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Silviculture in Forested Wetlands of the Southeast United States: Bridging the Divide between the Wetland Community and the Forestry Community

By Susan Marie Stedman, National Oceanic and Atmospheric Administration

When I learned the National Marine Fisheries Service had an office in Boise Idaho I felt sorry for the poor marine biologists who found themselves working hundreds of miles from the nearest coast. Recently I and some of my colleagues found ourselves in a similar position: hundreds of miles (figuratively, if not literally) from our home turf, working in an unfamiliar landscape. With help from the Association of State Wetland Managers (ASWM), that landscape now appears a little less confusing.

A Wake-Up Call from the Coast

In 2008 the US Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration (NOAA) released a report that resulted in increased attention to wetlands in coastal areas. That report, entitled “Status and Trends of Wetlands in the Coastal Watersheds of the Eastern United States, 1998-2004”, used the FWS’ Status and Trends data to focus on wetlands in “coastal watersheds” – watersheds that begin at the coast and extend inland as far as tidal waters extend¹ (on the flat coastal plain this can be 100 miles or more). The 1998-2004 wetland data for coastal watersheds revealed an annual loss of about 60,000 acres per year of wetlands to upland or open water. A follow-up report for 2004-2009 expanded the study area to include coastal California, Oregon, and Washington and concluded that the loss in coastal watersheds had increased to about 80,000 acres per year. Given that wetland loss on a national basis was comparatively low during those study periods (a net

¹The Great Lakes coastal area was included in the report but in that case the definition of a coastal watershed is based on lake level fluctuations and not tidal influence.
gain of about 32,000 acres per year from 1998-2004 and virtually no change from 2004-2008), the two Status and Trends reports pointed to a significant problem with wetland loss in coastal watersheds that required national attention. The Interagency Coastal Wetlands Working Group (ICWWG) was convened by the Environmental Protection Agency to coordinate federal agency efforts to better understand and reverse the trends of wetland loss in coastal watersheds.

Scientists and policy-makers are often criticized for responding to new issues by asking for more studies. While generating additional information can look like avoidance and inaction, it is usually an essential part of determining what course of action is most likely to succeed. The coastal watershed Status and Trends reports provided general information about the causes of wetland loss by identifying the non-wetland land cover class the wetlands were lost to. Not surprisingly, given the concentration of people living in coastal areas, development was identified as a significant cause of wetland loss. What the reports could not reveal was how much of that development was regulated and authorized under the Clean Water Act, whether the loss occurred as large parcels of land or many small ones, and what economic, ecological, social, and/or political factors were associated with a greater likelihood of wetland loss to development. Another land cover identified as a significant factor in wetland loss in coastal watersheds was upland forested plantations. While the reports suggested that over 40% of the freshwater forested wetland loss in coastal watersheds was associated with conversion to upland forested plantations, the reports did not explain why this was happening, or even how. Before effective measures to reduce wetland loss could be developed, more information was clearly needed, particularly about wetland loss to upland forested plantations.

**Into the Woods**

As members of the ICWWG began researching silviculture in forested wetlands we quickly realized it is a very complex subject. Some aspects seemed to be fairly well understood, such as which tree species did best in particular conditions, how to manage forests to achieve optimal yield of forest products, and how to minimize effects on water quality when conducting forestry practices such as harvest, land preparation, and planting. Other aspects, such as “minor drainage” seemed less well understood. Under the Clean Water Act farmers and foresters can use “minor drainage” as a component of a
normal established and ongoing agricultural and silvicultural operation, as long as that minor drainage does not convert the wetland to upland. In other words, farmers and foresters can use minor drainage to reduce the wetness of a wetland a little bit, but not too much. How much is too much? The Army Corps of Engineers wetland delineation manual has guidelines for determining when wetland hydrology is or isn’t present at a specific time, but forested wetlands in silviculture experience substantial changes in hydrology over the growth cycle of the plantation (anywhere from 20 to 60 years). These changes are driven by the growth of the trees, which extract more and more water from the soil as they grow (one forestry expert described trees as “giant straws”), create drainage avenues with their roots, and affect evaporation from the soil surface. Complicating the issue even more is the fact that soils exert a large influence on how water drains, and soils can vary widely within a single plantation. In order to answer the question of whether a forested wetland has been converted to upland we need to decide not only when - but also where - to ask the question.

Like the scientific landscape of silviculture in forested wetlands, the human landscape is complicated as well. Forestry is very important to the economy of southern states from Virginia to Texas, supporting almost a half million jobs and generating a gross output of more than $100 Billion a year. Silviculture is mentioned as a cause of forested wetland loss in national Status and Trends of Wetlands reports, and the forestry industry perceived those reports as blaming an entire industry for causing wetland loss by merely harvesting trees. Each time a Status and Trends report came out attempts were made to bridge the gap between the forestry industry and the wetland community, but they were not successful. At the time the ICWWG began researching silviculture in forested wetlands there was very little trust of the wetland community by the forestry community, and a great deal of education needed on both sides.

The Language of Trees

One of the first challenges encountered as we began talking to the forestry community was language. When wetland scientists and forestry professionals talk about forested wetlands they often use the same words: forest, loss, wetland, hydrology, function, health. We soon discovered that the words both communities use have different meanings for each community, and were perceived as having meanings different than what was actually being communicated. The word “loss”, for example, was perceived by some of the forestry community as being used by the FWS to include areas where trees were harvested. While this was not the case, it was easy to see how that misconception developed. The Status and Trends reports provide data on not only the loss of wetlands to uplands (or deep water), but also on the loss of specific wetland types. Harvest of a pine plantation (which converts it to an emergent or scrub-shrub wetland) would be counted toward the total decline in acreage of forested wetlands. However, those harvested acres would be counted as a change in wetland classification, not as part of the net loss of wetlands. Similar nuances in the use of language arose throughout conversations the ICWWG members had with forestry professionals.

A second language issue was the simple fact that many wetland scientists have not studied forestry and may not understand the meaning of forestry terms such as stumpage, chain, or improvement cut. In
addition, while many wetland scientists have visited or even studied forested wetlands, few have been to or studied forest plantations. To develop a better understanding of silviculture, members of the ICWWG visited forested wetlands in silviculture in Georgia, South Carolina, and North Carolina, and spoke with staff from each state’s Forestry Commission about forestry practices and the use of Best Management Practices (BMPs) to minimize adverse effects of silviculture on the wetlands. Forestry Commission staff were very generous with their time and the site visits provided very valuable explanation and illustration of how silviculture is conducted on the ground. The academic community was also very helpful, particularly researchers at North Carolina State University who met with ICWWG members and explained their research into the hydrology of forested wetlands in silviculture. At a half-day symposium at the Fifth Interagency Conference on Research in the Watersheds (ICRW5) in March of 2015, wetland scientists, forestry professionals, and researchers shared information and began a dialog about what might be happening to forested wetlands in silviculture. All agreed it was a good start to creating better understanding on this topic.

Building a Foundation for Cooperation

Around the time the Society of Wetland Scientists (SWS) began soliciting proposals for their 2016 meeting in Corpus Christi, Texas, members of the ICWWG decided the best way to advance their understanding of the effects of silviculture on forested wetlands was to bring together a core group of people from the wetland, forestry, and academic communities to establish a common language, explore existing data and studies on wetlands in silviculture, and discuss key issues. ASWM was asked to organize a symposium at the SWS meeting on forested wetlands in silviculture, which was accepted by the SWS planning committee and took place on June 2nd.

The full-day symposium was organized into three sessions, each building off the previous one, with ample time for questions and discussion. The first session provided participants with a common language and understanding of how wetland loss in areas of silviculture is identified, how silviculture in forested wetlands is conducted, and how important silviculture is to the southern US economy. The second session summarized past and ongoing research on the water balance in forested
plantations and the effects of silviculture on soils and hydrology. The final session explored Clean Water Act considerations, BMPs, and the use of models to predict hydrology in forested wetlands. ASWM Executive Director Jeanne Christie moderated the symposium, guiding over a dozen speakers and panelists through presentations, question and answer sessions, and sometimes heated discussions.

The symposium achieved its goal of educating participants on a wide range of topics related to silviculture in forested wetlands and advancing discussions of what might be causing the conversion of some wetlands in silviculture to uplands. New ideas were proposed, such as the role climate change might play in wetland loss and the need to consider the effects of minor drainage on a landscape scale. A frank discussion was held about what ditch depth would be most likely to preserve wetland hydrology in a forested plantation, and researchers who had presented the results of field studies explained that their results were only valid for the area studied. All agreed that long-term studies in forested wetlands in silviculture were the key to understanding natural changes in forested wetlands and those caused by silviculture practices.

Next Steps

The ICWWG is evaluating the information presented during the symposium and discussing logical next steps. Studies conducted by the forestry industry may help fill research gaps that were identified before the symposium. Efforts to improve communication and dialog will continue through webinars and additional meetings with the forestry industry and researchers. Ultimately, the ICWWG hopes to work with the forestry industry to identify and implement measures to enhance the conservation of forested wetlands used for silviculture and more accurately track and understand the changes that occur in those wetlands.

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https://www.epa.gov/wetlands/coastal-wetlands
The Art and Science of Communication and Relationship Building

By Marla J. Stelk, Policy Analyst, Association of State Wetland Managers

One of the biggest challenges that is identified time and time again in the various workshops, conferences, and workgroups that I participate in is effective communication. In a world in which we are continually learning new information and collecting new data, many are discovering that the task of communicating our findings gets more and more difficult. This reality became crystal clear when the Association of State Wetland Managers (ASWM) agreed to assist the Interagency Coastal Wetlands Working Group (ICWWG) with developing and facilitating a symposium on silviculture and wetland loss for the Society of Wetland Scientists 2016 Annual Meeting.

Our feature article in this edition of Wetland News by Susan-Marie Stedman, NOAA (“Silviculture in Forested Wetlands of the Southeast United States: Bridging the Divide between the Wetland Community and the Forestry Community”) provides an excellent account of what led up to the symposium proposal, the complexity of the topic and what was discussed during the live event. Here I will provide some insights into the process of organizing the symposium and bringing together two very diverse (yet more similar than was initially thought) groups to collaboratively plan and execute the symposium.

Our effort at ASWM began with a phone call to John Dorney, the former State Wetland Program Manager for North Carolina whom we knew would provide us with a frank big picture overview of the situation. It quickly became clear that we were facing not only a steep learning curve in regard to silviculture and forested wetlands, but that we were wading into very hot water. If we were going to succeed in bringing together federal wetland scientists and the forestry community of scientists, we were going to have to knock down some walls and build trust between the two parties.

Since we already had a really good working relationship with the federal agencies, we started out by reaching out to the silviculture and forestry community. One conversation led to another which led to more referrals for more folks to talk to. We eventually developed a planning committee of about a dozen individuals from the federal, academic and corporate sectors including Jeanne Christie and myself from ASWM. Our first hurdle was developing a symposium abstract – what did we want to call it? What would we discuss? This proved to be more difficult than one would imagine - we immediately discovered that we were facing a significant nomenclature hurdle – and that some words were “trigger” words, meaning that they immediately put folks on the defensive, i.e., wetland loss (see Susan-Marie's article for more on this).

Jim Shepard, Auburn University
(Photography by Ge Sun, NC State University)

So we took a step back. We knew that if we pushed too hard one way or the other, we would fail to achieve our goal of a balanced, thoughtful series of presentations punctuated by frank discussions. We were working with talented professionals on both sides who approached silviculture in wetlands from very different areas of expertise. This was a good thing, but it can be difficult to approach a topic impartially when one has studied it intensely.
for many years from a specific perspective (forestry production vs. wetland protection). How would we move beyond this initial hurdle? - By collectively identifying our common goal of keeping both wetlands and silviculture on the landscape - the alternative being conversion to agriculture or more real estate development, resulting in greater wetland loss and the loss of an important economic driver in the south: silviculture.

From that point on, once we agreed that we all shared this common goal, we had a way to refocus the conversation when at times it became tense or when we came up against a wall. It was a very effective way to begin the process of developing mutual respect and trust. This tactic has proven to work in multiple mediation and group facilitation scenarios and it proved to be effective for our purposes as well. We knew we were making progress when we asked the silviculture folks on the planning committee to identify potential presenters on various topics regarding wetland management and silviculture and were provided with an impressive list of experts. The agenda was eventually developed, a title was selected, and a list of nine presenters and additional panelists were invited to join our symposium. Since we were asking the forestry and silviculture folks to engage in this difficult topic at a wetland scientists conference (i.e., on “our turf”) we felt it was only fair to give them a greater voice in the symposium. This also increased the potential for gaining a deeper, more detailed understanding of the insights provided by research that professionals in the wetland community might be unaware of as we explored why the FWS Status & Trends Report was showing greater wetland loss in areas associated with silviculture activity (again, for a more detailed account of this, please see Susan-Marie’s article).

As a result, a lot of really great information was shared. We collectively explored how each of us define what a wetland is – which is very different if you are approaching it from a scientific perspective versus a jurisdictional perspective – and walked away with a much richer understanding of what the science is showing, what it is not showing, and what gaps in information need to be filled. Although some areas of controversy remained at the end of the day, the group went out for dinner together afterward and broke bread – always a good sign in my book. And we are now discussing the next steps to continue the discussion and the exploration of what we can all do to be better stewards of our natural resources. It’s a complicated topic – there is nothing simple about hydrology, soils, wetland science, or silviculture best practices. But when we work together with an open mind and a common goal, we can accomplish great things.

From L-R: Mike Wiley, U.S EPA; Wayne Skaggs, North Carolina State University; Ge Sun, North Carolina State University; and Erik Schilling, National Council for Air and Stream Improvement, Inc. (Photo by Jami Nettles, Weyerhauser)
**Association News**  By Jeanne Christie, Executive Director, ASWM

My husband and I visited Scotland this spring and were treated to the enormous breakfasts traditionally served at bed and breakfasts throughout the country. Porridge (oatmeal), fruit, yogurt, sweet rolls, etc. were the first course followed by a plate of some combination of bacon, bangers, eggs, black pudding, fried tomatoes, tattie, baked beans, toast, and of course, haggis—all washed down with fruit juice and coffee or tea. We've no idea what the Scottish eat for lunch. We were too full.

Thus upon our return we decided that for Father’s day we would celebrate my father’s Scottish heritage with a traditional Scottish breakfast. But family schedules can be complicated and after some negotiation we opted instead for “lupper” -- the afternoon analogue of ‘brunch’ or lunch + supper = “lupper”.

We served mostly all of the food described above, but drew a line at black pudding. The prospect of acquiring four cups of fresh pig’s blood was both daunting and unappetizing. As a special treat the porridge was served with a wee bit of Scotch on top – something that was actually served at one of the B&B’s. Even the family members that didn’t like oatmeal tried it. My father’s only regret was that he forgot to bring his Scottish tam to wear. He is an easy man to please, and he was thoroughly entertained with our unconventional meal.

It was a good way to celebrate Father’s Day.

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**Reissuance of the Nationwide Permits**

The U.S. Army Corps of Engineers (Corps) is soliciting comments for the reissuance of the existing nationwide permits (NWPs), general conditions, and definitions, with some modifications. The Corps is also proposing to issue two new NWPs and one new general condition. The Corps is requesting comment on all aspects of these proposed nationwide permits. The proposed rule was published in the Federal Register on June 1 for a 60-day comment period which ends on August 1. The NWPs were last reissued in 2012, and expire on March 18, 2017. ASWM has hosted two webinars to: 1) share information about the contents of the proposed rule and 2) learn from four states how they conduct §401 Certification of the nationwides when they are reissued. They were recorded and can both be found [here](#).

ASWM remains concerned that there is not sufficient time to complete rulemaking and reissue the nationwide permits in the 8+ months between now and March 18, 2017 particularly in an election year because new Administrations typically halt or substantially slow rule-making efforts at the beginning while political appointees are being...
identified, approved by Congress, and placed in their new positions. There is also a widespread misconception that it is somehow possible to extend the existing nationwides if the rulemaking is not completed. This is not possible under the provisions for renewing general permits such as the Nationwides under the Clean Water Act. On May 4 ASWM and the Association of Clean Water Administrators sent a letter to the Acting Secretary of Army highlighting these concerns. ASWM will continue to work to support state and tribal review of the proposed rule and §401 Certification of the new Nationwides. It will also continue to track the status of finalizing the rule and work with others to elevate the need for progress in order to support publication of a proposed rule early in 2017.

New Soils Training Series Starts July 13 and Runs Monthly through October

The Association of State Wetland Managers is launching a series of training webinars on hydric soils for wetland professionals and more specifically state and tribal wetland field staff (plus state/tribal wetland managers, local municipal officials, conservation commissions, boards of health and others). This four-part training series is for wetland field practitioners who need expertise in hydric soils and seek to understand how hydric soils are formed and how to recognize and interpret the information they provide when observed in the field. This can also be used as a refresher course for those practitioners who have not had soils training in recent years.

The first webinar in a monthly four-part series on hydric soils will focus on four initial topics: soil formation, horizonation v. simple processes; soil texture and structure; and describing soil color. This webinar is designed to 1) help wetland managers better understand hydric soils, 2) outline how to fill out the hydric soils data sheet and 3) provide guidance on how to interpret the data sheet.

The next three ASWM hydric soils webinars will continue to build participants’ knowledge of hydric soil by covering hydric soils processes, landform and landscape and the use of field indicators onsite. For more information and to sign up for the first webinar, click here.

Save the Date for ASWM’s 2017 Annual State/Tribal/Federal Meeting April 11-13, 2017

Please save the date for ASWM’s Annual State/Tribal/Federal Meeting April 11-13, 2017 at the National Conservation Training Center near Shepherdstown, West Virginia. The purpose of this annual workshop is to support state and tribal wetland program managers, federal agencies and other wetland professionals as they respond to challenges in the coming year. Every year brings new concerns and new opportunities. We are just starting to discuss the agenda so if you have some thoughts about topics or presentations, please send an e-mail to Brenda Zollitsch at brenda@aswm.org.
National Wetlands Newsletter

In April we were very sorry to learn that the National Wetlands Newsletter ceased publication with the May/June issue. The newsletter was established by the Environmental Law Institute in 1978 as a "clearinghouse for information regarding inland and coastal wetland and floodplains for scientists, planners, managers, attorneys, government agencies, conservation organizations, and other interested groups and individuals." Over the years the newsletter repeatedly achieved this goal with insightful stories from leaders in the wetlands profession. It will be missed.

Natural Floodplain Functions Alliance

Floods have been in the news in 2016 in many parts of the country. West Virginia, Oklahoma, Texas, Mississippi, and Louisiana have all experienced significant flooding in recent months. ASWM is a member of the Natural Floodplain Functions Alliance (NFFA) which “was established to promote, protect, and enhance the protection, restoration, and management of natural floodplain resources.” One of the important services provided by floodplains is the attenuation (storage) of high water during floods which can reduce the threats to human life and property. NFFA recently added a new web page “Information for the Media on the Importance of Natural Floodplains” as a resource for reporters covering floods by providing information about the potential for natural floodplains to reduce impacts. Special thanks go to NFFA steering committee member John McShane for making this happen!

Other ASWM Activities

The past two months have been very busy at the Association of State Wetland Managers. In April I gave a presentation at the Northeast Society of Wetland Scientists conference. At the beginning of May I was invited by Ducks Unlimited to Regina, Saskatchewan to discuss the future directions of the Prairie Habitat Joint Venture with a variety of representatives from government, academia and other nonprofits in the region. Later in the month, Marla Stelk and I traveled to the Society of Wetland Scientists annual conference in Corpus Christi Texas where we presented papers and moderated a day-long symposium on Wetlands and Silviculture in the Southeast (for more information on the symposium, please see our feature article this issue (“Silviculture in Forested Wetlands of the Southeast United States: Bridging the Divide between the Wetland Community and the Forestry Community” by Susan Marie Stedman). In June Marla Stelk traveled to the Association of State Floodplain Managers annual conference in Grand Rapids, MI to present two papers. Each of these conferences included opportunities to learn, to hold face to face meetings with partners to discuss ongoing activities and to meet new people with common interests.

Last year we signed a Memorandum of Cooperation with the Society of Wetland Scientists and we are identifying areas to work together in the coming year and are exploring a number of activities including ASWM participation at the 2017 SWS annual conference in Puerto Rico. This summer ASWM will give a webinar presentation for SWS members on our project to support improved wetland restoration success. SWS President Gillian Davies will give a presentation late this fall on climate change for ASWM.
New ASWM Publications

Legal Issues in Upgrading Flood Maps to Reflect Climate Change, Other Changed Conditions

By Jon Kusler – Association of State Wetland Managers – April 2016

Governments will, over time, need to upgrade flood hazard maps to reflect climate change, urbanization, erosion and sedimentation and other watershed changes. Will governments face legal problems with such upgrading? How can governments avoid legal problems? This paper by Dr. Jon Kusler, Esq. provides an overview of the types, uses and limitations of existing floodplain maps, examples of court cases dealing with floodplain maps and recommendations for avoiding problems with upgrading floodplain maps to reflect climate change and other changed conditions. Click here to view the report.

Definition of Wetland, Floodplain, Riparian “Functions” and “Values”

By Jon Kusler – Association of State Wetland Managers – April 2016

State and federal wetland regulatory programs typically include an overall goal to prevent net loss of wetland “functions”, and “values”. However, there is only partial agreement among regulators and other wetland managers concerning the use of these terms. This paper explores the use of the terms “function” and “value” and makes suggestions for future use of these terms. Click here to view the report.

A Comparative Analysis of Ecosystem Service Valuation Decision Support Tools for Wetland Restoration

By Mark Healy and Dr. Silvia Secchi, Southern Illinois University – March 2016

The Association of State Wetland Managers (ASWM) published a report in 2014 on the valuation of ecosystem services as an advantageous method for the promotion of wetland restoration. As a continuation to this effort, in 2015 we conducted an extensive review of existing decision support tools suitable for the valuation of ecosystem services for wetland restoration. This report describes six tools that maintain “off-the-shelf” capability and currently demonstrate the greatest potential for widespread dissemination and use. Click here to view the report.
EPA is interested in stimulating further research and use of the findings of the 2011 National Wetland Condition Assessment (NWCA). The Wetland Campus Research Challenge encourages participants to use the NWCA dataset on sources of stress to wetlands, and explore effective ways to reduce such stress to protect, sustain, and restore the ecological health of the Nation's wetlands. EPA will award $5000 to one or more Grand Prize winner(s) or team(s). Additional prizes may be awarded based on merit. Award winners and their University will receive national recognition by being featured on EPA’s website, and offered opportunities to speak on webcasts, at meetings, and other events. For additional information, click here.

Awards & Recognition

Bill Morgante won the SWS President’s Service Award: The President’s Service Award recognizes those members who have made significant contributions by serving the Society and its members. Recipients of the Service Award have promoted the goals of the Society in their efforts that extend above and beyond their duties as teachers, researchers, and administrators. He heads up their education and outreach committee and has done a tremendous amount of volunteer work through his work with this committee.

Gene Turner was awarded the SWS Fellow Award: The Fellow Award is the highest recognition of membership bestowed by the Society. Nominees must be active SWS members who have been nominated by other active members to receive the honor, recommended by the Fellows Committee and elected by the SWS Board of Directors.

Marla Stelk of the Association of State Wetland Managers and Bill Morgante of the Society of Wetland Scientists.

Gene Turner of the Society of Wetland Scientists and Jeanne Christie of the Association of State Wetland Managers.
Members' Wetland Webinars

Upcoming Topics:

**Wednesday, July 27, 2016**
Long Term Financial Assurances for Wetland Mitigation

**Wednesday, September 28, 2016**
Legal Processes for Wetland Permits

**Wednesday, October 26, 2016**
Developing Effective Buffer Protections: State Panelists and Presentation of Findings from a New England Study by the New England Interstate Pollution Control Commission

**Wednesday, November 30, 2016**
State Integration Practices Panel: Stormwater, TMDL and Wetland Management

For more information, [click here](#).

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Wetland Mapping Consortium

3 Part Webinar on the Soil and Water Assessment Tool (SWAT)

Wednesday, July 20, 2016 - 3 pm ET

Presenters: Greg McCarty, PhD, Research Soil Scientist, USDA
Grey Evenson, PhD, Post-Doctoral Fellow, Virginia Tech and Visiting Scientist, U.S. EPA
Sangchul Lee, PhD Candidate, University of Maryland

To register, [click here](#).

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Improving Wetland Restoration Success Project

Bottomland Hardwood Restoration

Tuesday, July 12, 2016 - 3 pm ET

Presenters: John A. Stanturf, U.S. Forest Service and John W. Groninger, Southern Illinois University

To register, [click here](#).

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Upcoming Topics:

**Tuesday, August 9, 2016**
How to Select the Right Wetland Restoration Team

**Tuesday, September 13, 2016**
Long-Term Management & Legal Protections for Voluntary Wetland Restoration

**Tuesday, October 11, 2016**
Prioritizing Wetland Restoration Mitigation Site Selection in the Face of Climate Change

**Tuesday, November 8, 2016**
Final draft report: A National Strategy for Improving Wetlands Restoration Outcomes

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Hot Topics Webinar

Nationwide Permit Rule Webinar #3: Interactive Discussion with States and Tribes on Reviewing the the Proposed Rule to Reissue the §404 Nationwide Permits

Wednesday, July 6, 2016 - 3 pm ET

Facilitator: Jeanne Christie, Association of State Wetland Managers

To register, [click here](#).

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For a complete listings of ASWM Webinars, [click here](#).
Recently Recorded ASWM Webinars

The Association of State Wetland Managers hosts and records 3-5 webinars each month. Below are some recent presentations.
For more information on future and past webinars, click here.

Hot Topic Webinars

American Wetlands Month:
What you can do to protect and restore wetlands
• Kathleen Kutschenreuter, U.S. Environmental Protection Agency (EPA)
• Susan-Marie Stedman, NOAA Fisheries
• Mitch Bergeson, U.S. Fish and Wildlife Service
• Dr. Abbey Tyrna, University of Florida, IFAS Extension
• Dr. Bianca Wentzell, Passaic River Institute, Montclair State University
View Recording Here.

Nationwide Permit Rule Webinar #1:
The New Nationwide Permit Rule – What You Need to Know
David Olson, US Army Corps of Engineers
View Recording Here.

Nationwide Permit Rule Webinar #2:
Panel on State Processes for Reviewing the Proposed Nationwide Permits and Lessons Learned from States
Jeanne Christie, Association of State Wetland Managers
• Jeff Boyles and Joni Lung, Ohio Environmental Protection Agency
• Tyler Brown and Steven Smailer, Delaware Department of Natural Resources and Environmental Control
• Vena Jones, Tennessee Department of Environment and Conservation
• Heather Preston, South Carolina Department of Health and Environmental Control
View Recording Here.

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Recently Recorded ASWM Webinars (continued)

Improving Wetland Restoration Success Project

Establishing Reference Conditions for Performance Standards & Long Term Monitoring Results: Soils, Hydrology and Vegetation –
• Dr. Robert Brooks, Professor, Pennsylvania State University and Director, Riparia
• Dr. W. Lee Daniels, Professor, Virginia Tech
• Dr. Eric Stein, Principal Scientist, Southern California Coastal Water Research Project
View Recording Here.

Managing Invasive Species in Wetland Restoration Projects: Considerations for Common Reed, Reed Canary Grass, Purple Loosestrife, Nutria and Feral Hogs –
• Eric Hazelton, Utah State University
• Margaret (Marnie) Pepper, USDA-APHIS-Wildlife Services, Chesapeake Bay Nutria Eradication Project/Nutria Detector Dog Program
• Craig Annen, Integrated Restorations, LLC
• Wendy Anderson, USDA-APHIS-Wildlife Service, National Feral Swine Damage Management Program
• Ben Peterson, King County Noxious Weed Control Program, Washington
View Recording Here.

Members’ Wetland Webinars

Financial Assurances and Compensatory Mitigation
Steve Martin, U.S. Army Corps of Engineers
Recording available soon.

Ohio’s VIBI-FQ: An Innovative Tool for Monitoring Natural and Mitigation Wetlands
Brian Gara, Ohio Environmental Protection Agency
Recording available soon.

Continued on Next Page
Recently Recorded ASWM Webinars (continued)

Natural Floodplain Functions Alliance Webinar Series

The Nature Conservancy’s Emiquon: Restoring Functional Floodplain for Nature & People
K. Douglas Blodgett, Director of River Conservation, Illinois Chapter of The Nature Conservancy
(Hosted by the Association of State Floodplain Managers)

View Recording Here.

Living Shorelines: Lessons Learned and New Opportunities
- Suzanne Simon, Restore America’s Estuaries
- Bill Sapp, Southern Environmental Law Center
- Tracy Skrabal, North Carolina Coastal Federation
- Lee Anne Wilde, Galveston Bay Foundation

Recording available soon.

Wetland Mapping Consortium Webinar Series

Defining Wetland Gems in North Central New Mexico
Kevin Benck and Andy Robertson, Saint Mary’s University of Minnesota

Recording available soon.

Multi-Criteria Restoration Prioritization: Applying Landscape Level Wetland Functional Assessments for Watershed Planning & Decision Support
Andy Robertson, Saint Mary’s University of Minnesota

View Recording Here.

Robb McLeod, Ducks Unlimited

View Recording Here.

National Wetlands Inventory Version 2 – Surface Waters and Wetlands
Mitch Bergeson, U.S. Fish & Wildlife Service

View Recording Here.

The Federal interagency Water Resources and Climate Change Workgroup has released for public comment the draft document, Looking Forward: Priorities for Managing Freshwater Resources in a Changing Climate. The Workgroup is accepting comments through July 15, 2016; please send your comments and questions to: water_climate_change@epa.gov.

The document is available here.

As background, the Water Resources and Climate Change Workgroup is comprised of more than a dozen agencies that have been working together on climate change adaptation since 2009. This document updates the 2011 National Action Plan. Agency co-chairs include Council on Environmental Quality, U.S. Geological Survey, and U.S. Environmental Protection Agency, and participating agencies include Army Corps of Engineers, Centers for Disease Control and Prevention, Department of Agriculture, Department of Defense, Department of Energy, Department of the Interior, FEMA, National Aeronautics and Space Administration, and National Oceanic and Atmospheric Administration.
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