project, but think carefully and creatively about the kinds of professional competency that will contribute to a successful product.



➤ **Take time to understand the targeted audience.**

A reason that many outreach products fail to communicate compellingly to an intended audience is a lack of understanding of the perspective, the language, and the concerns of the audience. This includes ignorance of what a particular audience is interested in learning about. Why should floodplain managers, community planners, tribal elders, or elected county officials want to know *anything* about wetlands? Would each of these groups be interested in the topic for the same reason? If their interests are different what are the differences? Floodplain managers are interested in reducing flood losses, while a community planner might have greater interest in open space. An elected official or tribal elder might be interested in reducing future costs of drinking and/or wastewater treatment.

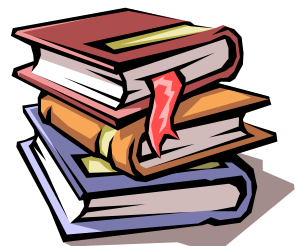
➤ **Tailoring the message is essential.**

Wetland professionals understand wetlands from the viewpoint of their interest in wetlands. However, professionals should not make the mistake of assuming others will look at the world with the same set of priorities. An audience might and probably will have a completely different set of priorities and concerns. For example local elected government officials may or may not be concerned how wetlands are managed as a separate resource in their community. However, they are probably very concerned about issues such as open space and greenways, source water protection, water quality improvement, flood loss reduction, economic development, and quality of life in their community. They are likely to overlook or discount information about wetlands unless communicated in the context of their concerns.

It is also important to consider whether the audience is or should be explicitly identified. A municipal official is more likely to pick up and read a document directed specifically to “municipal officials” in the title. However, *county* officials may overlook information directed to *municipal* officials—even if it is equally relevant to them. A tribal official might find the information irrelevant to the unique conditions that exist on tribal lands. On the other hand, a product directed to “local officials” might be overlooked by all groups. It is important to understand who will and who will not be reached through a single product, as well as the unintended messages that can be sent. The decision on how targeted to make a particular product is not an easy one.

➤ **Select an effective communication mechanism.**

There are advantages to trying to identify a specific audience, particularly when moving to the next step: Selecting the appropriate communication tool, be it brochures, websites, newsletters, radio, etc. Specific groups



have different methods of communicating. Years ago the State of Wisconsin looked into how to ensure that the general public was informed about water regulations, including wetlands. They developed general information brochures and distributed them to the public, but were not satisfied with the results. The state hired the agriculture journalism school to advise them on how to communicate effectively. The resulting analysis stated that trying to reach the general public through brochures and activities such as a booth at the State Fair each year were a waste of time. The report looked at where the citizens of Wisconsin went to get information about regulations and the answer was that citizens looked to local officials to provide this information, in particular, the town clerk. As a result the Wisconsin Department of Natural Resources redirected their efforts to insure that town clerks and other local officials had up to date information about water and wetland regulations. In another instance the Yukon Basin Commission (Commission) asked the far flung tribal community how to best communicate with tribal officials concerning wetland and water resource issues. The Commission was told that the tribal representatives did not have time to meet on these topics with all the other competing responsibilities and that radio would be the most effective mechanism. That was done and it has been an effective tool.

The point is, each interest group or audience already may have some kind of infrastructure for communication in place. It is important to select a mechanism that is already used commonly by the targeted group.

Each form of outreach--television, radio, written, internet, etc.--has its pros and cons. The first step is to determine where the intended audience goes for information, whether it's publications, local meetings or the internet. The next step is to select a mechanism that is appropriate to the kind of information being presented. For example, television is very attractive from the standpoint that it has the potential to reach a very large portion of the population. But by necessity most news and information on TV is in sound bytes. It is not an effective mechanism for sharing complicated ideas. Written publications can be very detailed, but lengthy, technical information is generally only of interest to an audience that has already decided that it needs the information.

➤ **Publicity and distribution.**

A great product is not successful unless it reaches its intended audience and is used by them. A publication sitting in a warehouse or a dynamite brochure lacking the financing for reproduction and distribution is not going to make a difference. Publicity and distribution should be incorporated into the development of public outreach products from the beginning. Nowadays reproduction of brochures and publications can be handled in part by posting them on the web as PDF files. However, publicity—getting the audience to go to the site to look for the information is still needed.

“Publicity and distribution should be incorporated into the development of public outreach products from the beginning.”

A Tiered Approach

One of the benefits of word processing and desktop publishing is that there is now the potential to develop a series of related products and update them instantly. For example, a series on wetlands and water quality could include a wide range of information materials:

- ◆ A press release publicizing information available on the website
- ◆ A beginners guide to wetlands and water quality
- ◆ A list of Frequently Asked Questions (FAQ's) about wetlands and water quality
- ◆ A short, general brochure about the importance of wetlands for water quality
- ◆ Tips, Techniques, and Guidelines for developing wetland water quality standards
- ◆ A literature review of scientific research linking wetlands to water quality
- ◆ An analysis of current wetland water quality standards used by state and local governments
- ◆ A powerpoint presentation about wetlands and water quality
- ◆ A resource guide—places to go to get additional information
- ◆ An on-line discussion group
- ◆ A day-by-day or week-by-week diary of the steps undertaken by a state to develop wetland water quality standards

This information can be put on the web in html or PDF formats for viewing and downloading. A series of different outreach materials can be developed using the same or similar information to reach different audiences. The web provides a unique opportunity to develop multiple outreach materials on the same topic because resources can be put into development and instant updating of the project rather than the cost of publication.

➤ Measuring Success.

Ideally, after a product is distributed to the intended audience, there should be some follow-up to assess the success of the product. There are not easy, straightforward methods for measuring the success of wetland outreach efforts and this is frequently overlooked. One method is contacting members of the intended audience who received the product for their reaction is one method. For example, have teachers incorporated wetlands into their curriculum? has a community developed a plan for dealing with wetland management issues? is a landowner managing the wetlands on his or her land differently than in the past? Measuring success provides the opportunity to improve on future outreach efforts.



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Information Gaps In Wetland Outreach

In 1978 when an interagency task force published “Our Nation’s Wetlands” coordinated by the Council on Environmental Quality, there were few national publications inventorying the values and functions of wetlands. Ten years later “Protecting American’s Wetlands: A National Agenda: The Final Report of the National Wetland Policy Forum” articulated a series of recommendations for taking action to protect, manage, and restore wetlands on a national basis. It represented the consensus of a wide variety of interest groups brought together by the U.S. Environmental Protection Agency through the Conservation Foundation. It included, for the first time, the goal of no overall loss of the Nation’s wetlands. George Bush, Sr. endorsed this goal in speeches just prior to his election as President of the United States in 1988 and many government agencies, non-profit organizations, interest groups, and industries responded with varying degrees of enthusiasm to this call to action. One consequence is that in the years following, the diversity and quality of the information available on wetlands has increased exponentially. However, there are specific areas where more information and improved accessibility of information to the public and specific interest groups continues to need attention.

Special Topic: Wetland Regulation

Wetland regulation is a challenging topic and many audiences-- individuals, companies, developers, states, tribes, and local governments-- are directly impacted by wetland regulations. However, updated, factual, understandable information continues to be needed. This is due to a number of reasons: complex issues, frequently changing policies and regulations, multiple jurisdictions, etc. In the past, the majority of available resources have been directed to the work of developing changes in policy and regulations with less emphasis on interpreting and explaining these changes to the various audiences impacted.

The lack of information leads to a number of problems: landowners are uncertain what a wetland is and/or if the regulations apply to his or her land. The regulations themselves are complex and hard to understand. Often there is not visible local enforcement presence (particularly in states that do not have state or local wetland programs). Finally, wetland regulations have been characterized by members of the regulated community as counterproductive to a landowner’s autonomy regarding land use decisions and private property rights. In contrast, the benefits wetlands provide to private landowners and the public have not been consistently communicated.



Even the most basic information is lacking and badly needed. For example, in the spring of 2000 the U.S. Army Corps of Engineers (Corps) and U.S. Environmental Protection Agency replaced Nationwide 26 of the nationwide permits with five new nationwides and a number of other changes. However, the only information explaining the changes that the Corps was able to provide was a generic press release and a 126-page preamble and rule change published in the Federal Register. One was too general, the other far too detailed for most audiences.

Better community products such as printed materials, power point presentations and web sites can be developed explaining the existing law and permitting process. In addition there are a number of actions that can be taken on the state and local level to make the existing wetland regulations understandable and to integrate wetland protection into community planning. Wetlands can be integrated into broader tribal, state, and local community planning efforts such as natural stream restoration, source water protection, and watershed planning.

Communicating wetland regulations is a responsibility that should be undertaken by many interested parties including federal, tribal, state, and local government, not-for-profits, and other organizations. This is in part because the combination of federal, tribal, state, and local regulations changes from state to state, tribe to tribe, and sometimes from county to county or town to town.

Activities that local governments can undertake might include providing information on existing 1) requirements to disclose the existence of wetland during land sales, 2) development of greenways, covenants to protect existing wetlands, and 3) implementation of community wetland ordinances. Wetland interpretive sites can be included in community parks to protect wetlands and communicate their importance.

Local not-for-profit organizations can hold educational meetings about wetland regulations as well as their importance in the community. Local land trusts can identify wetlands as a priority for future land purchases.

Special Topic: Wetland Science

Wetlands are important for a variety of reasons. They provide ecological and social benefits. These include protecting and improving water quality, reducing flood peaks, supporting wildlife diversity, and so on. However, there needs to be better and more accessible information on the values and functions of wetlands as well as other science related issues such as wetland restoration, wetland delineation, evaluating wetland quality and so on.



Internet Opportunities

The introduction of the world-wide-web and other products of the information age is rapidly expanding the opportunities for outreach. According to Computer Industry Almanac by the end of 1999 the U.S. led Internet users worldwide with over 110 million users at the end of 1999 and almost half the U.S. population was on the Internet by the end of 2000 (this includes home, education, and work-related use). An enormous challenge is to identify and successfully utilize the communication opportunities available. This is not easy. New Internet and telecommunication tools are becoming available all the time. In addition there are other information age tools besides the Internet that provide new opportunities for communication such as real time video links. However, unlike other communication medias such as radio, television, and newspaper, it is important to remember that, 1) the Internet is not universally available, 2) that certain audiences will not have access to the Internet, and 3) only certain audiences will have an interest in looking up specific wetland information.

Websites can be sources of information including text, pictures, videos, and training courses. They can serve as points of distribution for brochures, pamphlets, booklets, manuals, powerpoint presentations and other products that can be downloaded and put into other formats such as publications and slide shows. Web sites can also be portals to a multitude of other related sites or links. List-serves, e-mail distribution lists and other tools can provide opportunities for rapid information distribution and communication.

It is important to remember that the Internet is only one of many tools and it has its pitfalls. There is a huge amount of information on the Internet, much of it not well organized, time consuming to view, and difficult to find. Web searches for information still turn up improbable and often irrelevant results. Many web sites are deep and complex and it is easy to overlook important information. There is so much information available—some search engines include over 30 million documents online--that most individuals are suffering from general information overload (much of it not useful).

Another consequence of the increase in Internet use is that there are fewer human, face-to-face interactions than just a few years ago. Previous studies have demonstrated that 80% of communication is nonverbal—meaning that nuances of voice, expression, and body posture. This is largely lost on the web. Another important point to consider is that the Internet is a relatively new technology and there will be enormous differences in how different age groups and interest groups use the Internet. Senior citizens, baby boomers, generation X, and young adults as well as different socio-economic groups will use the Internet differently.

Scientists tend to distill complex concepts into specific and highly technical terminology. This is very useful in discussing and moving the science forward. Progress in science is possible in part because of the precision and accuracy in language. However, this highly specialized terminology also makes it increasingly inaccessible and incomprehensible to the general public as well as to other scientists and professionals from other disciplines if they are unfamiliar with the nomenclature. There is an unmet need to take wetland scientific concepts and terms and translate them back into common language.

Basic information about wetland delineation, wetland classification systems such as hydrogeomorphic methodologies, wetland hydrology, soils and plants as well as concrete information about how wetland functions and values benefit landowners, communities, and the general public continue to be needed.

Special Topic: Community Empowerment

Many wetland professionals agree that high quality, balanced wetlands protection, enhancement, restoration, and management ultimately occurs on the local level.

Community information about wetlands exists. There are a number of products that have been developed directed to the community level. Two examples from the U.S. Environmental Protection Agency, Chesapeake Bay Program are “Protecting Wetlands, Tools for Local Governments in the Chesapeake Bay Region” and “Protecting Wetlands II, Technical and Financial Assistance Programs for Local Governments in the Chesapeake Bay Region.” Wetland protection ordinances occur on websites and the Environmental Law Institute published “Our National Wetland Heritage, A Protection Guide” first in 1983 and more recently in 1996 with an updated second edition. However there are 3,066 counties in the United States and much of this information never makes it to the local level. Community leaders in general are not likely to take on wetlands as a single specific issue. They are more likely to consider wetlands as part of larger concerns: developable land, source water protection, stormwater regulations, and sources of funding. Some existing materials may need to be re-examined and revised, and then tailored and distributed to better assist community leaders. New materials are needed.

The issue of community outreach and community empowerment highlight the need to integrate wetland outreach with broader water and land resource objectives as well as national, tribal, state, and local wetland policy and programs. What services are offered by national and state agencies to local communities to help them with managing wetland resources? What authorities, regulatory or otherwise can be delegated to allow local communities a meaningful role in wetlands management? Some communities are interested in having more control and autonomy



over wetland resources. In Connecticut for example, local government boards determine which state wetland permits to authorize and which ones to modify or deny. Are there resources available to provide communities with the knowledge and tools to take action?

Special Topic: Students/Education

Perhaps the greatest increase in the publication and proliferation of high quality wetlands outreach materials had been in the arena of information, curriculum, web pages, electronic games, and a variety of other materials available to teach grade school and high school students about wetlands. This includes publications such as “WOW! The Wonder of Wetlands” and “Project Wet” from The Watercourse; “Unlocking the Secrets of America’s Wetlands” from Terrene Institute; and “The Young Scientist’s Introduction to Wetlands” by the U.S. Army Corps of Engineers.

While extensive time and effort has gone into developing materials; distribution, in-service training and various methods for getting wetlands into school curriculums still need to be explored. It is important to note that simply because these materials exist, it is not necessarily easy to get them incorporated into the classroom. Teachers deal with many competing priorities for students time. In addition, in some communities teachers may be criticized for appearing to be advocates for wetland protection. It is important to be sensitive to the realities of the classroom and adapt a variety of strategies for encouraging incorporation of wetlands issues into curriculum that is responsive to the diversity of state and local approaches to education throughout the country.

“Simply because these materials exist, it is not necessarily easy to get them incorporated into the classroom.”

Special Topic: Integrating Wetlands Into Broader Initiatives

While the previous topics have dealt with providing information about wetlands to various parts of the public, another area that needs attention and a partnership between wetland and outreach professionals is integrating wetlands into landscape activities such as source water protection, water quality improvement, stream restoration, watershed management, flood loss reduction and other initiatives that require integration across various technical disciplines.

Often professionals in other areas of science, natural resources regulation, landscape ecology, and hazards reduction do not have information available to help them understand how they can help each other simultaneously achieve the goals of their respective areas of natural resource management. Wetlands are part of a much larger landscape that includes diverse biology, hydrology, and topography. What happens to wetlands impacts the ability of other disciplines achieve their respective

goals. In fact, often wetland loss and degradation can have negative although currently unquantified impacts on broader resource initiatives.

Potential areas to explore are:

- ◆ Surface water quality and wetlands
- ◆ Watersheds and wetlands
- ◆ Wildlife and wetlands
- ◆ Source water and wetlands
- ◆ Eco-tourism and wetlands
- ◆ Recreation and wetlands
- ◆ Stream and wetlands restoration
- ◆ Flood loss reduction and wetlands
- ◆ Dam removal and wetlands

Special Topic: Developing Partnerships that Work – Distribution and Coordination

There are many groups—government agencies at the national, tribal, state and local level, nonprofit organizations, civic organizations, educators and academia, churches, businesses, and individuals—who have a common interest in getting good information out about wetlands. In many areas there is duplication of effort. In one respect, this is good. There needs to be a lot of information out and available in many shapes and forms. However, it is clear from the discussion above that high quality products have a number of steps and costs associated with them. A systemic problem is the underfunding of these efforts, so while one aspect of a project may be superior i.e., a very good publication, the project organizers may lack the resources for duplication and distribution. Given the limited resources available, there is tremendous potential to make wetland outreach resources go much farther through better coordination and greater distribution either of products that already exist, revisions to existing products, or products that will be developed in the future.



Next Steps/Recommendations for Improving Wetland Outreach

The following steps are recommended for consideration by wetland outreach professionals. The purpose of the recommendations is to improve the quality and accessibility of information about wetlands provided to the public so that they can make decisions and take actions with the best information available. The recommendations below are intended to improve wetland outreach efforts both nationally and locally.

➤ **Inventory of existing products**

Develop an inventory of existing outreach products indexed by category, audience, and source. Information on the cost and a short write-up about the materials would be useful. The inventory would include all types of products including videos, publications, Internet sites, etc.

➤ **Clearinghouse of existing materials**

Based in part on the bibliography develop a web clearinghouse of wetland outreach materials. This website could include links to the appropriate sources, a list-serve for wetland outreach questions, and a list of organizations that undertake or fund wetland outreach.

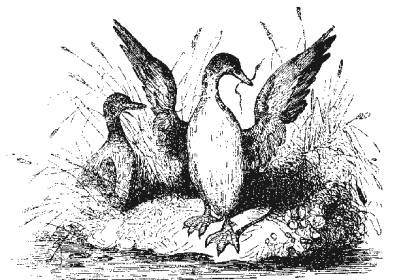
➤ **EPA and regional coordination of outreach efforts**

The U.S. Environmental Protection Agency has outreach staff associated with the wetlands staff in each Region as well as Washington, DC. A starting point for developing coordination of outreach activities on a national basis is for the EPA offices to develop an integrated plan for developing and distributing wetland outreach products.

➤ **Broader coordination efforts**

Coordination has the potential to expand beyond EPA offices. There are outreach professionals dealing with wetlands at tribal, state, and local government levels, within not-for-profit organizations, and within business organizations as well. A re-consideration of the Wetland Alliance concept may be necessary including folks from around the country rather than primarily within the Washington area. Communicating through a list serve, or other mechanisms is a possibility.

➤ **Include a strategy for filling gaps: Wetland Regulation, Science, and Community Empowerment**



In this report areas were identified where additional wetland related outreach products are needed. Part of the emphasis of a wetland outreach strategy is to re-examine these areas to determine whether or not there are products and publications that have been overlooked and to work collectively to identify, develop, and distribute information to fill these gaps.

➤ **Develop information/expertise about: audience, message, tools**

Currently each wetland outreach professional starting a new product must also develop expertise about the audience, how to communicate a message to that audience effectively, and select the most appropriate tool for delivering the information. Consolidating, distributing and/or somehow sharing expertise on how to reach various target audiences effectively will help reduce the cost of developing individual products.

➤ **Provide a more diverse portrayal of wetlands that are regulated and important in this country**

In pictures, videos and other visual presentations of wetlands, all wetlands need to be represented, not just wetlands with standing water in them year round. “Drier end” wetlands during their dry and wet phases need to be included consistently.

➤ **Make outreach a priority in delivering programs**

Effective outreach should be an equal partner in the development of programs, policy, etc. How to communicate information about wetlands should be considered much earlier in the program and policy development process. This can be done a number of ways. For example, professionals who will be tasked with effectively communicating new programs, policy, science, etc., need to be included from the early stages of policy and program development so public outreach products may be clearly identified from the beginning as part of the overall package and roll out.

➤ **Provide for more personal interactions in a technology overload world**

While computers and telecommunications enhance the potential for the broad scale availability of information, many of these mechanisms, web pages, e-mails, etc., lack the rich complexity of human interaction and communications. Outreach strategies should emphasize opportunities for people to interact and not rely on computers and machines to communicate important messages. The opportunity to meet face to face, to talk informally, and to ask questions and share experiences will remain one of the most effective ways to “get the message out.” It should continue to be an important part of overall wetland outreach strategies.



Appendix A:

Wetland Outreach Products By Topic

Listed below are ideas for wetlands outreach products by topic area.

Wetland Regulations

1. Revised model state wetland statute.
2. Revised local wetland ordinance or ordinances.
3. A guide for simplified wetland assessment procedures that can work with regulations.
4. A guide for creation and use of mitigation banks.
5. "How to" guides for restoration and for monitoring including definitions of restoration.
6. A guide concerning legal issues and how agencies at all levels of government can avoid "takings" and other legal problems.

Tax Incentives

1. A guide concerning real estate tax incentives for wetland protection.
2. A guide for estate and income tax incentives for wetland protection.

Restoration, Creation, Enhancement

1. "How to" guidance documents and training for specific types of wetlands.
2. Guidance documents for use of mitigation banks.
3. Detailed guides concerning the use of constructed wetlands for stormwater.
4. Guidance materials and training addressing natural channel design for streams

Integrating Wetlands With Broader Water Resources Management

1. Guidance materials and training on integration of wetlands into stormwater.
 2. Guidance materials and training on integration of wetlands into source water protection.
 3. Guidance materials and training on integration of wetlands into, floodplain management.
 4. Guidance materials and training on integration of wetlands into nonpoint source pollution control.
 5. Guidance materials and training on integration of wetlands into tribal, state, and local comprehensive watershed management.
-

General Public Information

1. A landowner guide/video for restoration, protection, and creation.
 2. A guide providing up to date dollars and cents estimates of wetland values.
 3. A not-for-profit and land trust guide for wetland restoration.
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Appendix B: Wetland Outreach Projects For Special Audiences

Listed below are ideas for wetland outreach projects for specific audiences.

Legislators

A guide is needed specifically for members of Congress, tribal leaders, state legislators, and local governments describing wetland functions and values, wetland programs at all levels of government, and major issues in wetland protection and restoration. No guide has ever been prepared.

Local Government Officials.

- ◆ A guide is needed for establishing and implementing local wetland protection programs including up to date model ordinances.
- ◆ A "how to" guide is needed for funding local wetland programs.
- ◆ A guide is needed concerning legal issues in wetland protection and restoration such as the taking issue.

Local Land Trusts

- ◆ A "how to" guide and training are needed for restoring various types of wetlands.
- ◆ A "how to" guide and training are needed for creating boardwalks, trails, interpretative materials.
- ◆ A "how to" guide" and training are needed for working with landowners including tax incentives.

State Agencies and Indian Tribes

A variety of technical guides and training materials are needed:

- ◆ A revised model state and tribal wetland statute.
 - ◆ Wetland assessment for regulatory purposes utilizing HGM, biocriteria, other approaches.
 - ◆ "How to" restoration for various types of streams, floodplains, and wetlands
 - ◆ "How to" stream restoration utilizing hydrogeomorphic approaches (e.g. Rosgen).
 - ◆ Integrating wetland protection and restoration into public land management.
 - ◆ Conflict resolution.
-

- ◆ Up to date model ordinances for local governments.
- ◆ Integrating wetlands into broader water management.
- ◆ Creating and implementing mitigation banks.
- ◆ Integrating wetlands and floodplain management.
- ◆ Legal issues in wetlands protection and restoration such as the taking issue.

Federal Agencies and Indian Tribes

A variety of technical guides and training materials are needed:

- ◆ "How to" wetland restoration guidance for various types of wetlands.
- ◆ "How to" wetland and stream assessment methods.
- ◆ Wetland assessment for regulatory purposes utilizing HGM, biocriteria, other approaches.
- ◆ "How to" stream restoration utilizing hydrogeomorphic approaches (e.g. Rosgen).
- ◆ Integrating wetland protection and restoration into tribal and public land and water management.
- ◆ Suggested practices for integrating floodplains, wetlands, and riparian zones into tribal/public land and water resources planning and management.

Landowners

- ◆ "Plain English" guidance documents/videos describing the Section 404 program, state wetland regulations, and local wetland regulations.
- ◆ "Plain English" guidance documents describing sources of financial and technical assistance for protecting and restoring wetlands.
- ◆ "How to" guidance for restoration of wetlands, floodplains, and streams for various purposes.
- ◆ "How to" guidance for mitigation banks.
- ◆ "How to" guidance for sustainable economic use of wetlands for ecotourism, hunting, harvesting of natural crops, forestry, etc.
- ◆ Guidance concerning local real estate tax incentives and federal and state income and estate tax incentives for protecting and restoring wetlands.

Developers, Developer Consultants

- ◆ Guidance concerning the protection and restoration of wetlands as part of subdivision, commercial, and industrial project design including case study examples of successful projects where wetlands were incorporated into project design for recreation, open space, ecotourism, and other purposes.
 - ◆ Simple guidance documents describing the Section 404 program, state wetland regulations, and local wetland regulations.
 - ◆ Guidance documents on wetlands for regulatory compliance, site planning, and other purposes.
-

Appendix C:

Wetland Outreach Product Ideas

Below is a list of different outreach products sorted by media.

Training Programs (Workshops, Field Courses, College Courses)

- ◆ Restoration training for various types of wetlands
- ◆ Wetland and stream assessment
- ◆ Use of GIS systems and Internet resources
- ◆ Avoiding legal problems

Videos

- ◆ Restoration training for various types of wetlands
- ◆ Up to date economic information on values of wetlands

Pamphlets

- ◆ Restoration for various types of wetlands
- ◆ Economic uses of wetlands for landowners
- ◆ Wetlands and ecotourism
- ◆ Wetlands and floodplain management
- ◆ Avoiding legal problems

Reports and Books

- ◆ Restoration for various types of wetlands
- ◆ Stream restoration and natural channel design
- ◆ Avoiding legal problems

Web Sites

- ◆ State wetland programs
 - ◆ Local government wetland assistance
 - ◆ Restoration assistance for wetlands and other water resources
-